MODULE 1

Module	Topic	Course Outcomes addressed	No. of Lectures
1	**Module 1: Total Lecture Hours -7**		
1.1	Definition, Need for EIA, Evolution of EIA: Global & Indian scenario	CO1	1
1.2	Environmental legislations in India- The Water (Prevention & Control of Pollution) Act 1974, The Air (Prevention & Control of Pollution) Act 1981, The Environmental (Protection) Act 1986	CO2	3
1.3	Environmental standards for water, air and noise quality	CO2	1
1.4	EIA Notification 2006	CO2	2

Definition, Need for EIA, Evolution of EIA: Global & Indian scenario

1. DEFINITION OF EIA

- Environmental impact assessment is an innovative process recommended by different international agencies as a valid environmental protection tool.
- It is used to assess the significant effects of a project or development proposal on the environment.
- It is an early warning process that verifies the enforcement of environmental policies.
- It is a preventive tool used to evaluate the negative and positive environmental impacts of policies, plans, programs, and projects; the EIA proposes measures to adjust impacts to acceptable levels.
- EIA is a tool used in planning development strategies and projects, and its use has been adopted into planning regulations in a number of countries, and by a number of regional groupings and multilateral agencies

"Environmental impact assessment (EIA) is defined as a process of identifying, predicting, evaluating, and mitigating the physical, chemical, biological, cultural, social, and other relevant effects of proposed projects, plans and programs prior to major decisions and commitments being made."

- The objective of EIA is not to halt the projects but to bring about project design changes for reducing negative environmental impact.

2. NEED OF EIA

1. To encourage productive and enjoyable harmony b/w man and his environment.
2. To promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man.
3. To enrich the understanding of the ecological systems and natural resources important to the Nation.
4. To allow government officials, business leaders, and all concerned citizens to understand the likely environmental consequences of proposed actions

5. To cooperate in making wise decisions that restore and maintain the quality of our shared Environment for future generations.
6. "To LOOK before you LEAP!"

3. EVOLUTION OF EIA - GLOBAL SCENARIO

Evolution and History of EIA Development of EIA	
Pre-1970	✓ Project review based on the technical/engineering and economic analysis. ✓ Limited consideration given to environmental consequences.
Early/mid – 1970s	✓ EIA introduced by NEPA in 1970 in US. ✓ Basic principle: Guidelines, procedures including public participation requirement instituted. ✓ Standard methodologies for impact analysis developed (e.g. matrix, checklist and network). ✓ Canada, Australia and New Zealand became the first countries to follow NEPA in 1973-1974. Unlike Australia, which legislated EIA, Canada and New Zealand established administrative procedures. ✓ Major public inquires help shape the process's development.
Late 1970 and early 1980s	✓ More formalised guidance. ✓ Other industrial and developing countries introduced formal EIA requirements (France, 1976; Philippines, 1977), began to use the process informally or experimentally (Netherlands, 1978) or adopted elements, such as impact statements or reports, as part of development applications for planning permission. ✓ Use of EA by developing countries (Brazil, Philippines, China, Indonesia) ✓ Strategic Environment Assessment [1] (SEA), risk analysis included in EA processes [2]. ✓ Greater emphasis on ecological modelling, prediction and evaluation methods. ✓ Provision for public involvement. ✓ Coordination of EA with land use planning processes.
Mid 1980s to end of decade	✓ In Europe, EC Directive on EIA establishes basic principle and procedural requirements for all member states. ✓ Increasing efforts to address cumulative effects. ✓ World Bank and other leading international aid agencies establish EA requirements. ✓ Spread of EIA process in Asia.

1990s	✓ Requirement to consider trans-boundary effects. ✓ Increased use of GIS and other information technologies. ✓ Sustainability principal and global issues receive increased attention. - India also adopted the EIA formally. ✓ Formulation of EA legislation by many developing countries. ✓ Rapid growth in EA training.

[1] Definition of SEA: Policy tool to assess the environmental consequences of development policies, plans and programs
[2] Definition of risk assessment: An instrument for estimating the probability.

4. HISTORY OF EIA IN INDIA

- The Indian experience with EIA – More than 40 years back.
- It started in 1976-77 when the Planning Commission asked the Department of Science and Technology to examine the river-valley projects from an environmental angle.
- This was subsequently extended to cover those projects, which required the approval of the Public Investment Board.
- Till 1994, environmental clearance from the Central Government was an administrative decision and lacked legislative support.
- 27 Jan 1994, the Union Ministry of Environment and Forests (MoEF), Government of India, under the Environmental (Protection) Act 1986, promulgated an EIA notification making Environmental Clearance (EC) mandatory for expansion or modernization of any activity or for setting up new projects listed in Schedule 1 of the notification.
- Since then there have been 12 amendments made in the EIA notification of 1994.
- The MoEF recently notified new EIA legislation in Sept. 2006.
- The notification makes it mandatory for various projects such as mining, thermal power plants, river valley, infrastructure (road, highway, ports, harbours and airports) and industries including very small electroplating or foundry units to get EC.
- Unlike the EIA Notification of 1994, the new legislation has put the onus of clearing projects on the state government depending on the size/capacity of the project.
- Certain activities permissible under the Coastal Regulation Zone Act, 1991 also require similar clearance.
- Additionally, donor agencies operating in India like the World Bank and the ADB (Asian Development Bank) have a different set of requirements for giving environmental clearance to projects that are funded by them.

Environmental legislations in India- The Water (Prevention & Control of Pollution) Act 1974, The Air (Prevention & Control of Pollution) Act 1981, The Environmental (Protection) Act 1986

5. WATER (PREVENTION & CONTROL OF POLLUTION) ACT, 1974 SUMMARY

Salient Features Of Water Act, 1974

- The Parliament recognizing the importance of water free from pollution and enacted the Water (Prevention and Control) Act in 1974 (Water Act, 1974).

- This Act was enacted to ensure the wholesomeness of water and to ensure that with industrialization and growth of cities domestic and industrial effluents and waste waters are not thrown into the streams and rivers without being treated first.
- For these purposes the act also envisages the creation of a Central Pollution Control Board and the State Pollution Control Boards in the States.
- Although the main legislation dealing with water pollution is the Water Act, 1974, most of the litigations have been filed under the general criminal law or under Articles 32 and 226 of Constitution of India.
- In the period between 1980 to 1990, there has been a massive increase in pollution related litigations.
- In fact, just from 1990 to 1993, upto thirteen judgements have been delivered by different courts on this issue. And a number of prosecutions against polluting industries have been launched under Section 33 of the Water Act.
- It applies in the first instance to the whole of the States of Assam, Bihar, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Karnataka, Kerala, Madhya Pradesh, Rajasthan, Tripura and West Bengal and the Union territories.

Central Boards under Water Act:

The board consists of a full time chairman, officials representing central government, nominated members from state board, non officials to represent the interests of agriculture, fishery or industry or trade or any other interest, persons to represent the companies or corporations and a full time member secretary.

Functions of central board:

1. to promote cleanliness of streams and wells in different areas of the States.
2. the Central Board may perform all or any of the following functions,:
(a) advise the Central Government on any matter concerning the prevention and control of water pollution;
(b) co-ordinate the activities of the State Boards and resolve disputes among them;
(c) provide technical assistance and guidance to the State Boards, carry out and sponsor investigations and research relating to problems of water pollution and prevention, control or abatement of water pollution;
(d) plan and organise the training of persons engaged or to be engaged in programmes for the prevention, control or abatement of water pollution on such terms and conditions as the Central Board may specify;
(e) organise through mass media a comprehensive programme regarding the prevention and control of water pollution;
1[(ee) perform such of the functions of any State Board as may be specified in an order made under sub- section (2) of section 18;]
(f) collect, compile and publish technical and statistical data relating to water pollution and the measures devised for its effective prevention and control and prepare manuals, codes or guides relating to treatment and disposal of sewage and trade effluents and disseminate information connected therewith;
(g) lay down, modify or annul, in consultation with the State Government concerned,
the standards for a stream or well: Provided that different standards may be laid down for the same stream or well or for different streams or wells, having regard to the quality of water, flow characteristics of the stream or well and the nature of the use of the water in such stream or well or streams or wells;

(h) plan and cause to be executed a nation-wide programme for the prevention, control or abatement of water pollution;
(i) perform such other functions as may be prescribed.

3. The Board may establish or recognise a laboratory or laboratories to enable the Board to perform its functions under this section efficiently including the analysis of samples of water from any stream or well or of samples of any sewage or trade effluents.

State Boards under Water Act:

The board consists of a full time chairman, officials representing state government, nominated members from local authorities, non officials to represent the interests of agriculture, fishery or industry or trade or any other interest, persons to represent the companies or corporations and a full time member secretary.

Functions of state board

(1) Subject to the provisions of this Act, the functions of a State
Board shall be—
(a) to plan a comprehensive programme for the prevention, control or abatement of pollution of streams and wells in the State and to secure the execution thereof;
(b) to advise the State Government on any matter concerning the prevention, control or abatement of water pollution;
(c) to collect and disseminate information relating to water pollution and the prevention, control or abatement thereof;
(d) to encourage, conduct and participate investigations and research relating to problems of water pollution and prevention, control or abatement of water pollution;
(e) to collaborate with the Central Board in organising the training of persons engaged or to be engaged in programmes relating, to prevention, control or abatement of water pollution and to organise mass education programmes relating thereto;
(f) to inspect sewage or trade effluents, works and plants for the treatment of sewage and trade effluents and to review plans, specifications or other data relating to plants set up for the treatment of water, works for the purification thereof and the system for the disposal of sewage or trade effluents or in connection with the grant of any consent as required by this Act;
(g) to lay down, modify or annul effluent standards for the sewage and trade effluents and for the quality of receiving waters (not being water in an inter-State stream) resulting from the discharge of effluents and to classify waters of the State;
(h) to evolve economical and reliable methods of treatment of sewage and trade effluents, having regard to the peculiar conditions of soils, climate and water resources of different regions and more especially the prevailing flow characteristics of water in streams and wells which render it impossible to attain even the minimum degree of dilution;
(i) to evolve methods of utilisation of sewage and suitable trade effluents in agriculture;
(j) to evolve efficient methods of disposal of sewage and trade effluents on land, as are necessary on account of the predominant conditions of scant stream flows that do not provide for major part of the year the minimum degree of dilution;
(k) to lay down standards of treatment of sewage and trade effluents to be discharged into any particular stream taking into account the minimum fair weather dilution available in that stream and the tolerance limits of pollution permissible in the water of the stream, after the discharge of such effluents;
(l) to make, vary or revoke any order—

- ✓ For the prevention, control or abatement of discharges of waste into streams or wells.
- ✓ Requiring any person concerned to construct new systems for the disposal of sewage and trade effluents or to modify, alter or extend any such existing system or to adopt such remedial measures as are necessary to prevent, control or abate water pollution.

(m) to lay down effluent standards to be complied with by persons while causing discharge of sewage or sullage or both and to lay down, modify or annul effluent standards for the sewage and trade effluents;
(n) to advise the State Government with respect to the location of any industry the carrying on of which is likely to pollute a stream or well;
(o) to perform such other functions as may be prescribed or as may, from time to time, be entrusted to it by the Central Board or the State Government.

(2) The Board may establish or recognise a laboratory or laboratories to enable the Board to perform its functions under this section efficiently, including the analysis of samples of water from any stream or well or of samples of any sewage or trade effluents.

If a direction given by the State Government is inconsistent with the direction given by the Central Board, then the matter shall be referred to the Central Government for its decision.

Joint Boards under Water Act:

an agreement may be entered into—
(a) by two or more Governments of contiguous States, or
(b) by the **Central Government** (in respect of one or more Union territories) and one or more Governments of States contiguous to such Union territory or Union territories,

The board consists of a full time chairman, officials representing state government, nominated members from local authorities, non officials to represent the interests of agriculture, fishery or industry or trade or any other interest, persons to represent the companies or corporations and a full time member secretary.

PREVENTION AND CONTROL OF WATER POLLUTION

1. Power of State Government to restrict the application of the Act to certain areas: State Possess the power to restrict provisions of this act to certain area only (called as Water pollution control area). this area can be defined with the help of maps or watershed lines. Area can be extended or reduced or can be merged with other control area by state Government.
2. Power to obtain information: The State Board or any officer possess power to collect information about the stream characteristics and other required data by surveys or any other measurement methods. State Board may give direction for anyone who abstract water from control areas and may direct all industries and construction or other activities to reduce pollution.
3. Power to take samples of effluents and procedure to be followed in connection therewith: Board can collect samples for analysis at any time. The person in charge or having control over, referred to as the occupier or any agent of such occupier can collect effluents.In the presence of the occupier or his agent, divide the sample into two parts. Each part to be placed in a container which shall be marked and sealed and shall also be signed both by the person taking the sample and the occupier or his agent. send one container to,—
(i) in a case where such sample is taken from any area situated in a Union territory, to the

laboratory established or recognised by the Central Board; and
(ii) in any other case, to the laboratory established or recognised by the State Board.

4. Reports of the result of analysis on samples taken under section: Board analyst appointed shall analyse the sample and submit a report in the prescribed form. One copy of the report shall be sent by the Central Board or the State Board, to the occupier or his agent. Another copy shall be preserved for production before the court in case any legal proceedings are taken against him and the other copy shall be kept by the concerned Board.

5. Power of entry and inspection

6. ENVIRONMENT PROTECTION ACT (1986)

- The Environment (Protection) Act (EPA) was enacted in 1986 with the objective of providing the protection and improvement of the environment.
- It empowers the Central Government to establish authorities charged with the mandate of preventing environmental pollution in all its forms and to tackle specific environmental problems that are peculiar to different parts of the country.
- The Act is one of the most comprehensive legislations with a pretext to protection and improvement of the environment.
- The roots of the enactment of the EPA lies in the United Nations Conference on the Human Environment held at Stockholm in June, 1972 (Stockholm Conference), in which India participated, to take appropriate steps for the improvement of the human environment.
- The Act implements the decisions made at the Stockholm Conference.
- Constitutional Provisions:
    - The EPA Act was enacted under Article 253 of the Indian Constitution which provides for the enactment of legislation for giving effect to international agreements.
    - Article 48A of the Constitution specifies that the State shall endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country.
    - Article 51A further provides that every citizen shall protect the environment.

Salient Features of the EPA Act

Powers of the Central Government:

- The Central Government shall have the power to take all such measures as it deems necessary or expedient for the purpose of protecting and improving the quality of the environment in coordination with the State Governments.
- The Central government is also empowered to:
    - ✓ Plan and Execute a nation-wide programme for the prevention, control, and abatement of environmental pollution.
    - ✓ Lay down standards for the quality of environment in its various aspects.
    - ✓ Lay down standards for emission or discharge of environmental pollutants from various sources.
    - ✓ The restriction of areas in which any industries, operations or processes or class of industries, operations or processes shall/ shall not be carried out subject to certain safeguards.
- The Central Government may appoint officers under this Act for various purposes and entrust them with the corresponding powers and functions.
- The central government as per the Act has the power to direct:
    - ✓ The closure, prohibition or regulation of any industry, operation or process.

- ✓ The stoppage or regulation of the supply of electricity or water or any other service.

Restriction on Pollutant Discharge: No individual or organisation shall discharge/emit or permit to discharge/emit any environmental pollutant in excess of the prescribed standards.

Compliance with Procedural Safeguards: No individual shall handle or shall be caused to handle any hazardous substance except in accordance with the procedure and without complying with the safeguards, as prescribed.

Powers of Entry and Inspection: Any person empowered by the Central Government shall have a right to enter (with the assistance deemed necessary) at any place:

- For the inspection of compliance of any orders, notifications and directions given under the Act.
- For the purpose of examining (and if required seizing) any equipment, industrial plant, record, register, document or any other material object may furnish evidence of the commission of an offence punishable under this Act.

Establishment of Environmental Laboratories: The Central Government, as per the Act, is entitled to:

- Establish environmental laboratories.
- Recognise any laboratory or institute as environmental laboratories to carry out the functions entrusted to such a laboratory.
- The Central Government is also entitled to make rules specifying the functions of environmental laboratories.

Appointment of Government Analyst: A Government Analyst is appointed by the Central Government for the analysing the samples of air, water, soil or other substance sent to a recognised environmental laboratory.

Penalties for Offences: Non-compliance or Contravention to any of the provisions of the Act is considered as an offence.

- Any offences under the EPA are punishable with the imprisonment of upto five years or a fine upto one lakh rupees or both.
- **Offences by Companies:** If an offence under this Act is committed by a company, every person directly in charge of the company, at the time of the commitment of offence, is deemed to be guilty unless proven otherwise.
- **Offences by Government Departments:** If an offence under this Act has been committed by any Department of Government, the Head of the Department (HoD) shall be deemed to be guilty of the offence unless proven otherwise.
- Any officer, other than HoD, if proven guilty, shall also be liable to be proceeded against and punished accordingly.
- **Cognizance of offences:** No Court shall take cognizance of any offence under this Act except on a complaint made by:
    - The Central Government or any authority on behalf of the former.
    - A person who has approached the Courts after a 60-day notice has been furnished to the Central Government or the authority on its behalf.

Drawbacks of the Act

- Complete Centralisation of the Act: A potential drawback of the Act could be its centralization. While such wide powers are provided to the Centre and no powers to the state governments, the former is liable to its arbitrariness and misuse.
- No Public Participation: The Act also says nothing about public participation as regards environmental protection.
- There is a need to involve the citizens in environmental protection to check arbitrariness and raise awareness and empathy towards the environment.
- Incomplete Coverage of Pollutants: The Act does not address modern concept of pollution such as noise, overburdened transport system and radiation waves which are also an important cause for the deteriorating environment.

7. EIA NOTIFICATION, 2006 (Refer notification for more details)

Objectives: The objectives of EIA Notification, 2006 inter alia include:

- To formulate a transparent, decentralized and efficient regulatory mechanism to integrate environmental concerns into the developmental process with a view to facilitating sustainable development.
- To ensure incorporation of necessary environmental safeguards at planning stage in the project cycle, so as to ensure minimal impact on different components of the environment.
- To ensure involvement of stakeholders in the public consultation process through public hearing and to ascertain the views of the public on the proposed project or activity.

Salient Features: The salient features of EIA Notification, 2006 inter alia include:

- The EIA Notification, 2006 has categorized the projects into two categories namely; Category 'A' and Category 'B' based on their impact potential.
- **Category A projects** require mandatory environmental clearance and thus they do not undergo the screening process.
- **Category B projects** undergoes screening process and they are classified into two types.
    - **Category B1 projects (Mandatorily requires EIA).**
    - **Category B2 projects (Do not require EIA).**
- Thus, Category A projects and Category B, projects undergo the complete EIA process whereas Category B2 projects are excluded from complete EIA process.
- The stage of scoping for prescribing terms of reference by the Regulatory Agency for the EIA studies has been incorporated in accordance with the International practice. It is expected to improve the quality of EIA thereby improving the quality of decision making and minimizing the delays.

- The public consultation process has been made more structured. It has two components i.e. comments through correspondence and by public hearing at site. Provision to videograph the proceedings of the public hearing has been made.
- NOCs (No-Objection Certificates) from other regulatory agencies such as SPCB etc. are not a prerequisite for considering application for environmental clearance.