

# **ENVIRONMENTAL MANAGEMENT SYSTEM**

**It is a tool for managing the impacts of an organisation's activities on the environment by providing a structured approach to planning and implementing environment protection measures.**

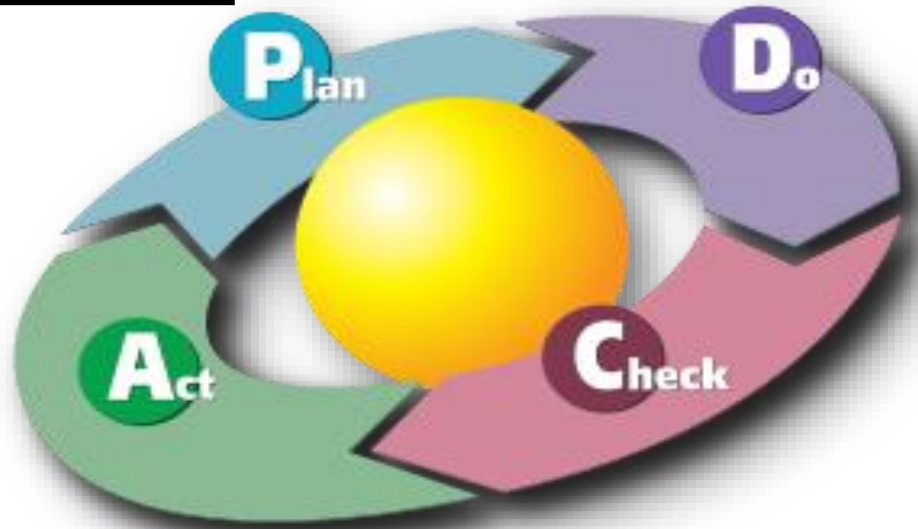
# EMS MODEL

**Plan-** The objectives and processes necessary to deliver results in accordance to the organizations environmental policy is established.

**Do-** Implementation of the Process.

**Check-** Monitoring the established objectives and processes and subsequently reporting the results.

**Act-** Action is taken for continual action.





**Environmental  
policy**

**Planning**

**Implementing**

**Checking**

**Management Takes Action**

**Continual Improvement**

# COMPONENTS OF EMS

To develop an EMS, an organization has to set the targets for reducing the impacts on the environment and to device methods to achieve the targets. The components are-

1. ENVIRONMENTAL POLICY:

This is a statement of what an organization wants to achieve from EMS in compliance with its environmental activities.

2. ENVIRONMENTAL IMPACT IDENTIFICATION:

This is achieved by conducting environmental audits.

### 3. OBJECTIVES AND TARGETS:

An environmental audit is the basis of determination of an organization's objectives and targets.

### 4. CONSULTATION:

The staff and community consultation should be undertaken before, during and after the establishment of EMS.

### 5. OPERATIONAL & EMERGENCY PROCEDURES:

All procedures should be reviewed before documentation and the procedures should be compatible with organization's objectives & targets.

## 6. ENVIRONMENTAL MANAGEMENT PLAN:

This is a detailed method of procedures of an organization, for meeting its objectives.

## 7. DOCUMENTATION:

All objectives, policies, responsibilities, procedures, formats should be properly documented.

## 8. RESPONSIBILITIES & REPORTING STRUCTURES:

The responsibility to each member of the organization is to be allocated and documented for the effective implementation of EMS.

## 9. TRAINING:

Proper training should be imparted to all staff members to make them aware of their responsibilities.

## 10. REVIEW AUDITS AND MONITORING COMPLIANCE:

Review audits should be taken regularly to ensure the proper implementation of EMS.

## 11. CONTINUAL IMPROVEMENT:

The audit report should be reviewed and the actions should be taken on the non-compliances of the system. In case the organization meets with all the objectives of the existing system, new targets are set for continual improvement.

# ENVIRONMENTAL IMPACT ASSESSMENT

Manufacturing and processing facilities are growing day by day but apart from providing the city with the essential inputs and means to earn living , they also have adverse effects on the local environment.

Therefore, it is essential for the industries to have environmental accountability before they are set up.

This can be done using **Environment Impact Assessment (EIA)**.



**Environmental Impact assessment (EIA)** is defined as a formal process used to predict the environmental consequences of any developmental project.

**EIA** ensures that the **potential problems** of any development processes are **foreseen and taken care of at an early stage** in the project planning and design.

# **IMPACT ANALYSIS OF THE PROJECTS**

Before starting a major project, it is essential to assess the present environment without taking into account the project. **So for analysis of the impacts, EIA should have following objectives:-**

1. Impact of the project on the environment after its completion.
2. Find ways and means to reduce the negative impacts.
3. Shape the project to make it conducive to the environment.
4. Present the predictions and viable options to policy makers .

# **POSITIVE AND NEGATIVE IMPACTS OF DEVELOPING NEW PROJECTS**

# **Positive Impacts of developing new projects**

1. Increase in the small scale industries.
2. Increase in employment to the local people.
3. Improved standards of living because of improved infrastructures

# **Negative Impacts of developing new projects**

1. Deterioration in the quality of local environment.
2. Deforestation which may subsequently lead to soil erosion.
3. Natural flora and fauna is distributed which disturbs the ecosystem.
- 4 It may lead to increased level of noise pollution.

- Some of the environmental parameters which are likely to be affected in large scale projects



\* AIR QUALITY

\* LAND QUALITY

(land use , soil erosion , geology)

\* WATER QUALITY

(surface and ground water)

\* PUBLIC HEALTH

\* NOISE POLLUTION

\* NATURAL FLORA AND FAUNA

(ecology)

\* SOCIO-ECONOMIC FACTORS

(employment, rehabilitation etc )

# CARBON CREDITS

A **carbon credit** is a generic term for any tradable certificate or permit representing the right to emit one tonne of carbon dioxide or the mass of another greenhouse gas with a carbon dioxide equivalent ( $\text{tCO}_2\text{e}$ ) to one tonne of carbon dioxide.



# THE KYOTO MECHANISM

One of the environmental threats our planet is facing today are the long term changes in the earth's temperature and climatic pattern. This is known as **Global Climate Change**.

In 1997, the Kyoto Protocol was concluded and established legally binding obligations for developed countries. Kyoto mechanism aimed to solve the problem of global warming by setting target levels of nations to reduce the green house emissions ( $\text{CO}_2$ ,  $\text{CH}_4$ ,  $\text{N}_2\text{O}$ , HFCs, PFCs,  $\text{SF}_6$ ) to 5.2% below 1990 level by the year 2012.



# Carbon Trading And Carbon Credits

Carbon trading is a part of the large emission trading which is a method to control pollution by using economic incentives. In emission trading a central authority such as a government or an international body like the European Union sets a limit on the amount of emitted pollutants. The allowance to emit pollution is called credit and if the pollutant emitted is carbon-dioxide, it is called **carbon credit**. If an industry or a company exceeds its emission level it will have to buy the extra allowance or credits from the countries which pollute less.



**Kyoto protocol has three innovative mechanisms for reducing the green house emissions:**

**1. JOINT IMPLEMENTATION (JI):**

It is a project based mechanism in which the developed countries (Annexure 1 countries) can reduce their emission targets through joint projects with other Annexure 1 countries. The investors could be Govt. companies, private sectors etc. which will participate in the project activities of the host country to generate **Emission reduction units (ERUs)** to use them for compliance with targets under the Kyoto protocol.

## 2. . **CLEAN DEVELOPMENT MECHANISM (CDM):**

This mechanism was established for project based emission reduction activities in the developing country.

The main objective of the mechanism is to meet the sustainable development needs of the host country which is a developing country. This would help in reducing the emissions level of green house gases of the developed country which has invested in the projects in host country.

### 3. INTERNATIONAL EMISSION TRADING (IET):

In this mechanism, a country may allocate permits to individual companies for the emission of a certain quantity of green house gases allotted by the Kyoto mechanism.

If a country is incapable of meeting its target, it could buy permits from other countries.

Similarly companies within a country that can reduce their emissions limits to a level lower than allowed limit can **sell or trade** their excess carbon credits to other polluting countries.

# Merits of Carbon Credits

- This allows the total quantum of emissions to be controlled without having to micromanage emissions by each firm.
- This concept penalizes the party polluting the environment by making it pay for the credit while the seller is rewarded monetarily.

# Demerits of Carbon Credits

- Instead of policies that reduce emission, strict regulations and penalties for polluters, this trading provides elaborate get out clauses for the biggest polluters.
- Carbon trading is a new form of colonialism where the developed countries would continue to pollute the atmosphere by buying the credits from the developing countries.
- Licenses and credits will have no value without effective enforcement as the companies or industries may find it far less expensive to corrupt inspectors than to purchase emission licenses.

# ENVIRONMENTAL ACTS & REGULATIONS

# THE WATER (prevention and control of pollution ) ACT, 1974

This act was enacted by the parliament in 1974 for preventing and abating water pollution. Under this act, the **Central Pollution Control Board (CPCB)** was constituted to promote cleanliness of streams and wells in different areas of the state.

LET'S CARE  
ABOUT OUR ENVIRONMENT





CPCB is entrusted with the powers and functions. It serves as a field formation and also provides technical services to the Ministry of Environment and Forests under the provisions of the Environment (Protection) Act, 1986.

It Co-ordinates the activities of the State Pollution Control Boards by providing technical assistance and guidance and also resolves disputes among them. It is the apex organization in country in the field of pollution control, as a technical wing of MoEF. The board is led by its chairman, who is nominated by the Central Government.

## **The CPCB is authorised to discharge the following actions:**

- Advise the Central Govt. on any matter pertaining to prevention and control of water pollution.
- Co-ordinate the activities of the state pollution control boards and resolve disputes among them.
- Carry out and sponsor investigations and research relating to prevention/causes of water pollution.
- Plan and organize training of persons to be engaged in programs for the prevention, control and abatement of water pollution.
- Prepare manuals, codes or guides relating to treatment and disposal of sewage and trade effluents.
- Establish or recognize a laboratory for analysis of samples of water or sewage.

# Under this act, the **State Pollution Control Boards** have the following function:

- To plan a comprehensive program for the prevention, control or abatement of pollution of streams and wells **in the state.**
- To collaborate with CPCB for training to personnel.
- To inspect sewage or trade effluents, works and plants for the treatment of sewage or trade effluents
- To review plans, specifications or other data relating to setting up of sewage treatment plants, water treatment plants etc.
- To evolve economical and reliable methods of treatment of sewage and trade effluents.
- To evolve efficient methods of disposal of sewage and trade effluents on land.

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

The **Air (Prevention and Control of Pollution) Act, 1981** an Act of the Parliament of India for the prevention, control and abatement of air pollution.



# CPCB performs following functions

- Advise the Central Govt. on matter concerning the improvement of the quality of air and prevention , control and abatement of pollution.
- Plan the programme which is to be executed as a nationwide program for the prevention , control and abatement of pollution.
- Co-ordinate the activities of the state and resolve the disputes among them.

- Provide technical assistance and guidance to State boards.
- Lay down the standards for quality of air.
- Collect compile and publish technical data and provide methods for its effective prevention, control or abatement and prepare manuals, codes or guides related to it.



# **THE ENVIRONMENTAL PROTECTION ACT. 1986**

This was enacted by the parliament in 1986 to protect and improve environmental quality, control and reduce pollution from all sources and prohibit the setting of any industrial facilities on environmental grounds.

**Powers of Central Govt. to take measures to protect environment are :-**

1. Coordination of actions by State Govt.
2. Planning and executing of nation wide program for prevention of environmental pollution.
3. Laying down standards for quality of the environment in its various aspects.
4. Restriction of areas where industrial activities could not be carried out without adequate safeguards.



5. Laying down procedures and safeguards for prevention of accidents which may harm the local environment
6. Examination of manufacturing processes, materials and substances that might cause harm to the environment.
7. Inspection of any premises ,plant equipment, machinery, manufacturing or other processes and take necessary restrictive measures.
8. Establishment or recognition of Environmental Laboratories
9. Preparation of manuals codes and guides to prevent and control environmental pollution.

Some Important aspects of this acts :-

1. Persons handling hazardous substances shall follow safeguards prescribed under

(A) Hazardous wastes Rules, 1986

(B) Manufacturing ,storage and usage of Hazardous Chemicals Rules,1989

(C) Rules for manufacture, use , import, export and storage of Hazardous micro- organisms.

2. Persons running industries cannot discharge any environmental pollutants in excess to the prescribed standards.



# **WILDLIFE (PROTECTION ) ACT , 1972 :**

***It is an act for the protection of wild animals , birds and plants and for matters connected therewith . It extends to the whole of India except the state of Jammu and Kashmir. The major activities and provisions in the act can be summed up as follows :***

1. It provides for the appointment of wildlife advisory Board, Wildlife warden, their powers and duties
2. Protection to some endangered species .
3. Chief wild life warden may grant a permit to any person to hunt such animal , if any wild animal has become dangerous to human life or is disabled or diseased as to be beyond recovery in writing and stating the reasons. Any wild animal killed or wounded in defence of any person shall be government property .

4. Chief wild life warden may grant a permit to any person in writing and stating the reasons on payment of such fee that is prescribed for the purpose of education , scientific research , scientific management, collection of specimens or preparation of snake venom for the manufacture of life saving drugs .
- 5.No person shall wilfully pick , uproot , damage , destroy , acquire or collect any specified plant from any forest land and any area specified by Central Government.
6. No person shall cultivate a specified plant except under and in accordance with the a license granted by the Chief wild life warden or any other government official .

7. The act provides the declaration of sanctuary and national parks.
8. There is a restriction on entry in sanctuary . The chief wild life warden may , on application, grant to any person to permit to enter or reside in a sanctuary for all or any purpose namely investigation, photography , scientific research, tourism etc.
9. It provides for legal power to officers and punishment to the offenders.
10. This act gives the power to Central Government and State Governments to make rules.

# FOREST CONSERVATION ACT, 1980

This is an act to provide for the conservation of the forests and for matters connected therewith. It extends to the whole of India except the State of Jammu and Kashmir.

- ❑ Under Section 2; Reduction on the de-reservation of forests for non-forest purpose.

The State Governments with prior approval from Central Govt. can issue order directing

- I. that any reserved forest or any portion thereof, shall cease to be reserved;
- II. that any forest land or any portion thereof may be used for any non-forest purpose;
- III. that any forest land or any portion thereof may be cleared of trees which have grown naturally in that land or portion, for the purpose or using it for re-afforestation

## ❑ Under Section 3: Constitution of Advisory Committee

The Central Government may constitute committee consisting of persons to advise the government with regard to-

- I. The grant of approval, under Section 2: and
- II. Any other matter connected with the conservation of forests which may be referred to by the Central Govt.

## ❑ Under Section 3A; Penalty for Contravention of the Provisions of the Act

Whoever abets the contravention of any of the provisions of Section 2, shall be punishable with simple imprisonment for a period which may extend to 15 days.



❑ Under Section 3B: Offences by the Authorities and Govt Departments, where any offence under this act has been committed:

- a) By the Department of Govt, the head of the Department; or
- b) By any authority, or person who at the time the offence was committed, was directly in charge of, and was responsible to, the authority for the conduct of the business of the authority shall be deemed to be guilty and shall be liable to be punished accordingly.

## ☐ Under Section 4: Power to make Rules

- I. The Central Govt. may, by notification, in the Official Gazette, make rules for carrying out the provisions of this act.

## ☐ Under Section 5: Repeal and Saving

- I. The Forest Conservation Ordinance, 1980 is hereby replaced.
- II. Notwithstanding such repeal, anything done or any action taken under the provisions of the said Ordinance shall be deemed to have been done or taken under the corresponding provisions of this act.

# **Amendments made in forest act in 1992**

- Cultivation of tea, rubber, coffee are included under non-forestry activity
- Exploration and survey of National parks and Wildlife sanctuaries are totally prohibited.

**Thank you**