

What is Environment?

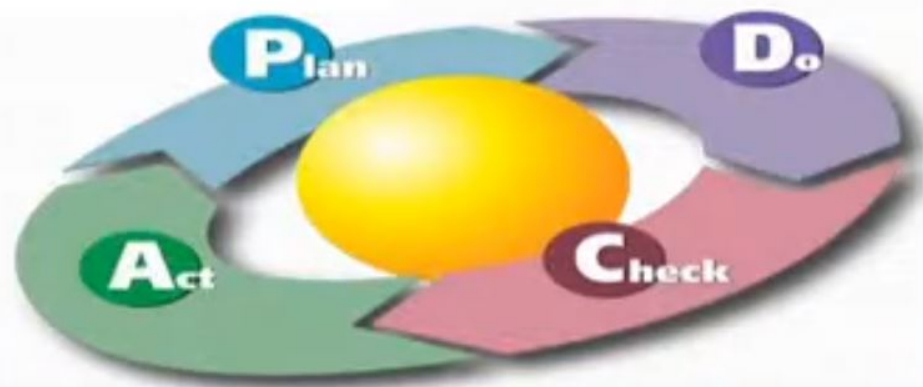
- The sum total of all surroundings of a living organism, including natural forces & other living things which provide conditions for development & growth as well as of danger & damages

Introduction

- The climatic condition depends on the air, temperature. Everyone is now feeling the change of climate due to the rise in air temperature of the earth.
- More presence of CO² is resulting **ozone layer depletion & acid rain**.
- Due to enormous increase in population & stress on environmental factors like air, water & soil, it is now urgently needed to frame guidelines & rules for the management of environment in a proper way.
- A good management of environment can only bring a sustainable life to all in this planet earth.

Environmental Management

- **DEFINITION** – “**Environmental management system** refers to the management of an organization's environmental programs in a comprehensive, systematic, planned and documented manner. It includes the organizational structure, planning & resources for developing, implementing and maintaining policy for environmental protection.”



EMS Model



Concept of Environmental Management

- Its an attempt to **control human impact** on and interaction with the environment in order to preserve natural resources.
- Environmental management focuses on the improvement of human welfare for present and future generations.
- Administrative functions that develop, implement, and monitor the **environmental policy** of an organization.
- Environment management implies not only a mere management of environment but it is essentially the management of various activities with intolerable constraints imposed by the environment itself and with full consideration of ecological factors.

Concept of Environmental Management

- Thus it involves environmental planning, conservation of resources, environmental status evaluation and environmental legislation and administration.

Characteristics of EM

Environmental management supports sustainable development



Environmental management demands the multi-disciplinary approach. It deals with a world affected by humans.



Environmental management has to integrate different development view points.



Environmental management seeks to integrate natural and social science.



Environmental management can extend from short-term to long-term and from local to global level.

Significance

- Environmental Management is an approach which integrates Ecology, Policy making, Planning and Social development. Its main objectives are as follows:
- To prevent and solve environmental problems.
- To establish limits
- To develop research institutions and monitoring systems.
- To warn threats and identify opportunities.
- To suggest measures for resource conservation.
- To develop a strategy for the improvement of quality.
- To suggest long-term and short-term policies for sustainable development.

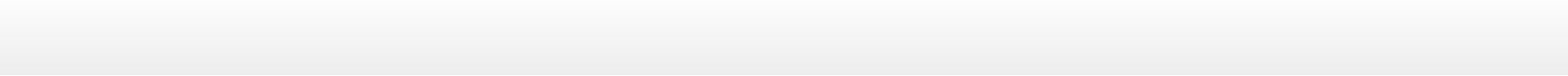
Significance

- To identify new technology for future development



Environmental Management

Environmental Management Schemes



Two Schemes of EM

- The Eco-Management and Audit scheme(EMAS) – established by the European commission in 1993.
- It enables organization to assess, manage & continuously improve their environmental performance.
- The scheme is globally applicable and open to all types of private and public organizations.
- Currently more than 4,600 organizations & more than 7,900 sites are EMAS registered.

General Scheme for Environmental Management

- STEP I: Identification of objectives and define problems
- STEP II: Determination of appropriate action plan
- STEP III: Implementation & progress evaluation
- STEP IV: Monitoring & adjust management
- STEP V: Future environmental management and planning

Environmental Initiatives in India

- National Council for Environmental Policy and Planning was set up in 1972 which was later evolved into Ministry of Environment and Forests (MoEF) in 1985.
- MoEF and the pollution control boards (CPCB i.e. Central Pollution Control Board and SPCBs i.e. State Pollution Control Boards) together form the regulatory and administrative core of the sector.
- The Policy Statement for Abatement of Pollution and the National Conservation Strategy and Policy Statement on Environment and Development were brought out by the MoEF in 1992.

Environmental Initiatives in India

- The EAP (Environmental Action Programme) was formulated in 1993 with the objective of improving environmental services and integrating environmental considerations into development programmes.
- For the protection of environment and to control pollution several measures have been undertaken both by government and NGOs.

Environmental Initiatives in India

- Even before independence, some laws have been enacted for the protection of environment. In Indian Penal Code of 1860, Articles 268, 290, 291, 426, 430, 431 and 432 are related with environment. Similarly, Article 277 was related with water pollution and 278 with Air pollution.
- National Environmental policy, 2006 It the first initiative in strategy-formulation for environmental protection in a comprehensive manner. It undertakes a diagnosis of the causative factors of land degradation with a view to flagging the remedial measures required in this direction. It recognizes that the relevant fiscal, tariffs and sectoral policies need to take explicit account of their unintentional impacts on land degradation.

Environmental Initiatives in India

- As the quality of life improves, demand for better quality services and products also increases. Customers all over the world and at all times demand that they be assured and satisfied that the product or services as anticipated. However, inspection is not a satisfactory way of giving assurance that the product will perform as desired during its life. It is generally agreed that the required level of quality can be built into the product only through the use of a proper quality management system.

Environmental Management

Sustainable Development

What is Sustainable Development

- Sustainable development is the **organizing principle** for meeting **human development** goals while simultaneously **sustaining** the ability of natural system to provide the natural resources and **ecosystem services** on which the economy and society depends.
- Sustainable Development, is “development that meets the needs of the present, without compromising the ability of future generations to meet their own needs.” But sustainable development is about more than just the environment.

What are some examples of Sustainable Development?

1. Wind Energy
2. Solar Energy
3. Crop Rotation
4. Water Efficient Fixtures
5. Green Spaces

Wind Energy

- Energy generated by wind power has become either competitive with or less expensive than coal-generated electricity.
- Wind turbines are a great solution for power generation due to their cost and the fact that they require a very small land footprint.

Solar Energy

- From roof-top solar panels to massive solar farms that can attain the same generating capacity as a conventional power plant.
- A solar farm can reduce 94% of the emissions that a coal power plant emits.
- It also eliminates noxious pollutants like sulphur nitrous oxides and mercury which are major contributors to the air pollution responsible for millions of premature deaths every year.
- According to the International Renewable Energy Agency, currently 220 million to 330 million tons of annual carbon dioxide are saved due to solar photovoltaics.

Crop Rotation

- Crop rotation, is defined as “the successive planting of different crops on the same land to improve soil fertility and help control insects and diseases.” This way of farming is not a new practice, but rather a more ancient way of farming chemical-free, whilst maximizing the long-term growth potential of land.

Green Spaces

- Green spaces such as parks, wetlands, lakes, forests or other eco systems are fundamental to sustainably developed urban areas. These areas are essential for cooling cities while trees produce oxygen and filter out air pollution. Well-designed green spaces also play a critical role in providing safer routes for those commuting by foot or bicycle and providing safer spaces for physical activity and recreation.
- According to the World Health Organization, “recent estimates show that physical inactivity, linked to poor walkability and lack of access to recreational areas, accounts for 3.3% of global deaths.” Thus having access to green spaces can improve health and well-being and even aid in the treatment of mental illness.

Concept of Sustainable Development

- It is a pattern of resource use, that aims to meet human needs while preserving the environment so that these needs can be met not only in the present, but also for generations to come.
- The development initiatives be initiated in such a way that the future generations can enjoy the benefits of Nature without any compromise.
- Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs

Concept of Sustainable Development



Educational Systems:- Awareness

- LEED (Leadership in Energy & Environmental Design) 1994 It is a set of rating systems for the design, construction, operation, and maintenance of green buildings, homes and neighborhoods, developed by the U.S. Green Building council (USGBC), LEED is intended to help building owners and operators be environmentally responsible and use resources efficiently. LEED has evolved since 1998 to more accurately represent and incorporate emerging green building technologies.
- The pilot version, LEED New Construction (NC) v1.0, led to LEED NCv2.0, then LEED NCv2.2 in 2005. LEED was most recently updated in 2009, to LEEDv3. It encompasses nine rating systems for the design, construction and operation of buildings, homes and neighborhoods.

Educational Systems:- Awareness

- Five overarching categories correspond to the specialties available under the LEED Accredited Professional program. That suite currently consists of:
 - Green Interior design & construction
 - Green building operations & Maintenance
 - Green Neighborhood development

Indian Green Building Council

- It was formed by confederation of Indian industry in the year 2001 is continuously striving towards wider adoption of eco – friendly/ Green building concepts in the Indian Industry.
- There are three primary ranking in India GRIHA, IGBC etc promotes a whole building approach to sustainability based on the principles of 5 elements of the nature. They are:
 - Sustainable site development
 - Water savings
 - Material selection
 - Energy efficiency
 - Indoor environmental quality

Indian Green Building Council

- Green building : “Green or sustainable building is the practice of creating healthier and more resourceefficient models of construction, renovation, operation, maintenance, and demolition.”

Green Building

- Construction – Reduce the amount of waste generated at a construction site
- Design – Building design details will help to reduce construction materials, and energy/water requirements when completed
- Material Selection – Careful selection of construction materials will leave less of an environmental impact
- Goal: Reduce / Reuse / Recycle
- Building design based on standard sizes of materials
- Buy higher quality to reduce rejects
- Recycle (use scraps)
- Train crew
- Renovate an existing building