

IIIrd - ModuleS. Imp:

Environment Impact Assessment (EIA) Process

EIA is an assessment of all the possible impact both +ve and -ve that a proposed project may have ~~on~~ on the natural environment.

Purpose of EIA

- ① It helps to identify the possible environmental effect of a proposed project and the methods to reduce them.
- ② Proper utilization of natural resources.
- ③ It reduces the conflict by participation of common public in it.

Major Steps of EIA

- ① Screening :- To determine whether the proposed project requires an assessment and if yes what level of Assessment
- ② Scoping :- To identify the key issues that should further be investigated.
- ③ Description of the project :- To identify the main purpose, objectives and characteristics of the project.
- ④ Consideration of Alternatives :- To identify other alternatives for the project in terms of location, layout of operation.
- ⑤ Description of Environmental base line :- To describe the current and future status of environmental parameters of that area.
- ⑥ Identification of key impacts :- To enlist all those parameters that might be affected by the project.

- ⑦ Impact Magnitude & prediction/Evaluation :- To identify the magnitude of change in parameters due to implementation of the project.
- ⑧ ^(mitigate) Mitigation (Reduce) :- The action taken to reduce the major adverse environmental impact.
- ⑨ Public Consultation :- To share the information with the local public and to take their views and inputs.
- ⑩ EIS presentation (Environmental Impact Statement) :- To document all the our steps and present before the decision making body.
- ⑪ Review :- To review all the steps of EIS and to give necessary feedback.
- ⑫ Decision making :- To decide whether the project is accepted, rejected or needs further changes.
- ⑬ Post monitoring :- Once the project is commissioned to check whether the impact of project must not crossed the legal standard limit.

12/11/19

Tuesday

Sustainable development

The term sustainable development can be defined as the development which takes care of the environment it includes that development which fulfills the needs of present generation without compromising with the resources of future generation.

Objectives

- ① To ensure intergeneration equality : It means that the future generations should get the natural resources in the same quantity and quality as that of present generation.
- ② Overall development in all the aspects of life: It means that resolving all our conflicts and achieving economic prosperity, high environmental quality and social equality

Principles of Sustainable Development -

- ① Sustainable development is based on the principle -
 - ① That the natural resources should be consumed judiciously.
 - ② Use of inexhaustible or renewable resource with maxm efficiency and minimum wastage.
 - ③ Non-renewable natural resources if required should be reused and recycle.

Measures / Methods of achieving Sustainable Development

- ① Population stabilization
- ② Conservation of bio-diversity.
- ③ Control of Air and Water pollution.
- ④ By adopting renewable natural resources.
- ⑤ Recycling and Reuse of non-renewable natural resources.
- ⑥ Environmental awareness among people at all the levels.
- ⑦ Protection of Indigenous plants and animals and culture.

- (A) Providing economic and social security to all the levels of society.
- (B) Ensuring participation of public in developmental programs.

Imp

Dimensions of sustainable development -

- (1) environmental sustainability.
- (2) Economic "
- (3) Socio-political "

Books and their writer's related to sustainable development.

- (1) silent spring → Rachel Carson.
- (2) Limit to growth → Club of Rome
- (3) Our common future → Brundtland Commission.

Imp (anyone)

Environmental protection

Role of Government for Env. protection.

Government plays a major role for protecting our Env. :-

- (1) By making Env. laws and policies and enforcing people for implementing them.
- (2) By developing an institutional framework for conserving wild life and natural resources.
- (3) By establishing pollution control boards for monitoring the level of pollution across the country.
- (4) By starting large scale pollution control programs like, clean ganga action plan, clean Yamuna action plan.

- (5) By promoting env. educational programs at all the levels school, college and Universities.
- (6) By promoting research and development innovation program in the field of env. sciences.
- (7) By solving global env. issues like global warming, ozone layer depletion, loss of bio-diversity, by its intervention ^(Env. friendly) at national and international level.
- (8) By guiding people to adopt eco friendly mode of life style by imposing taxes and incentives.

Role of NGO's for Env. protection.

NGO's are non-profit organization which works for a social cause.

- (1) By giving ^{promoting} env. education and awareness among people.
- (2) By promoting population stabilization programs among people.
- (3) Promotion of non-renewable energy resources (like, solar energy, tidal energy, wind energy).
- (4) Campaigning for eco-friendly mode of lifestyle and conservation.
- (5) Encouraging the use of Bio fertilizers.
- (6) Raising protest against anti-environmental activities or projects.
- (7) Promoting the development of rural areas.
- (8) Promoting people for participation in Ganga, Yamuna river clean action plan.

International NGO's.

- ① Green peace (Canada).
- ② World wide forest fund for nature (WWF, Switzerland)

INDIAN NGO'S.

- ① Bombay Natural History Society (BNHS)
- ② Society for harmonizing science people & env. (SHAPE).

Role of citizens in env. protection.

- ① By conservation of energy resources (mainly electricity).
- ② By controlling pollution :- By adopting eco-friendly lifestyle.
- ③ Eat organic food free from chemical fertilizers.
- ④ Recycling and reuse of non-renewable natural resources.
- ⑤ Avoid buying products that are made up of paper, plastic and non-biodegradable products.
- ⑥ Afforestation.

Environmental laws / Act.

There are 5 env. laws / act are.

- ① Env. protection Act (1986)
- ② Wildlife protection Act (1972)
- ③ Forest conservation Act (1980)
- ④ Air pollution control Act (1981)
- ⑤ Water pollution control Act (1974),

① Env. Protection Act (1986).

[It was first enacted on 19th Nov. 1986 at the Birth Anniversary of our late Prime minister Smt. Indira Gandhi.]

This act consists of 26-sections which are distributed among 4 chapters. The main objectives of this act are:

- ① To provide focus on the protection of env. and to plug the loop-holes in the earlier Env. laws.
- ② To standardize the quality of air, water and soil for various areas and for various purposes.
- ③ Restriction on the location of industries in the residential areas.
- ④ To examine the manufacturing process, materials used in industries that are likely to pollute environment.
- ⑤ To setup the limit for the max. permissible of diff. Environmental pollutant in a particular area.
- ⑥ To establish the procedures and safe-guard measures for handling of hazardous substances.

Penalties for violation of Env. Protection Act.

- ① Any person who fails to comply or violate this law shall be punishable with an imprisonment of five years with a fine of 1 lac Rupees.
- ②

② Wild life Protection Act (1972).

Amendment (1976) → (1983, 1986, 1991, 2002).

Main features.

- ① Restriction on the hunting, ^{and trapping} of wild animals and birds.
- ② Rehabilitation of Endangered and threatened species.
- ③ Conservation of ~~biology~~ bio-diversity by establishing wild life sanctuaries, National parks etc.
- ④ Regulation of trade in wildlife and conservation of wild animals.
- ⑤ Collaboration with NGOs for the protection of wild life.
- ⑥ To grant special permission for the hunting of wildlife used for scientific research.
- ⑦ To setup the guidelines for issuing the license for arms, in the surrounding areas of wild-life.

Penalties :-

- ① A person violating any provision of this law will have an imprisonment of 3 years or a fine of 25000 Re. or both.

②

③ Forest Conservation Act : - (1980)

Amendment in (1988, 1992).

Main features :-

- ① To check deforestation and diversion of forest area to non-forest area.
- ② To ensure judicious use of forest products.
- ③ Prohibiting state government for using forest

for any non-forest purposes.

- ④ Wild life Sanctuaries, National Parks, are totally prohibited for any kind of survey without the prior approval from the central government.
- ⑤ Cultivation of tea, coffee, Rubber, Muskoxino are included under non-forestry activities and are not allowed in reserve forest.
- ⑥ Cultivation of fruit bearing trees, Oilyielding plants or medicinal plants in the forest area needs to be first approve to maintain the ecological barriers.
- ⑦ Mining is a non-forestry activity and prior approval from the central government is mandatory of such purposes.
- ⑧ Deforestation is prohibited to maintain ecological balance and to prevent environmental disturbances.

Penalties for violation of

for the violation of this act shall be equal to the NPV for the forest area per hectare each year as inspected by the officer
(NPV) → Net present value.

- ① Air pollution, Prevention & Control Act (1981) amendment in (1987).

This act was passed under article 253 of the constitution of India the main objectives of this act are

- ① To prevent and control Air pollution and to preserve the quality of air.

- (iii) To establish central and state pollution control board for the controlling the air pollution.
 - (iv) To provide power in function to the central and state pollution control boards to restore the quality of air
- Features / objectives / powers of function ^{pollution control.}
- (iv) To advice central government about improvement in the quality of air and solving issues relating to air pollution.
 - (v) To provide guidance to the industries for prevention and control of air pollution.
 - (vi) To establish research laboratories for analyzing the samples of air.
 - (vii) To utilize the good services of mass media in educating common public about control of air pollution.
 - (viii) To plan and organize training programs for the common people relating to the control of air pollution.
 - (ix) To inspect the premises of polluter and to collect samples of emissions from their chimney's & other outlets.

Penalties:- A person fails to follow any provision of this act shall be punishable with an imprisonment of 3 years months and a penalty of Rs 5000 or both.

⑤ water pollution , prevention & control Act (1974)
Amendments in (1980).

Air water pollution का ला विकास है।

Air and water का गत है।

~~Topic~~ Environmental Education;

Environmental Education refers to an organize efforts to teach people how their natural environment functions and how human beings manage their behaviour in that Environment. It includes all the efforts to educate public by the use of print media, Electronic media etc.

Levels and dimensions of Env. Education.

1. At Elementary level (upto std. 8th) ; At this standard Env. education is being a part of Social Science and Natural History.
2. At Secondary level (from 9th to 12th std.) It is included as a part of science with some Env. club activity.
3. At Undergraduate or post graduate level . At this level Env. Education is ^{being} taught as a separate Subject of Environmental Science, Env. Studies, Ecology and Environmental Engg .

Besides school & College level Education.

Value based Education:- Env. education should be combined with our religious and cultural values.

Environmental Ethics:- Env. education should include as a fundamental right and duties of every citizen.

Guidelines

6 Guidelines for Excellence in env. Education.

- ① Fair and Accurate:- The content should be accurate and problem solving.
- ② Depth :- The concept of environmental Education should provide in-depth knowledge.
- ③ Emphasis on skill building :- The env. education should as such that it should build a life long skill to the learners.
- ④ Action Oriented :- The Env. education should have practical applicability in personal and civic life.
- ⑤ Instructional Usability Soundness :- The education imparted should be clear, logical, long-lasting and easy to use for solving local and, State and National env.
- ⑥ Usability :- Instructional Soundness :- The Env. education should have clear instructions to ensure effective learning.

Question for end term

- ① How env. ethics contribute to solve env. problems - or Scope of env. ethics.
- ② What is the purpose of life cycle Assessment (LCA)
- ③ ~~Env. Economics~~
- ④ Comment how env. economics is a powerful tool for achieving a sustainable development.
- ⑤ Why government should play a central role important role for env. protection.
- ⑥ Discuss the role of citizens for env. protection
- ⑦ M.S. NGOs for protecting Env.
- ⑧ What is environmental impact Assessment (EIA) . Discuss the process.
- ⑨ What are major obstacles in the path of sustainable Development .
- ⑩ i) Env. protection law ii) wild life ~~consequences~~ law . (Penalties)
- ⑪ Guidelines for acquiring excellence in env. Education
- ⑫ Ecological foot print (short note).

Environmental Economics:- is a theoretical or empirical study of the economic effects of local and national Env. policies. It includes the costs and benefits of alternate Env. policies to deal with issues like air pollution, water pollution, solid-waste management and global warming.

③.

Scope of Env. Economics.

- (i) To strike a balance b/w the economic growth and environment
- (ii) Pollution control from economic pt. of view.
- (iii) Optimal use of natural resources with min. level of wastage.
- (iv) To limit the growth through taxes and other fiscal measures.

Relation b/w Env. & Economy.

Since the Env. provides resources for economic growth therefore, all the economies should be concerned with the following objectives

- i) Efficiency in Utilization of natural resources.
- ii) Equal distribution of Natural resources and income
- iii) stability :- The taxes charge should not be too high to discourage or reduce the output.
- iv) Growth:- All the economic actv. should b. to achieve a sustainable growth.

Environmental Ethics

Env. Ethics refers to the issues, principles and guidelines relating to human activities with the env. It includes all the culture and tradition that have influence human relationship with nature; the moral

Eco-centric thinking in Env. Ethics

- (i) There are some eco-centric pts. for maintaining a harmonic relationship of humans with nature.
- (ii) Nature exist not only for human beings but for all the species.
- (iii) The Earth resources are limited and they do not belong only for the humans.
- (iv) Economic growth is good till it increases sustainable development.
- (v) The healthy economy depends upon the healthy env.
- (vi) The success of mankind depends upon how best we can cooperate with our nature.

03/12/19

Tuesday

Imp: Ecological Footprint:-

Ecological footprint means human consumption of natural resources in comparison to Earth's ecological capacity to regenerate them. Ecological footprint measures how much people take from nature. The ecological footprint of a person can be calculated by adding up

all the people's demand, which is then compared with the amount of natural resources that nature can regenerate in the form of land and sea area to provide ~~every~~ ~~thing~~ for a people use. The world average global ecological footprint in 2012 is 2.84 hectares per person.

The max. average amt. that each person can consume depends purely on the size of population and is expressed mathematically by a relationship given as [max per capita footprint \times size of sustainable population] = Bio capacity of the Earth.

~~Ques~~ OR

$$\text{Max. Population} = \frac{\text{Total Bio capacity}}{\text{per capita footprint.}}$$

Need for public awareness towards Environment.

- i) Everyone interacts with Env. Hence the knowledge of our ~~surrounding~~ surrounding is desirable for everyone.
- ii) The general public is the main cause for most of the Env. problems, therefore lack of awareness, laziness, profit making tendencies should not be desirable.
- iii) The public is the only part for solving Env. problems. Either by:
 - ① not harming the env.

(b) Taking Initiatives for the betterment of our environment:

On what issues public awareness is necessary.

- (i). How to prevent pollution by controlling our daily activities.
- (ii). How to Utilize natural resources judiciously with max. efficiency and min wastage.
- (iii) How to aware people about the Env. Importance of env. laws for env. protection.

(क्रीति)

Means for public Awareness:-

- (i). Education Through Educational bodies like school, Colleges and Universities.
- (ii). Through print media Eg: Newspaper, Article, magazines
- (iii). Through Electronic media Eg:- T.V., Radio, Internet.
- (iv). Through creative media : - Eg :- street play, Theatre, Nukkad Natak etc.
- (v). Through Controlling Campaigning:- Anti polythene, clean river campaign.
- (vi). Celebration of special days related to env.