Glossary

- **Adulterants –** The substance, which when added in food or drink, makes it weaker or lowers its quality.
- **Agro-biodiversity –** It includes all components of biological diversity related to food and agriculture ecosystems.
- **Anaerobic –** Organisms or processes which do not need oxygen in order to function or survive.
- **Animal husbandry –** The branch of agriculture, concerned with the production and care of domesticated animals.
- **Anthropogenic –** Man-made.
- **Ambient –** Immediate surrounding.
- **Expert Appraisal Committee – (EAC)** Exists at the Union as well as state levels, (State expert appraisal committee or SEAC) to advise the government on environmental clearance of development projects. The role of EAC is integral to the process of granting environment clearance to developmental projects.
- **Audit –** Inspection of an organization by an independent body.
- **Biological oxygen demand –** The amount of dissolved oxygen needed by anaerobic decomposers to break down the organic materials in a given volume of water at a certain temperature over a specified time period.
- **Bio-magnification –** The process by which certain chemicals in the environment become concentrated as they move from one organism to another in the food chain.
- **Bio-methanation –** The process by which organic material is microbiologically converted under anaerobic conditions to biogas.
- **Biological decay –** The breaking down or rotting of organic matter through the action of bacteria, fungi or other organisms by decomposition.
- **Bt cotton –** Bt is a family of proteins, originating from strains of the bacterium Bacillus thuringiensis. Bt cotton is a genetically modified, post resistant cotton variety.
- **CFC (Chlorofluorocarbon) –** Organic compounds, made up of atoms – carbon, chorine and fluorine. An example of CFC is Freon – 12, used in refrigerators and Air conditioners.
- **Christian Era –** Also called common Era. It is one of the notation systems for the world's most widely used calender era.
- **CH_4 (Methane) –** It is a colourless, odourless, flammable gas; which is the main constituent of biogas and considered as one of the green house gases.
- **CNG (Compressed Natural Gas) –** It is methane stored at high pressure and can be used as a fuel in place of diesel, gasoline.
- **Desertification –** The conversion of arid and semi-arid land into deserts by inappropriate farming practices or overgrazing.
- **Eco-restoration –** It is the redevelopment of degraded ecosystems including its biotic and abiotic componants.

- **Effluent –** Liquid industrial waste.
- **Exponential –** Growing or increasing very rapidly.
- **Fibrosis –** Formation of an abnormal amount of fibrous tissue in an organ or part as a result of inflammation and irritation. Pulmonary fibrosis is a lung disease that occurs when lung tissues are damaged.
- **Fly-ash –** It is a coal combustion product composed of fine particles, that are driven out with the flue gases.
- **Food additives –** Substances, add to food to preserve flavour or enhance its taste, appearance and other qualities.
- **Gene mutation –** Permanent alteration in the DNA sequence, that makes up a gene.
- **Genectically Modified Organism (GM) –** An organism whose material has been altered in a way that does not occur naturally. It allows selected individual into another genes to be transfered from one organism.
- **Inventory –** A complete list of items, such as goods and materials.
- **Logging –** A process of cutting and processing trees to produce timber.
- **Landraces –** It is a domesticated, locally adapted, traditional variety of plant or animal species, that has developed over time.
- **Leachate –** It is a liquid that seeps through solid wastes or other medium and has extracts of dissolved or suspended material from it.
- **Mangroves –** It is a shrub or small tree, that grows n costal saline or brackish water. It has numerous tangled roots, that grow above ground and form dense thicket.
- **Monocotyledon -** A group of plants whose seeds have only one cotyledon. These seeds can not be divided into two parts. The examples are maize, wheat, rice.
- **Non-conventional energy sources –** Natural resources like wind, tides, solar, biomass etc. which generate energy are known as non conventional energy sources.
- **Perennial –** Lasting or existing for a long time.
- **Protozoa –** Single celled organism, existing as free living organisms or parasites.
- **Persistent Organic Pollutant (POP) –** These are organic compounds that are resistant to degradation through chemical and biological processes. These are of global concern due to persistence in the environment, ability to bio accumulate in ecosystems and their negative effects on human health and the environment.
- **Peroxy Acetyl Nitrate –** Peroxy acetyl nitrate (PAN) is an important constituent of photo chemical smog. It is very stable at cold temperatures and easily decomposes to release NO_x at warm temperatures. PANs have many adverse effects on human body, such as reduced respiratory function and eye irritation.

- **Poly Ethylene Terephthalate (PET) –** PET is a clear, strong and light weight plastic, that is widely used for packaging foods and beverages. It is typically called 'polyester' when used for fibres or fabrics and 'PET Resin' when used for bottles, jars, containers and packaging application.
- **Radionuclides –** They are atoms, that has excess nuclear energy making it unstable. They occur naturally or are artificially produced in nuclear reactors, cyclotrons etc.
- **Radioactive fall–out –** It is the radioactive material propelled into upper atmosphere following nuclear blast. It is so called because it falls out of the sky after the explosion. It is harmful for all living organisms.
- **Soil erosion –** It is one form of soil degradation. It is the displacement of upper layer of soil, caused naturally by water, snow, air, animals.
- **Surface run-off –** It is water from rain, snow melt that flows over the land surface. (If the run-off is heavy. There is less infiltration of water into the soil and if it is less, more water infiltrates into the soil.)
- **Sewage –** It is waste water and excrement conveyed in sewers.
- **Sludge –** Thick, soft, wet mud or a similar viscous mixture of liquid and solid components, especially the product of an industrial or refining process.
- **Styrofoam –** A kind of expanded polystyrene used especially for making food containers.
- **Spatial pattern –** Arrangement of a feature on land as it is shown distributed through earth space.
- **Topography –** The arrangement of high and low elevation in the landscape.
- **Turbidity –** A measure of fine, suspended matter on liquids.
- **Threshold –** The level or point at which something starts to happen or change.
- **Wetland –** Land that is cover all or part of the time with salt water or fresh water, excluding streams, lakes and the open oceans. The soil is basically undrained, giving rise to swamps, bogs and marshes. Wetland includes estuaries, deltas, mangroves and water logged paddy fields.
- **Watershed –** Area in a natural basin having a single outlet of water.

List of Projects

1. Visit any farmer who practices organic farming and make a report on type of compost/ bio fertilizers used, cost of fertilizer with respect to chemical fertilizer. Also get the information on bio pesticides used and the content of these bio pesticides.
2. Find out your 'carbon footprint' by using footprint calculator from the internet. After calculating the footprint list down steps that you can do to reduce carbon footprint. Calculate the foot print after taking necessary steps and make a report on it.
3. Conduct a project in your locality to find out solid waste disposal in your locality. Make a poster to reduce the waste and improve the waste management in the community.
4. Carry out energy audit of your house based on guidelines given in the book and write steps to reduce the use of energy. Study your electricity bill before and after taking steps. That is the conclusion of your project.
5. Visit the nearest hospital/ doctor in your locality. Prepare a questionnaire to talk to the doctor on the increase or decrease in the patients and the types of diseases reported. Write the report on what are the causes of diseases and preventive measures which can be taken. Make a report of the same.
6. Study population status of your village/ town/ city for past twenty years (since census is conducted every ten years) available on the Indian National Government website (http://censusindia.gov.in). Make a graphical representation of the changes seen and discuss the change in your classroom.
7. Study the local community traditions in your locality by talking to elderly people in your house or neighborhood and highlight the points which favour environmental protection.
8. Visit the local grocery shop/ mall and list down all the products that are available which have eco marks. List why are they registered as ecofriendly. Make a table listing the product name, product and the company names. They can also be organic products.
9. Visit any nature tourism site and make a report on why it is visited? How many people visit the site every year? Make a list of environmental impacts observed due to tourism and suggest preventive measures.
10. Carry out 'Green Audit' of your college/ school campus as per the guidelines given in the book.
11. Visit the solid waste dumping site of your locality. Prepare the report on volume generated per day, how dumping affects the surrounding. Take the interviews of local people staying in the surrounding area on how they are affected. Prepare a poster suggesting measures to reduce the waste.
12. Report the weather changes experienced by you and other people in your area in the previous year. Make a report on how it is affecting your own local environment.

13. Survey the local water resources in your area and its quality of water. (use guidelines from the book) Write on causes of pollution and suggest preventive measures to be taken.

14. Study the water quality of tube wells in your area. Prepare a table showing location, causes of pollution, since when water quality of bore well changed? Is there water available whole year or it is seasonal? Get the information from elderly people from the area. Write down suggestions for its improvement.

15. Visit a local industry and study the environmental impacts of it in the surrounding area. Carry out interviews of the local people about their views on the industry.

16. Survey the local rainwater harvesting installations if any in your locality. List down how it has benefitted the area.

17. Visit few farms in your area and study the agricultural loss due to insects or pests in the agricultural practices in recent years. Make a table documenting the name of crop, type of disease, monitory losses incurred, causes of problem according to the farmer.

18. Study mixed farming practices in the locality with respect to sequence of crops, advantages of it, types of varieties grown, benefits of each crop to the farmer with respect to economics, yield quality and quantity.

19. Visit your area to get the information on the various weeds present in the locality. Prepare a map showing the area occupied by the weed. Ask the local farmers how it has affected the agriculture and document it in tabular form. Write down control measures to reduce the same.

20. Survey the various water conservation practices in the locality. Write about the benefits of the project to the people. It can be drip irrigation, roof top harvesting in urban area or watershed development in rural area.

21. Study the drinking water supply system in your area. What is the source of drinking water, where water is purified and how it gets distributed in the locality. Study what happens to the waste water drainage.

22. Study the local or nearby dam and write down the environmental issues concerning the dam and the locality.

23. Study air pollution in the area using the AQI app. Do the monitoring for one month every week. Write conclusions based on your observations.

24. Use sound level app to study the sound pollution in the area. Measure the noise levels at market place, school, hospital , traffic signal. Prepare a detail report on it. Prepare a poster suggesting measures to reduce noise levels and its harmful effects.

25. Survey the biodiversity of your school/ college campus. Prepare a eco audit report.

26. Write down the environmental issues in your village/ city / area on the basis of the following points: a) Population growth b) Solid waste problem c) Pollution d) Documentation of biodiversity.

27. Visit the nearest historic area (eg. fort) and write down number of the visitors, purpose of visit by people, historical importance of the place and write about the environmental issues there.

28. Write down the information about environmental protection organizations in your area, the work that they have done in last few years.

29. Prepare statewise list of tribal communities in India. Explain the special characteristics of each. Describe the traditions of environmental conservation practices in the tribal community.

30. Participate in watershed management activity in nearby area. Prepare a report on water shed management techniques used in that area. Explain the importance of these techniques.

31. Visit a local distributer of chemical pesticides and make a detail list of commonly used pesticides in the area and used for which crops. Write about their impacts on human health and environment.

Some International environmental activity days

Sr. No	Name of the activity day	Date
1.	World Wetlands Day	February 2nd
2.	World Wildlife Day	March 3rd
3.	International Day of Action for Rivers	March 14th
4.	World Consumer Rights Day	March 15th
5.	Global Recycling Day	March 18th
6.	World Sparrow Day	March 20th
7.	International Day of Forests	March 21st
8.	World Planting Day	March 21st
9.	World Water Day	March 22nd
10.	Earth Day	April 22nd
11.	World Biodiversity Day	May 22nd
12.	Bike-to-Work Day	3rd Friday of May
13.	World Environment Day	June 5th
14.	World Population Day	July 11th
15.	International Tiger Day	July 29th
16.	International Ozone Layer Preservation day	September 16th
17.	World Animal Day	October 4th
18.	Energy Efficiency Day	October 5th
19.	International Day of Climate Action	October 24th
20.	World Soil Day	December 5th