

Course Contents

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3. Ecosystems.
4. Biodiversity & its Conservation.
5. Environmental Pollution.
6. Social Issues & the Environment.
7. Environmental Protection.




1. Nature of Environmental Studies

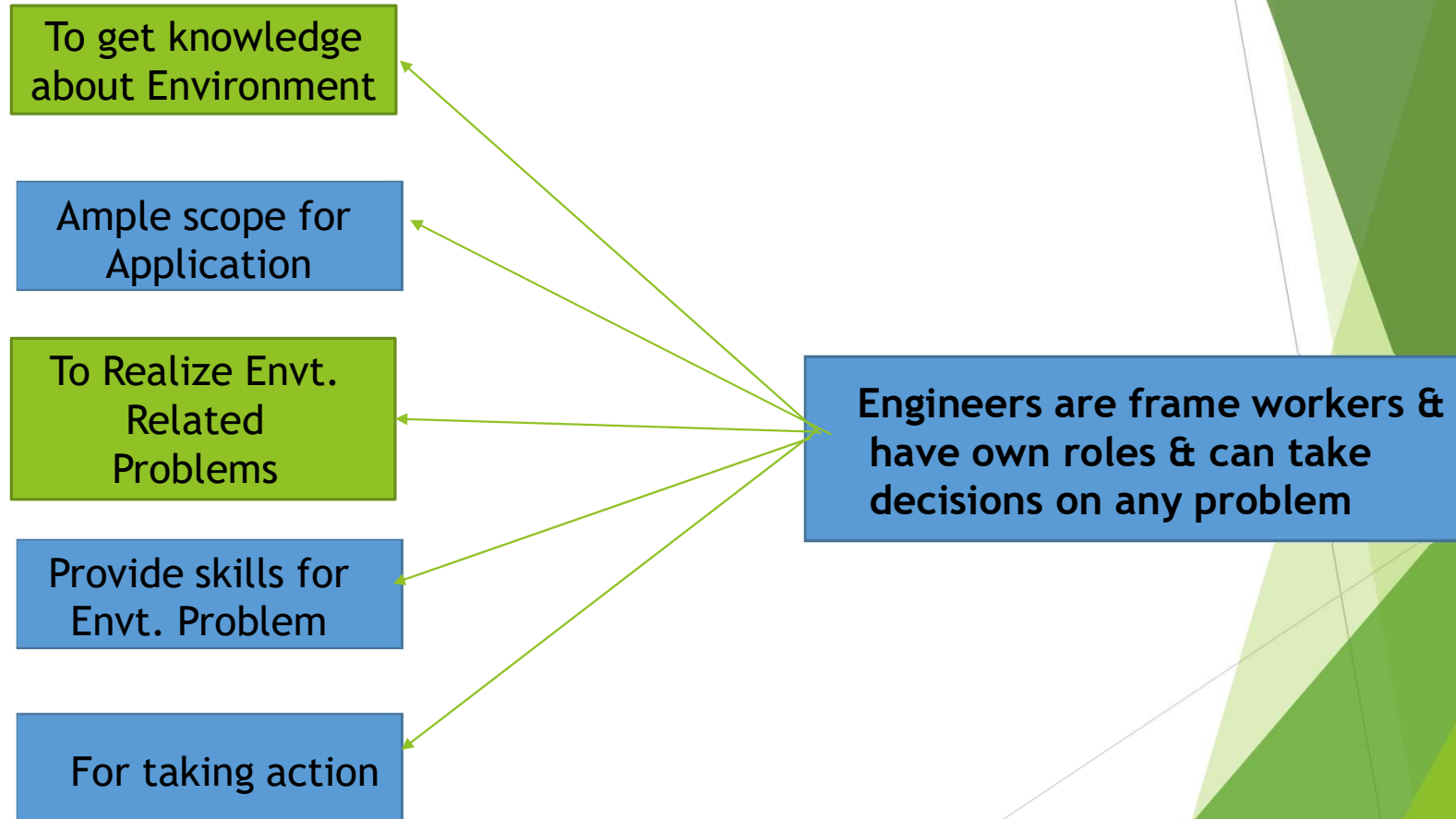
Environment

- ▶ The term Environment is derived from the **French word** environ or environner means encircle or surrounding and ment means action.
- ▶ All the biological and non biological things are included in environment
- ▶ As per environment protection act of 1986, Environment is defined as **sum total of water, air and land, inter relationships among themselves and also with the human beings, other living organisms and surrounding.**
- ▶ Environment is what surrounds us. It is the sum total of all social, economical , biological , physical and chemical factors which constitute the surroundings of humans, who are both the creators and moulders of the environment.

- ▶ Environment is of **two types**: Natural Environment and Man - Made Environment
- ▶ Components such as air, water, soil, land, forest, wildlife, flora ,fauna, etc. constitute the Natural Environment.
- ▶ Alteration of the natural environment to serve specific uses by the human beings is termed as Anthropogenic Environment.
- ▶ For eg. agricultural field is an anthropogenic environment and so are the gardens and aquaculture farms

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- ▶ **Environmental Studies:** It is a broad interdisciplinary field of study which studies the interaction of human beings with the environment.
 - ▶ **Environmental Science:** It is an interdisciplinary academic field that integrates physical and biological sciences to address the environmental problems.
 - ▶ **Environmental Engineering:** It is the application of science and engineering principles to improve the quality of environment to provide healthy living conditions

Need of Environmental Studies.



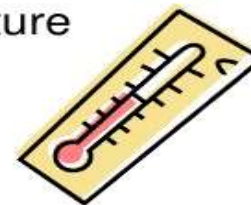
Living+ Non Living Organisms= Environment
Biotic+ Abiotic component= Environment

Biotic vs. Abiotic Factors

- Living
- Examples
 - ▣ Plants
 - ▣ Animals
 - ▣ Fungi
 - ▣ Bacteria




- Non-Living
- Examples
 - ▣ Water
 - ▣ Sunlight
 - ▣ Soil
 - ▣ Air
 - ▣ Temperature



Multidisciplinary Nature



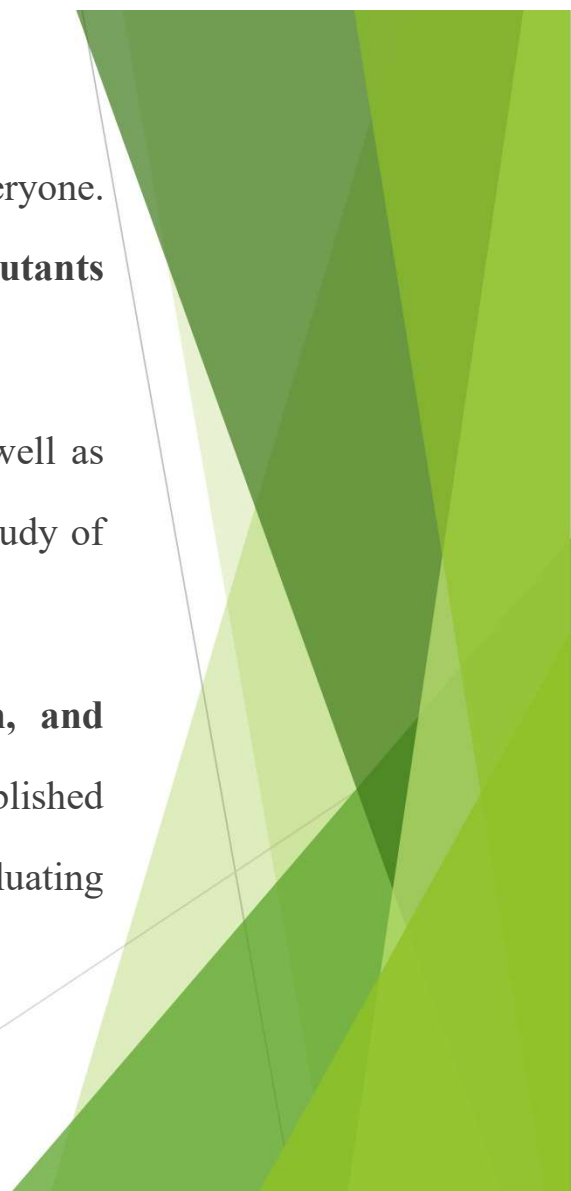
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- The background of the slide features abstract, overlapping green geometric shapes, primarily triangles and polygons, in various shades of green, creating a modern and dynamic visual effect.
- ▶ Environment studies is a multidisciplinary subject where different aspects are dealt with in a holistic approach.
 - ▶ The interconnections are numerous and involve many different disciplines. We need inputs from diverse disciplines such as biology, botany, zoology, soil science, technology, oceanography, atmospheric science, economics, sociology, anthropology and ethics.

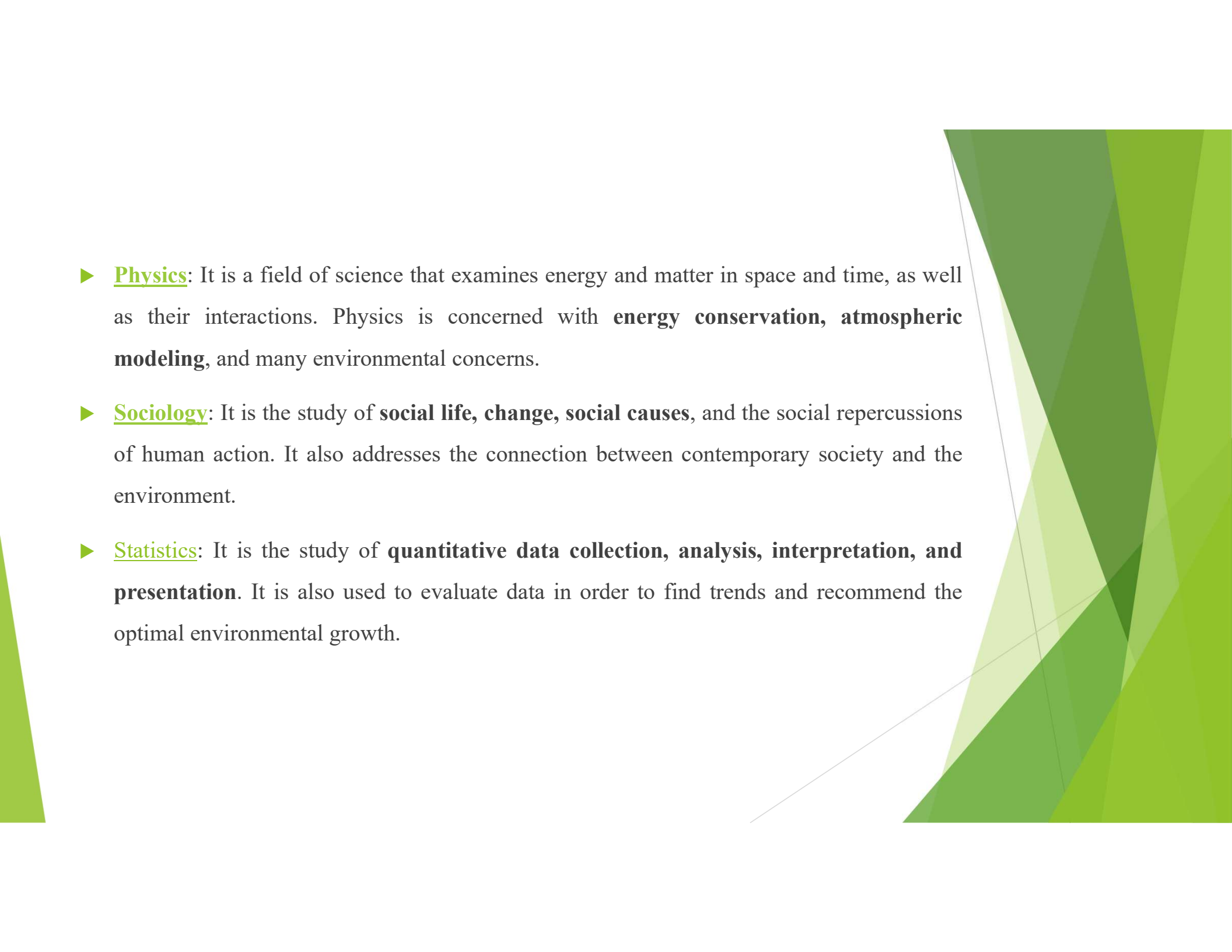
Multidisciplinary Nature of Environmental Studies

Components

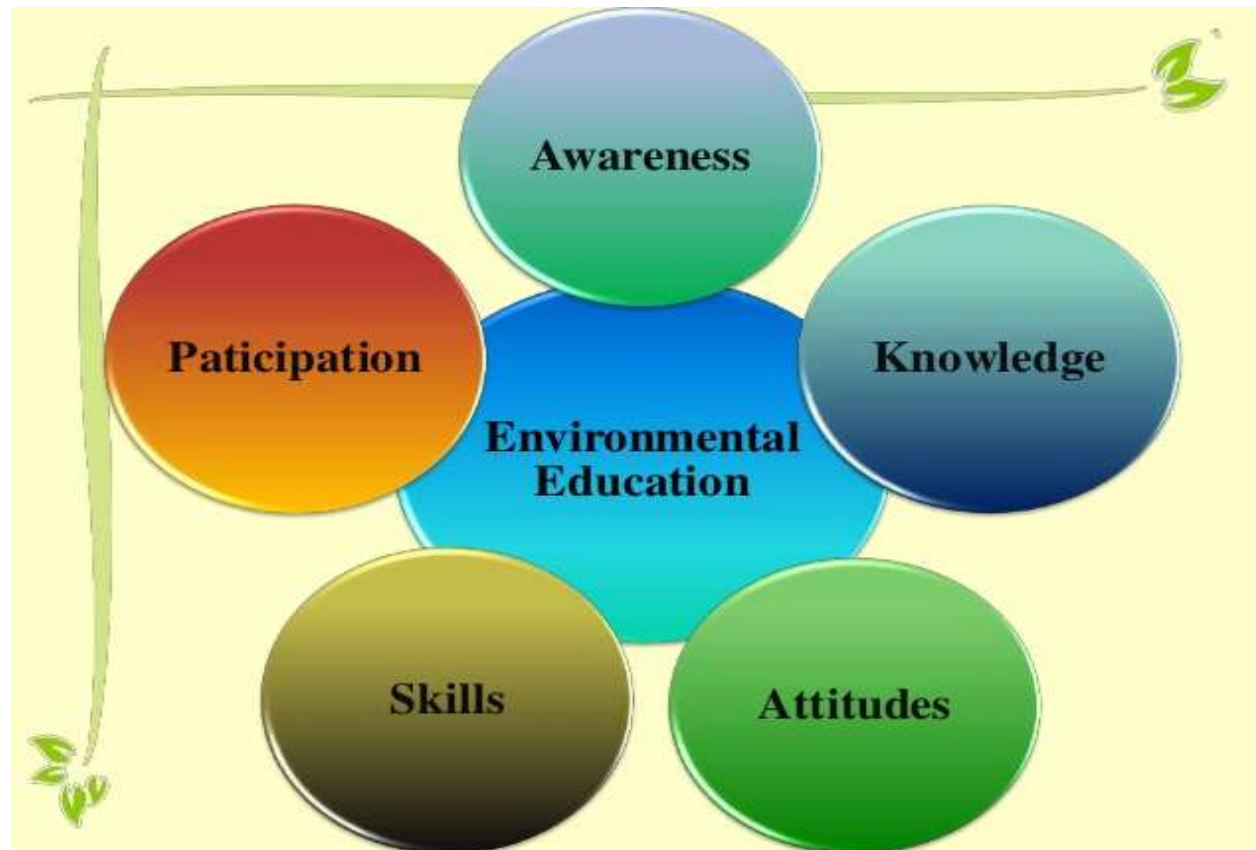
Environmental studies is made up of several components. They are as follows:

- ▶ **Anthropology**: It is the study of **human traits**, biological and psychological well-being, communities and cultures, and the **growth and evolution of humans**. EVS is connected to anthropology since it studies humans and their environments throughout place and time.
- ▶ **Biology**: It is a field of science that focuses on the study of **living creatures**. Their physical structure, chemical processes, molecular interactions, development, and evolution are all included. EVS is connected to biology since it is concerned with the natural environment of living creatures.
- ▶ **Chemistry**: It is a field of science that examines **chemicals and the components that makeup matter**. Understanding natural occurrences in EVS necessitates knowledge of chemistry.

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- ▶ Software: As the world has progressed, computers have become a need for everyone. Computers are used by the Environmental Protection Agency **to keep track of pollutants** found in soil and water.
 - ▶ Geology: It is the study of **physical structures and substances** found on Earth, as well as their history and the processes that they go through. EVS is also concerned with the study of the earth and environment.
 - ▶ Economics: It is a field of study concerned with the **production, consumption, and distribution of commodities and services**. Various economic strategies have been established to preserve the environment from pollution, global warming, and climate change by evaluating and developing answers or cures for environmental concerns.

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- The background of the slide features abstract, overlapping green geometric shapes, primarily triangles and polygons, in various shades of green, creating a modern and dynamic visual effect.
- ▶ Physics: It is a field of science that examines energy and matter in space and time, as well as their interactions. Physics is concerned with **energy conservation, atmospheric modeling**, and many environmental concerns.
 - ▶ Sociology: It is the study of **social life, change, social causes**, and the social repercussions of human action. It also addresses the connection between contemporary society and the environment.
 - ▶ Statistics: It is the study of **quantitative data collection, analysis, interpretation, and presentation**. It is also used to evaluate data in order to find trends and recommend the optimal environmental growth.

Scope & Importance



Scope

- ▶ Natural resources, their conservation and management
- ▶ Ecology and biodiversity
- ▶ Environmental pollution and control
- ▶ Solid waste and disaster management
- ▶ Social issues in relation to development and environment



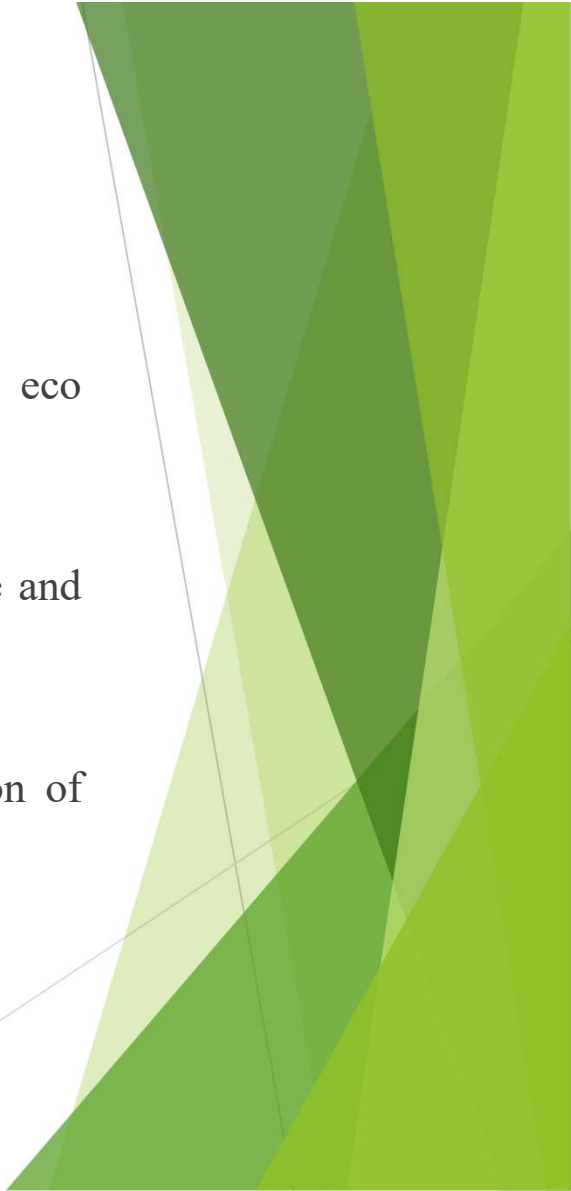
Scope

- ▶ Environmental protection act and laws
- ▶ Human population and environment
- ▶ Environmental management
- ▶ Population growth, human health and rights
- ▶ Training of persons for environment issues

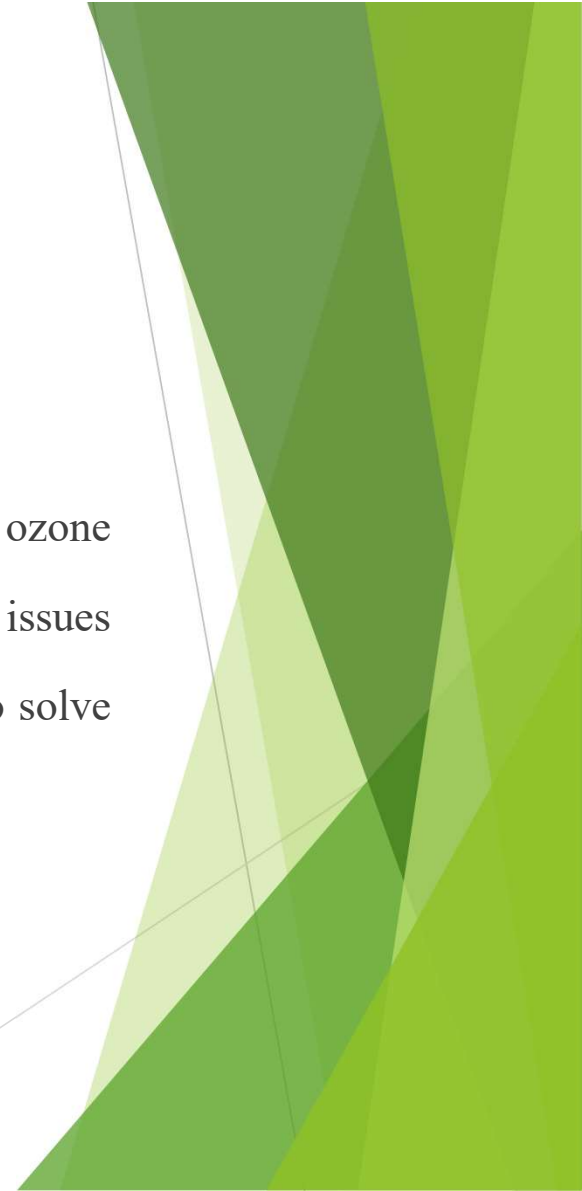


Importance

- ▶ Environmental study has become important to human being for its own welfare.
- ▶ It is important to protect the environment to maintain quality of life, creating awareness among people so that it becomes a part of their life
- ▶ Environment study is important since it deals with day to day issue like safe and clean water, hygienic living conditions, clean and fresh air, fertile land, healthy food and sustainable development.
- ▶ Helps in maintenance of life, health and preservation of human race.
- ▶ It is important for appreciating and enjoying nature and society

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- ▶ It is important for social development and self fulfillment of each individual.
 - ▶ It is important to understand ecology, ecosystem, food chain, food web, eco balance in nature.
 - ▶ It is important to develop awareness of changing environment for the future and immediate welfare of mankind.
 - ▶ It helps to understand social problems as population explosion, exploitation of natural resources, pollution of environment and its solution.

- ▶ It helps in conservation of natural resources and minimize overexploitation.
- ▶ It preserves important biological species which are vanishing.
- ▶ It changes attitude and tendency of people towards protection of environment.
- ▶ It has been well recognized that environment issues like global warming and ozone depletion, acid rain, marine pollution and biodiversity are not merely national issues but are global issues and hence require international efforts and cooperation to solve them.



Need of Public Awareness



NEED FOR PUBLIC AWARENESS

- ▶ The need of the hour is to make the public aware of the consequences of the environmental degradation, if not corrected and reformative measures undertaken, would result in the extinction of life.
- ▶ In today's world because of industrialization and increasing population, the natural resources has been rapidly utilized and our environment is being increasingly degraded by human activities, so we need to protect the environment.
- ▶ It is not only the duty of government but also the people to take active role for protecting the environment.

Methods for Public Awareness

- ✓ **Environmental education:** subject in school and colleges for protection of environment
- ✓ **Through mass media:** newspaper, magazine, radio TV etc can be used for educating peoples for environmental problems and issues.
- ✓ **Seminars and conferences:** organizing meetings at various levels for spreading environmental information. Competitions on environmental problems, non conventional sources and issues.
- ✓ **Entertainment:** folk songs, street plays and documentaries.
- ✓ **Science center's:** establishing center's in villages and remote areas for effective disseminating environmental problems, causes and control measures.

Objective of Public Awareness

- ▶ To identify various plants, animals and other components that are endangered.
- ▶ To take appropriate decisions regarding the use of natural resources.
- ▶ To conserve nature and natural resources for the betterment of society for social, cultural and economic development.
- ▶ To adopt appropriate ways and means to solve existing environmental problems.



Institutions In Environment:

1. Bombay Natural History Society (BNHS), Mumbai.
2. Botanical Survey of India (BSI), Kolkata
3. Bharati Vidyapeeth Institute of Environment Education and research (BVIEER), Pune
4. Central Pollution Control Board (CPCB), New Delhi
5. Centre for Science and Environment (CSE), New Delhi
6. Centre for Environment Education (CEE), Ahmedabad
7. Ministry of Environment and Forest (MoEF), New Delhi
8. Environmental Information System (ENVIS)
9. World Wide Fund for Nature-India (WWF-I), New Delhi.
10. Wildlife Institute of India(WII), Dehradun
11. Zoological Survey of India (ZSI), Kolkata
12. Salim Ali Centre for Ornithology And Natural History (SACON), Coimbatore.

10 Famous Environmentalists in India



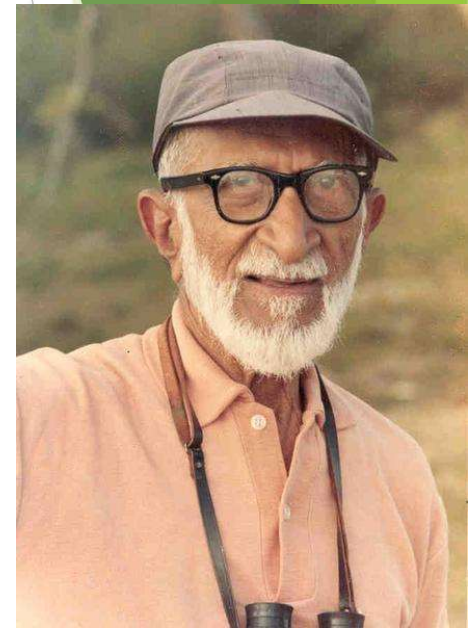
1. Sunderlal Bahuguna

- ▶ He was an Indian environmentalist and the leader of the **Chipko movement**. He fought for the preservation of forests in the Himalayas.
- ▶ In 1970, he first fought as a member of the Chipko movement and later spearheaded the anti-Tehri Dam movement from the 1980s to early 2004.
- ▶ As an environmental activist and a passionate defender of the Himalayan people and India's rivers, he also worked to improve the plight of the hill people, mainly working women.



2. Salim Ali or Salim Moizuddin Abdul Ali.

- ▶ Also known as the '**Birdman of India**,' Ali was a naturalist and ornithologist.
- ▶ His contribution as an environmentalist encompassed conducting systematic surveys of birds in India. He also played a significant role in the creation of Bharatpur Bird Sanctuary and the protection of the Silent Valley National Park.
- ▶ His autobiography, '*Fall of a sparrow*' has received wide acclaim and has been recommended to all individuals who consider themselves to be nature enthusiasts. In 1976, he was awarded the Padma Vibhushan, and in 1958, the Padma Bhushan.
- ▶ He was a leading conservation scientist and also influenced environmental policies in our country



3. S. P. Godrej or Sohrab Pirojsha Godrej

- ▶ He was an Indian businessman, entrepreneur, environmentalist, philanthropist, and chairman of the Godrej Group of Industries.
- ▶ He was connected with several organizations committed to the preservation of nature, wildlife, and the environment as President Emeritus of the World Wide Fund for Nature-India.
- ▶ He received several awards, including the Indira Gandhi Pariyavaran Puraskar in 1991.



4. M. S. Swaminathan



DR MS
SWAMINATHAN

FATHER OF GREEN
REVOLUTION IN INDIA

- ▶ Known as the **‘Father of India’s Green Revolution,’** Swaminathan worked on agricultural research and plant genetics.
- ▶ His work led to the production of a high-technology invention in the wheat crops which paved the way for the Indian Green Revolution. He is known as an agricultural genius since he cross-bred a Mexican seed with a local variety that led to the production of a large number of grains. This helped in successfully tackling the famine issue in India as well as that in Asia.

5. Rajendra Singh



- ▶ Also known as the '**Waterman of India,**' Rajendra Singh has worked towards the goal of efficient water management and harvesting.
- ▶ For over three decades, Singh has worked towards the rejuvenation and revival of water bodies in India. He has revived over 12 water bodies by constructing 11800 water structures in the regions of Karnataka, Rajasthan, and Maharashtra. This has helped in the recharging of aquifers.
- ▶ His work and contribution to the environment have won him the Magsaysay in 2001 and the Stockholm Water Prize in 2015.

6. Jadav Payeng



- ▶ Also known as the '**forest man of India**,' Jadav Payeng comes from the state of Assam.
- ▶ His contribution as an environmentalist entails creating a 550 hectare long man-made forest all by himself.
- ▶ The forest of Muali Reserve lies in the Majuli Island, on Brahmaputra River in Assam.
- ▶ He was honoured with the Padma Shri, the fourth highest civilian award in India, in 2015.

7. Sumaira Abdulali

- ▶ Sumaira Abdulali was born into a family of environmentalists and has been working towards environmental protection since 2002.
- ▶ For more than a decade, she has contributed extensively to two issues that impact the environment, namely, sand mining and noise pollution.
- ▶ Her NGO, Awaaz Foundation played a crucial role in implementing silence zones and safe zone limits during festivals and also dealing with the issue of sand dredging which severely impacts the bio-system.
- ▶ She faced several threats from mafias and big politicians, however, her will and determination enabled her to remain focused on serving the environment and directing all her energies to bring about a change in the society.



By SUMAIRA ABDULALI
CONVENOR, AWAAZ FOUNDATION

8. Medha Patkar

- ▶ Medha Patkar is one of the most famous environmentalists in India since she initiated the '**Narmada Bachao Aandolan**' and her work has played an instrumental role in changing the Indian environmental processes.
- ▶ Her dedication to protecting the livelihood of several families that were being displaced by the creation of the Narmada dam has led her to win the 'Right to Livelihood' Reward.



9. Marimuthu Yoganathan



- ▶ Also known as ‘Tree man of India,’ Yoganathan is a Coimbatore bus driver who has planted around three lakh saplings over the past 30 years.
- ▶ He has contributed over 40% of his salary to contribute to the purpose of protecting the environment.
- ▶ Due to his efforts, the Tamil government has given him the title of “Suttru Suzhal Sevai Veerar” or the “Eco-Warrior.”

10. Kinkri Devi



- ▶ Kinkri Devi is a famous activist and environmentalist of India who waged a war on the illegal quarrying and mining in the state of Himachal Pradesh.
- ▶ Kinkri Devi was a sweeper who lived in deplorable conditions, however, she made continuous efforts to protect the environment.
- ▶ Her notable contributions to the Indian environment led her to win the Stree Shakti award in 1999 and attend the International Women's Conference in Beijing

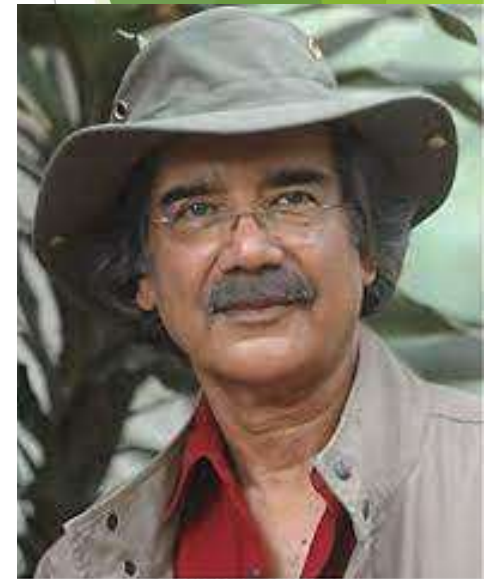
11. M. C. Mehta

- ▶ As a public interest attorney, Mehta filed several petitions which brought about monumental changes for the Indian environment.
- ▶ M. C. Mehta played a key role in curbing the industrial pollution which was polluting the Ganges and corroding the Taj Mahal.
- ▶ He was given the title of ‘Green Advocate’ when he signed a Public Interest Litigation in 1984 that mandated the introduction of the discipline of environmental studies at the undergraduate level.
- ▶ Mehta now works with his NGO called the M.C. Mehta Environmental Foundation that aims at the provision of training programs for environmental attorneys



12. Mike Pandey

- ▶ Mike Pandey is a film-maker who specializes in environment and wildlife films.
- ▶ His movie, '*Vanishing Giants*' played a crucial role in banning the harsh and outdated techniques for capturing elephants.
- ▶ He also played an important role in creating awareness about the Whale Shark and its conversation. This led him to win the “CMS – UNEP Award for Outstanding Achievement In Global Conservation.”
- ▶ First Asian producer to have won the Green Oscar and his continuous efforts towards environmental protection led him to win this award three times.



Mike Pandey