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CLIMATE CHANGE, ENVIRONMENT AND SUSTANIABLE DEVELOPMENT

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Abstract :

Climate change is a direct threat to a child's ability to survive, grow, and thrive. As extreme weather events such as cyclones and heatwaves increase in frequency and ferocity, they threaten children's lives and destroy infrastructure critical to their well-being. On the one hand, climate change influences key natural and human living conditions and thereby also the basis for social and economic development, while on the other hand, society's priorities on sustainable development influence both the GHG emissions that are causing climate change and the vulnerability. Natural systems around the world are being affected by regional climate changes, particularly temperature increases, and that these temperature increases are very likely to be the result of anthropogenic emissions of greenhouse gases.

INTRODUCTION –

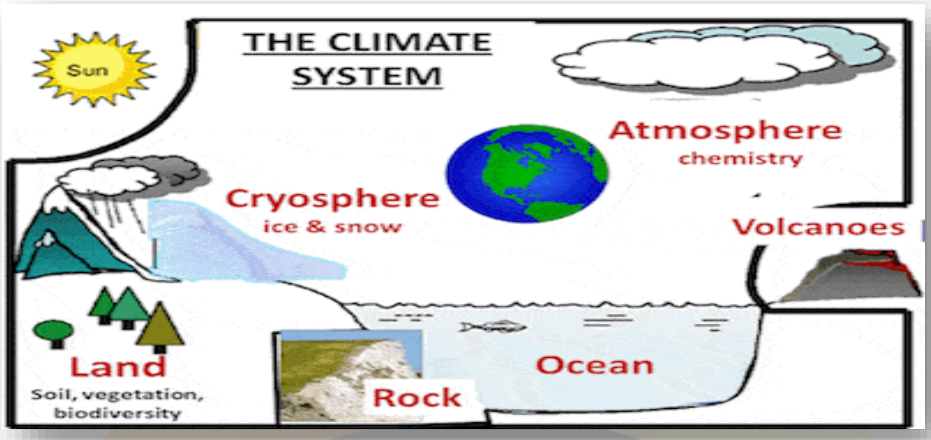
Climate change is the most significant challenge to achieving sustainable development, and it threatens to drag millions of people into grinding poverty. At the same time, we have never had better know-how and solutions available to avert the crisis and create opportunities for a better life for people all over the world. Climate change is not just a long-term issue. It is happening today, and it entails uncertainties for policy makers trying to shape the future.

WHAT IS CLIMATE CHANGE?

Climate change refers to long-term shifts in temperatures and weather patterns. These shifts may be natural, such as through variations in the solar cycle. But since the 1800s, human activities have been the main driver of climate change, primarily due to burning fossil fuels like coal, oil and gas.

Burning fossil fuels generates greenhouse gas emissions that act like a blanket wrapped around the Earth, trapping the sun's heat and raising temperatures.

Examples of greenhouse gas emissions that are causing climate change include carbon dioxide and methane. These come from using gasoline for driving a car or coal for heating a building, for example. Clearing land and forests can also release carbon dioxide. Landfills for garbage are a major source of methane emissions. Energy, industry, transport, buildings, agriculture and land use are among the main emitters.



EFFECTS OF CLIMATE CHANGE

HOTTER TEMPERATURES

As greenhouse gas concentrations rise, so does the global surface temperature. The last decade, 2011-2020, is the warmest on record. Since the 1980s, each decade has been warmer than the previous one. Nearly all land areas are seeing more hot days and heat waves. Higher temperatures increase heat-related illnesses and make working outdoors more difficult.

MORE SEVERE STORMS

Destructive storms have become more intense and more frequent in many regions. As temperatures rise, more moisture evaporates, which exacerbates extreme rainfall and flooding, causing more destructive storms. The frequency and extent of tropical storms is also affected by the warming ocean. Cyclones, hurricanes, and typhoons feed on warm waters at the ocean surface.

INCREASED DROUGHT

Climate change is changing water availability, making it scarcer in more regions. Global warming exacerbates water shortages in already water-stressed regions and is leading to an increased risk of agricultural droughts affecting crops, and ecological droughts increasing the vulnerability of ecosystems.

A WARMING, RISING OCEAN

The ocean soaks up most of the heat from global warming. The rate at which the ocean is warming strongly increased over the past two decades, across all depths of the ocean. As the ocean warms, its volume increases since water expands as it gets warmer. Melting ice sheets also cause sea levels to rise, threatening coastal and island communities.

LOSS OF SPECIES

Climate change poses risks to the survival of species on land and in the ocean. These risks increase as temperatures climb. Exacerbated by climate change, the world is losing species at a rate 1,000 times

greater than at any other time in recorded human history. One million species are at risk of becoming extinct within the next few decades.

NOT ENOUGH FOOD

Changes in the climate and increases in extreme weather events are among the reasons behind a global rise in hunger and poor nutrition. Fisheries, crops, and livestock may be destroyed or become less productive. With the ocean becoming more acidic, marine resources that feed billions of people are at risk. Changes in snow and ice cover in many Arctic regions have disrupted food supplies from herding, hunting, and fishing.

MORE HEALTH RISKS

Climate change is the single biggest health threat facing humanity. Climate impacts are already harming health, through air pollution, disease, extreme weather events, forced displacement, pressures on mental health, and increased hunger and poor nutrition in places where people cannot grow or find sufficient food.

POVERTY AND DISPLACEMENT

Climate change increases the factors that put and keep people in poverty. Floods may sweep away urban slums, destroying homes and livelihoods. Heat can make it difficult to work in outdoor jobs. Water scarcity may affect crops. Most refugees come from countries that are most vulnerable and least ready to adapt to the impacts of climate change.

ENVIRONMENT — DEFINITION AND FUNCTIONS

Environment is defined as the total planetary inheritance and the totality of all resources. It includes all the biotic and abiotic factors that influence each other. While all living elements—the birds, animals and plants, forests, fisheries etc.—are biotic elements, abiotic elements include air, water, land etc. Rocks and sunlight are examples of abiotic elements of the environment. A study of the environment then calls for a study of the inter-relationship between these biotic and abiotic components of the environment.

SCOPE AND IMPORTANCE OF ENVIRONMENT STUDIES

The environment consists of four segments of the earth namely atmosphere, hydrosphere, lithosphere and biosphere. These four spheres interact with each other forming a complex system. Therefore, the scope of environmental studies is very wide and it deals with many areas like:

conservation of natural resources,

ecological aspects,

pollution of the surrounding natural resources,

controlling the pollution,

social issues connected to it, and

Impacts of human population on the environment.

ENVIRONMENT STUDIES AS A SUBJECT IF IMPORTANT FOR THE FOLLOWING REASONS:

1. Global Environment Issues: Issues such as global warming and ozone depletion, acid rain, marine pollution and biodiversity loss require international efforts and cooperation to solve them.

2. Development and Environment: Development has led to Urbanization, Industrialization, Infrastructure, Telecommunication and Transportation Systems, Intensive Agriculture and Construction, etc. Development has undesirable effects on the environment of the entire world.

3. Increase in Pollution: Pollution of air, water and soil adversely affects human health and is a cause of concern.

4. Need for an Alternative Solution: It is essential, especially for developing countries to find alternative paths to solve environmental issues.

5. Need for Judicious Planning of Development: Our survival and sustenance depend on resources availability. Hence, proper management of resources is the need of the hour.

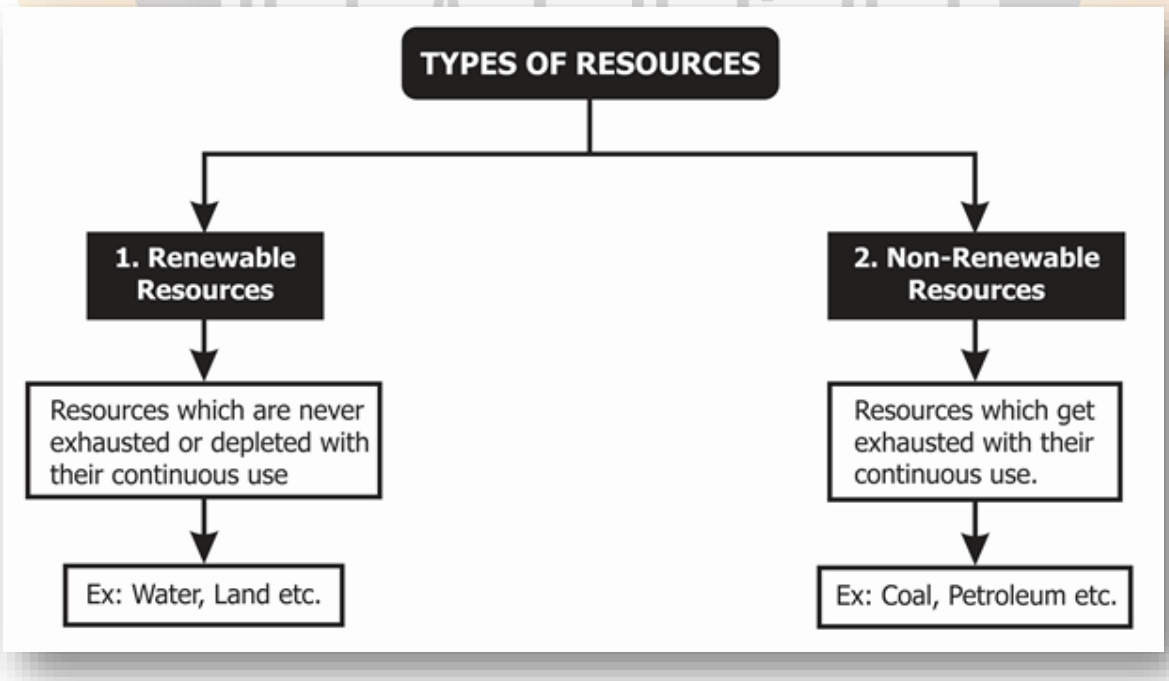
6. R. Misra (1991) recognized four basic requirements of environmental management as under:

i. Impact of human activities on the environment,

ii. Value system,

iii. Plan and design for sustainable development,

iv. Environment education.



Some of the important legislations for environment protection are as follows:

The National Green Tribunal Act, 2010

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

The Water (Prevention and Control of Pollution) Act, 1974

The Environment Protection Act, 1986

The Hazardous Waste Management Regulations, etc.

THE NATIONAL GREEN TRIBUNAL ACT, 2010

The National Green Tribunal Act, 2010 (No. 19 of 2010) (NGT Act) has been enacted with the objectives to provide for establishment of a National Green Tribunal (NGT) for the effective and expeditious disposal of cases relating to environment protection and conservation of forests and other natural resources including enforcement of any legal right relating to environment and giving relief and compensation for damages to persons and property and for matters connected therewith or incidental thereto.

THE AIR (PREVENTION AND CONTROL OF POLLUTION) ACT, 1981

The Air (Prevention and Control of Pollution) Act, 1981 (the "Air Act") is an act to provide for the prevention, control and abatement of air pollution and for the establishment of Boards at the Central and State levels with a view to carrying out the aforesaid purposes.

THE WATER (PREVENTION AND CONTROL OF POLLUTION) ACT, 1974

The Water Prevention and Control of Pollution Act, 1974 (the "Water Act") has been enacted to provide for the prevention and control of water pollution and to maintain or restore wholesomeness of water in the country. It further provides for the establishment of Boards for the prevention and control of water pollution with a view to carry out the aforesaid purposes. The Water Act prohibits the discharge of pollutants into water bodies beyond a given standard, and lays down penalties for non-compliance.

THE ENVIRONMENT PROTECTION ACT, 1986

The Environment Protection Act, 1986 (the "Environment Act") provides for the protection and improvement of environment. The Environment Protection Act establishes the framework for studying, planning and implementing long-term requirements of environmental safety and laying down a system of speedy and adequate response to situations threatening the environment. It is an umbrella legislation designed to provide a framework for the coordination of central and state authorities established under the Water Act, 1974 and the Air Act. The term "environment" is understood in a very wide term under s 2(a) of the Environment Act. It includes water, air and land

as well as the interrelationship which exists between water, air and land, and human beings, other living creatures, plants, micro-organisms and property.

HAZARDOUS WASTES MANAGEMENT REGULATIONS

Hazardous waste means any waste which, by reason of any of its physical, chemical, reactive, toxic, flammable, explosive or corrosive characteristics, causes danger or is likely to cause danger to health or environment, whether alone or when in contact with other wastes or substances.

There are several legislations that directly or indirectly deal with hazardous waste management. The relevant legislations are the Factories Act, 1948, the Public Liability Insurance Act, 1991, the National Environment Tribunal Act, 1995 and rules and notifications under the Environmental Act. Some of the rules dealing with hazardous waste management are discussed below:

Hazardous Wastes (Management, Handling and Transboundary) Rules, 2008, brought out a guide for manufacture, storage and import of hazardous chemicals and for management of hazardous wastes.

Biomedical Waste (Management and Handling) Rules, 1998, were formulated along parallel lines, for proper disposal, segregation, transport, etc, of infectious wastes.

Municipal Solid Wastes (Management and Handling) Rules, 2000, aim at enabling municipalities to dispose municipal solid waste in a scientific manner.

In view of the short-comings and overlapping of some categories causing inconvenience in implementation of the Biomedical Waste (Management and Handling) Rules, 1998 as well as the Municipal Solid Wastes (Management and Handling) Rules, 2000, the Ministry of Environment, Forest and Climate Change has formulated the draft Bio-Medical Waste (Management & Handling) Rules, 2015 (Draft BMW Rules) and the draft Solid Waste Management Rules, 2015 (Draft SWM Rules) and sought comments on the draft Rules.

The Draft BMW Rules are to replace the Biomedical Waste (Management and Handling) Rules, 1998, and the Draft SWM Rules are to replace the Municipal Solid Waste (Management and Handling) Rules, 2000. The objective of the Draft BMW Rules is to enable the prescribed authorities to implement the rules more effectively, thereby, reducing the bio- medical waste generation and also for its proper treatment and disposal and to ensure environmentally sound management of these wastes, and the Draft SWM Rules aim at dealing with the management of solid waste including it segregation at source, transportation of waste, treatment and final disposal.

E - Waste (Management and Handling) Rules, 2011 have been notified on May 1, 2011 and came into effect from May 1, 2012, with primary objective to reduce the use of hazardous substances in electrical and electronic equipment by specifying threshold for use of hazardous material and to

channelize the e-waste generated in the country for environmentally sound recycling. The Rules apply to every producer, consumer or bulk consumer, collection centre, dismantler and recycler of e-waste involved in the manufacture, sale, purchase and processing of electrical and electronic equipment or components as detailed in the Rules.

Batteries (Management & Handling) Rules, 2001 deal with the proper and effective management and handling of lead acid batteries waste. The Act requires all manufacturers, assemblers, re-conditioners, importers, dealers, auctioneers, bulk consumers, consumers, involved in manufacture, processing, sale, purchase and use of batteries or components thereof, to comply with the provisions of Batteries (Management & Handling) Rules, 2001.

OTHER LAWS RELATING TO ENVIRONMENT

THE WILDLIFE PROTECTION ACT, 1972

The Wild Life (Protection) Act, 1972 was enacted with the objective of effectively protecting the wild life of this country and to control poaching, smuggling and illegal trade in wildlife and its derivatives. The Act was amended in January 2003 and punishment and penalty for offences under the Act have been made more stringent. The Ministry has proposed further amendments in the law by introducing more rigid measures to strengthen the Act. The objective is to provide protection to the listed endangered flora and fauna and ecologically important protected areas.

THE FOREST CONSERVATION ACT, 1980

The Forest Conservation Act, 1980 was enacted to help conserve the country's forests. It strictly restricts and regulates the de-reservation of forests or use of forest land for non-forest purposes without the prior approval of Central Government. To this end the Act lays down the pre-requisites for the diversion of forest land for non-forest purposes.

The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, recognises the rights of forest-dwelling Scheduled Tribes and other traditional forest dwellers over the forest areas inhabited by them and provides a framework for according the same.

The Indian Forest Act, 1927 consolidates the law relating to forests, the transit of forest-produce and the duty leviable on timber and other forest-produce.

PUBLIC LIABILITY INSURANCE ACT, 1991

The Public Liability Insurance Act, 1991 was enacted with the objectives to provide for damages to victims of an accident which occurs as a result of handling any hazardous substance. The Act applies to all owners associated with the production or handling of any hazardous chemicals.)

THE BIOLOGICAL DIVERSITY ACT, 2002

The Biological Diversity Act 2002 was born out of India's attempt to realise the objectives enshrined in the United Nations Convention on Biological Diversity (CBD), 1992 which recognises the sovereign rights of states to use thThe Air (Prevention and Control of Pollution) Act, 1981
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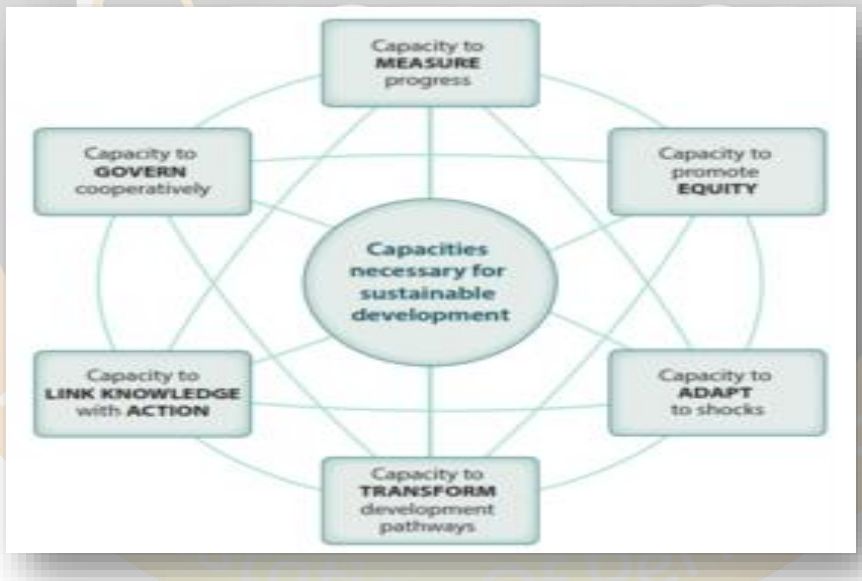
SUSTAINABLE DEVELOPMENT

The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries - developed and developing - in a global partnership. They recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests.



The SDGs build on decades of work by countries and the UN, including the UN Department of Economic and Social Affairs

In June 1992, at the Earth Summit in Rio de Janeiro, Brazil, more than 178 countries adopted Agenda 21, a comprehensive plan of action to build a global partnership for sustainable development to improve human lives and protect the environment.

Member States unanimously adopted the Millennium Declaration at the Millennium Summit in September 2000 at UN Headquarters in New York. The Summit led to the elaboration of eight Millennium Development Goals (MDGs) to reduce extreme poverty by 2015.

The Johannesburg Declaration on Sustainable Development and the Plan of Implementation, adopted at the World Summit on Sustainable Development in South Africa in 2002, reaffirmed the global community's commitments to poverty eradication and the environment, and built on Agenda 21 and the Millennium Declaration by including more emphasis on multilateral partnerships.

At the United Nations Conference on Sustainable Development (Rio+20) in Rio de Janeiro, Brazil, in June 2012, Member States adopted the outcome document "The Future We Want" in which they decided, inter alia, to launch a process to develop a set of SDGs to build upon the MDGs and to establish the UN High-level Political Forum on Sustainable Development. The Rio +20 outcome also contained other measures for implementing sustainable development, including mandates for future programmes of work in development financing, small island developing states and more.

In 2013, the General Assembly set up a 30-member Open Working Group to develop a proposal on the SDGs.

In January 2015, the General Assembly began the negotiation process on the post-2015 development agenda. The process culminated in the subsequent adoption of the 2030 Agenda for Sustainable Development, with 17 SDGs at its core, at the UN Sustainable Development Summit in September 2015.

2015 was a landmark year for multilateralism and international policy shaping, with the adoption of several major agreements:

Sendai Framework for Disaster Risk Reduction (March 2015)

Addis Ababa Action Agenda on Financing for Development (July 2015)

Transforming our world: the 2030 Agenda for Sustainable Development with its 17 SDGs was adopted at the UN Sustainable Development Summit in New York in September 2015.

Paris Agreement on Climate Change (December 2015)

Now, the annual High-level Political Forum on Sustainable Development serves as the central UN platform for the follow-up and review of the SDGs.

CONCLUSION-

Our natural environment makes human life possible, and our cultural environment helps define who we are. It is therefore essential that our population and economic growth are environmentally sustainable. The most positive outlook for our environment is one in which we get the balance right between:

continuing to support and implement effective policies, programs and resources (e.g. community engagement and volunteering programs, IMOS, Australia's Biodiversity Conservation Strategy 2010–2030, the Great Barrier Reef Science Strategy, the Reef 2050 Sustainability Plan, NESP, the Terrestrial Ecosystem Research Network, the Australian Heritage Strategy, the National Reserve System, the National Representative System of Marine Protected Areas, Indigenous Protected Area programs)

further developing, testing and, as appropriate, implementing innovative approaches and initiatives that are currently being developed (e.g. policies, technologies and management that are decoupling the economy from environmental harm, environmental–economic accounting and valuation, initiatives to reduce plastic pollution in coastal and marine environments, initiatives to reduce air pollutants in urban areas)

developing and implementing new policies, processes, programs and tools in the medium to longer term, including the further integration of policies and management approaches across jurisdictions and sectors (e.g. green or blue economy approaches, development of a sophisticated impact investment market, regulatory reform to provide for rapid response to new incursions of potentially harmful invasive species and disease).

Nevertheless, the conclusion is that natural systems around the world are being affected by regional climate changes, particularly temperature increases, and that these temperature increases are very likely to be the result of anthropogenic emissions of greenhouse gases.

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