ENVIRONMENTAL SOCIOLOGY

(SOC3 E01)

III SEMESTER

ELECTIVE COURSE

M.A. SOCIOLOGY

UNIVERSITY OF CALICUT

**School of Distance Education,
Calicut University P.O.
Malappuram - 673 635 Kerala.**

190361

UNIVERSITY OF CALICUT

School of Distance Education

Study Material

III Semester

ELECTIVE COURSE (SOC3 E01)

M.A. SOCIOLOGY

ENVIRONMENTAL SOCIOLOGY

Prepared by:

> *Sri. Biju . K*
> *Assistant Professor in Sociology,*
> *School of Distance Education,*
> *University of Calicut.*

Scrutinized by:

> *Dr. V .Shinju,*
> *Asst. Professor & HOD,*
> *Vimala College, Thrissur.*

Preface

Everything in the environment, whether living or non-living, comprises physical, chemical, and other natural factors. They are continually interacting with it and adjusting their responses to environmental situations. The well-being of all environmental elements is critical to humanity's overall life support system. The environment has a significant role in human health and well-being. Simply we can say, the environment is essential for the existence of life on earth

Through this study learning material "Environmental Sociology" aims to provide the students with a comprehensive conceptual, theoretical and empirical background to the interaction between society and the environment from a sociological perspective. This study material, therefore, bring help you to comprehend important developmental stages in environmental sociology, significant ideologies, and theoretical contributions as well as major debates on the environment.

MODULE 1

Introduction to Environmental Sociology

1.1 Basic concepts -Environment, Ecosystem, Ecology, Biodiversity, Ecological footprint

I-   Environment

Introduction

For certain people, the term "Environment" literally means "nature," which includes the natural ecosystem as well as all of its non-human attributes, characteristics, and processes. To such people, the world is mostly associated with images of wilderness and pristine environments that have not been affected or have been influenced only subtly by human activities. Most people, on the other hand, consider the term 'environment' to include human elements to some degree.

Environment

The word "Environment" comes from the French word environ, which means "to surround," "to envelop," or "to enclose." Another similarly related French word is 'milieu,' which is sometimes used interchangeably with the word 'environment.' It is important to remember that the environment is a relational concept or idea in the sense that in order to describe an environment, we must first know what or who is being discussed.

The term "environment" refers to everything that around us. It can be biotic/living or abiotic/non-living things. Physical, chemical, and other natural forces are all part of it. Living objects exist in their surroundings. They are actively

interacting with it and adapting to the circumstances in their surroundings. Animals, plants, soil, water, and other living and non-living objects interact in various ways in the world. Weather and climate change have an effect on the living conditions of organisms in a given environment. So we may clearly state that our world, which includes the air we breathe, the land we live on, the water we drink, and the atmosphere around us, is a complex system. Humans have made major advances in the fields of energy, agriculture, and healthcare, but some of these advancements have resulted in environmental changes.

Definition

● M.J. Herskovits: "Environment refers to the sum total of external conditions which surround man in a given inter-relationship which exists among them and human beings, other living creatures, plants, micro-organisms and property".

● Sir E.J. Ross: "Environment has also defined the environment as an aggregate of all those external conditions and effects which regulate life and development of organisms".

● Douglas and Holland: "The term environment is used to describe, in the aggregate, all the external forces, influences and conditions, which affect the life, nature, behaviour and the growth, development and maturity of living organisms".

The word 'environment' literally means 'surroundings' (environs); hence, an individual's, objects, elements, or system's environment includes all of the other entities by which it is surrounded. Individuals, objects, elements, and

processes rarely exist in isolation in reality; instead, they communicate with their surroundings to varying degrees. As a result, it is not especially useful to conceptualize the 'world' without having any notion of relationship in that conceptualization. Individuals, objects, elements, and processes all have an effect on their environments, and are in turn affected by them. Indeed, the webs of connections that exist between various entities may be extensive and complex in some cases.

Element of Environment

Y K Singh points out the elements and types of environment in his book "Environmental science". The environment is formed by the interactive systems of physical, biological and cultural elements that interact with each other in various ways, individually and collectively.. These elements may be explained as under:

(1) Physical elements

Physical elements are space, landforms, water bodies, climate soils, rocks and minerals. They determine the variable character of the human habitat, its opportunities as well as limitations.

(2) Biological elements

Biological elements such as plants, animals, micro organisms and men constitute the biosphere.

(3) Cultural elements

Cultural elements such as economic, social factors

VARIOUS TYPES OF ENVIRONMENT

According to Kurt Lewin, environment is of three types which influence the personality of an individual as under:

(*a*) Physical Environment,

(*b*) Social and Cultural Environment, and

(*c*) Psychological Environment.

These may be explained as under:

1. Physical Environment

The geographical climate and atmosphere, as well as the physical environments in which a person lives, are referred to as the physical environment. The climate has a major impact on human races. Here are some examples:

 (a) In the cold countries i.e. European countries are of white colour. Likewise, in Asian and African countries, that is, in hot countries people are of dark complexion.

(b) The physique of an individual depends on climate conditions as the individual tries to adjust in his physical environment.

(c) The human working efficiency also depends on the climatic conditions.

2. Social Environment

The social, economic, and political conditions under which a person lives are all part of his social environment. Moral, cultural, and emotional influences all have an effect on

one's life and behaviour. The following are the two groups that society can be divided into:

 (i) An open society is very conducive for individual development.

(ii) A closed society is not very conducive for development.

3. Psychological Environment

Although the physical and social environments are common to all individuals in a given scenario, every individual has his or her unique psychological environment. Kurt Lewin coined the phrase "life space" to describe the psychological environment. The psychological atmosphere helps one to comprehend an individual's personality. The psychological atmosphere is shaped by both the individual and his target. If an individual is unable to overcome the obstacles, he will become depressed or decide to abandon his target in favour of a new psychological climate. The man, on the other hand, is aided in his adjustment to the environment by using this mechanism.

Many people consider agricultural and rural environments to be part of the climate, while others go much further and consider all aspects of the earth's surface to be part of the environment, including urban areas. As a result, in common use, the term "Environment" is synonymous with a variety of images and is linked to a variety of perceptions and values that are mostly unspoken yet firmly held. Both of these applications, however, share a common assumption: that the 'Environment' has some kind of relationship with humans.As a result, the landscape serves as the 'backdrop' to the unfolding tale of human history, as well as the ecosystems and resources that humans exploit, the

'hinterland' that surrounds human cities, and the 'wilderness' that humans have yet to domesticate or conquer.

As a result, the 'environment' can be thought of as a 'space' or a 'field' in which individuals communicate through networks of relationships, interconnections, and interactions. Ecologists are concerned with both the living and non-living components of environmental systems and particularly their interactions - so such a conceptualization would be familiar to those who have studied the science of ecology. Indeed, the word 'climate' is often interchanged with the ecological term 'ecosystem,' which is described as a population of interacting organisms and their physical surroundings. Since several environmental problems have arisen because one environmental system has been disrupted or destroyed, either inadvertently or intentionally- as a consequence of changes in another, the concept of interrelationship is a central one in environmental science and management.

Societal meaning of environment

Allan Schnaiberg emphasizes the environmental social significance. The first is the environment as a human home. This background underpins concerns about us "fouling the nest" with different forms of pollution. Furthermore, as with any house, issues of physical environment aesthetics surround such a concept of the environment. People want to live in a home that is fun, interesting, diverse, and safe. As a result, critics have compiled a long list of unappealing visual qualities of the physical world, such as garbage, dereliction and monotony, and numerous social movements have made it their task to better our collective home.

The focus will be on the second concept of climate, that of society's sustenance base. In this perspective, the world is seen as the source of all humankind's material support. While one may argue that this viewpoint encompasses the first perception of the environment, it would be more helpful to distinguish the two emphases. We need to consider the biotic-physical environment's productive structure and link it to the productive structure of modern societies. The term "productive structure" refers to the living and nonliving components of the world that have the capacity for human use, regardless of whether they are used directly or indirectly by current societies. Of course, the definition of habitat applies here as well, since an animal's habitat range provides the sustenance base for its survival. However our social and cultural organization allows us to separate home and sustenance views, particularly in modern industrial societies.

Conclusion

The universe of biotic and other physical material, organized into complex structures, is the most basic type. These are ecological environments, also known as ecosystems, which are made up of both living and nonliving elements in the climate. As a result, the emphasis is on the interaction of living and nonliving elements. It refers to the external factors that influence the growth and development of humans, animals, and plants in their living or working environments. Man cannot live or be comprehended without the presence of other forms of life. As a result, the environment can also be described as the totality of circumstances that surround living beings.

II-   Ecosystem

Ecosystem holds that living organisms and their nonliving surroundings are inextricably linked and interact. A region with a distinct and identifiable landscape type, such as a forest, grassland, desert, wetland, or coastal area, is referred to as an ecosystem. The geographical features of the environment, such as hills, mountains, plains, rivers, lakes, coastal areas, or islands, determine the ecosystem's composition. Climate conditions such as the amount of sunshine, temperature, and rainfall in the area also influence it. Its nonliving portion is made up of geographical, climatic, and soil characteristics. These features create conditions that support a community of plants and animals that evolution has produced to live in these specific conditions. The living part of the ecosystem is referred to as its biotic component.

"A.G. Tansley defined the Eco-system as 'the system resulting from the integrations of all the loving and non-living actors of the environment'. Thus he regarded the Eco-systems as including not only the organism complex but also the whole complex of physical factors forming the environment.

The idea of Eco-system is quite an old one. We find in literature some such parallel terms as (i) Biocoenosis (Karl Mobius, 1977), (ii) Microcosm (S.A. Forbes, 1887), (iii) Geobiocoenosis (V.V. Doduchaev, 1846-1903); G.F. Morozov; Sukachev, 1944), (iv) Hlocoen (Frienderichs, 1930), (v) Biosystem (Thienemann, 1939), (vi) Bioenert body (Vernadsky, 1994), and ecosom etc. use for such ecological systems.

The term "ecosystem" is most preferred, where 'eco' implies the environment, and 'system' implies an interacting, inter-dependent complex. In this way, it are often said that any unit that has all the organisms i.e. the communities during a given area, interact with the physical environment in order that a flow of energy results in clearly defined trophic structure, biotic diversity and material cycle within the system, is known as an ecological system or eco-system."

GENERAL CHARACTERISTICS OF AN ECOSYSTEM

The following are the general characteristics of an ecosystem, according to Smith.

(1) In ecology, the ecosystem is a significant structural and functional unit.

(2) Species diversity is linked to the composition of an ecosystem; hence, a more intricate ecosystem has greater species diversity.

(3) The amount of energy needed to keep an ecosystem in good shape is determined by its structure. As the structure becomes more complex, the amount of energy needed to take care of oneself decreases.

(4) Energy flow in material cycling across and within the ecosystem is linked to ecosystem work.

(5) Ecosystems mature as they move from a simpler to a more complicated state. There is a surplus of potential energy in the early stages of such succession. Later stages accumulate less energy.

(6) In any ecosystem, both the atmosphere and energy fixation are reduced. They can't be surpassed in any way without having a significant negative impact.

(7) Changes in the climate impose selective constraints on the population, which the population must adapt to. Organisms that do not adapt to their new surroundings will perish.

ASPECTS OF ECOSYSTEM

Any spatial or organizational unit containing living organisms and non-living substances interacting to create a material exchange between the living and non-living components is referred to as an ecosystem. Both structural and functional aspects of the ecosystem can be investigated.

1. Structural Aspect

The structural aspects of an ecosystem include a description of the arrangement, types and numbers of species and their life histories, along with a description of the physical features of the environment.

1) Inorganic aspects – C, N, CO_2, H_2O.

2) Organic compounds – Protein, Carbohydrates, Lipids – link abiotic to biotic aspects.

3) Climatic regimes – Temperature, Moisture, Light & Topography.

4) Producers – Plants.

5) Macro consumers – Phototrophs – Large animals.

6) Micro consumers – Saprotrophs, absorbers – fungi.

2. Functional

The functional aspects of the ecosystem include the flow of energy and the cycling of nutrients.

1) Energy cycles.

2) Food chains.

3) Diversity-interlinkages between organisms.

4) Nutrient cycles-biogeochemical cycles.

5) Evolution.

Division of Ecosystem

Every living organism is reliant on other organisms in some way. Herbivorous animals eat plants, which are then eaten by carnivorous animals. As a result, the ecosystem has varying tropic levels. Fungi, for example, can only exist on dead matter and inorganic matter.

From an energetic standpoint, the environment can be divided into three groups of organisms: producers, consumers, and reducers. These can be summarized as follows:

(1) Producer

Plants are the ecosystem's 'producers,' since they use solar energy to generate their food. These groups of plant life type in the forest. From tiny algal types to massive seaweed, these can be found in the sea.

(2) Consumers

Consumers include herbivorous, carnivorous, and omnivorous species that consume organic matter created by other organisms.

(3) Reducers

Decomposers, also known as detritivores, are a group of species made up of small animals such as worms, insects, bacteria, and fungi that break down dead organic matter into smaller particles and, eventually, simpler substances that plants can use for nutrition. As a result, decomposition is an important function of nature, because without it, all of the nutrients would be locked up in dead matter, and no new life would be possible.

Conclusion

The living and the non-living world make up the ecosystem. An ecosystem is the most basic functional unit because it includes all kinds of organisms and our environment. Both of these influence the qualities of the other and are essential for the survival and maintenance of life.Ponds, lakes, seas, grasslands, forests, deserts, tundra, and other natural habitats are examples. Energy is a common element in both natural and man-made environments, as it stimulates material cycling. Some ecologists consider a classification of ecosystems based on energy flow to be a first-order classification. The density and diversity of species, as well as their growth and functional status, are all determined by energy flow in any ecosystem.

III- **Ecology**

Introduction

Ecology explores populations, cultures, habitats, and the biosphere, as opposed to other fields of biological interest. The word ecology is derived from the Greek words 'Oikos, which means habitation, and logos, which means discourse or research, and it refers to the study of organisms' habitations. Ernst Haeckel, a German zoologist, was the first to define ecology as a distinct area of study in 1866. Botany and zoology, on the other hand, cover all types of structure of living matter, from protoplasm and cells to organ systems and organisms. In other words, ecology looks at the entire picture; the other branches of biology, the natural threads. Ecology is therefore concerned with the nature and processes of the world. The populations of a single plant or animal species make up this organization, which is a territorially dependent aggregate characterized by birth and death processes. A group is made up of various communities in a given region. An ecosystem, on the other hand, is the interrelationship of a population of living organisms with its nonliving physical elements.

Definitions

❖ Taylor: - "Ecology as the science of the relations of all organisms to all their environments."

❖ G.L. Clarke: - "Ecology as the study of inter-relations of plants and animals with their environment which may include the influences of other plants and animals present as well as those of the physical features."

❖   Ernst Haeckel: - "Ecology "as the body of knowledge concerning the economy of nature-the investigation of the total relations of animals to its inorganic and organic environment".

❖   Allee: - "Ecology as the science of inter-relations batwing living organisms and their environment, including both the physical and biotic environments, and emphasizing inter-species as well as intra-species relations".

Seas, estuaries, and seashores, freshwater systems, deserts, tundra, grasslands, and forests are the main forms of habitats. Each of these represents a distinct category of environmental organization, both qualitatively and quantitatively. Finally, the biosphere, the planet's complete life system, is made up of the whole complex of ecosystems. Ecology is a scientific discipline.

Starting with Malthus' concerns about human population growth and progressing through Darwin's and Mendel's ideas about evolution, species diversity, and genetics, it became increasingly clear that the disciplinary sciences of biology, chemistry, physics, and the earth sciences required a complementary activity that could describe, explain, and predict conditions and events in the entire natural world. The failure of conventional scientific disciplines to provide a foundation for sustainable agriculture and forestry, as well as the understanding required to predict and control pest and disease outbreaks, sparked the birth of ecology. The roots of forest science and agricultural science are the same as those of ecology.

It began as a science that dealt with whole ecological systems, but it quickly branched out into sub disciplines that

dealt with the ecology of individual organisms, the distribution, abundance, and change over time in groups of the same species, and complex mixtures of species. Some ecologists continued to be interested in whole landscape units, but they tended to focus on the individual functional processes of the whole system, for example, energy dynamics and nutrient cycling, rather than the complex interactions of multi-species assemblages in ecosystems. Ecology started to lose sight of the science's core focus: how ecosystems function and react to disturbance.

Living actors live inside a network of nonliving nutrients and homes in ecological systems. Insofar as this mechanism has a production role, it entails the birth, growth, and decay of living matter by the processes of birth, growth, and decay. Each actor represents a species population within certain territorial boundaries, and each actor communicates with others and the territory's resources in unique ways. That is, we have an organization of actors, similar to societies, with defined laws, responsibilities, and relationships. The production medium for this living matter is energy, which flows through the ecosystem.

All of the energy in these processes comes from the sun, which is radiated onto the planet. For the life-span of each element of a species in a society, this energy flows through various actors, represented in various types of living tissue. The tissues of life are made up of the nutrients contained in the environment, as well as the tissues of other living things that have been absorbed during the development or production process.

Ecosystems, unlike human societies, are governed by only two key organizational rules: thermodynamic laws. The

first, Matter and Energy Conservation, states that matter and energy cannot be produced or destroyed; they can only be transformed. The Law of Entropy, the second law, states that all energy transformations are degradations, transforming energy from more organized to less organized forms. These fundamental concepts apply in the biosphere, regardless of the environment in question. Regardless of the existence of the human community, the environment for all human societies is structured around these two basic concepts.

The guidelines also lay out the general framework for ecosystem structure and operation. Energy and matter circulate through the biotic system in all ecosystems. In terms of visible or measureable species and biomass, life as it appears in ecosystem production may appear to be fairly stagnant. The dynamic life function, on the other hand, constantly degrades energy from coherent, substantive forms, eventually converting it to heat. Regardless of physical and chemical modifications in the systems, ecosystems keep the atoms and molecules of matter in some form like matter cycles.

The ecology has two sides to it. From a traditional biological standpoint, we can see a wide range of unique species. A unique mixture of raw materials is required for each species' production function: other species ingested macronutrients such as water, oxygen, carbon dioxide, nitrogen, phosphorus, potassium, and trace nutrients. Plants, which use solar radiation directly through photosynthesis, are the lowest level of production. Carnivorous mammals are at the top of the list. In a food chain, a clear hierarchy of species always emerges. Because of the second law, the total biomass of orders that eat other species must always be

lower than the total biomass of the orders devoured. This leads to the typical triangular picture in small ecosystem food chains, where each species eats the one below it. A few huge animals are at the top of the food chain, while a massive biomass of plants is at the bottom. From bottom to top, the triangle narrows in a more or less regular pattern.

On the other hand, the system's rich biological variety contradicts the system's basic dynamic accounting. Energy enters, typically from the sun, and is continually decomposed into smaller volumes of biomass and released heat. In ecosystems, matter is generally recycled, though frequently by mechanisms, e.g., water and oxygen cycles at a level of the biosphere higher than the ecosystem itself.

Conclusion

Ecology plays a critical role in the creation of sustainable forest management systems and successful conservation methods in terms of science. Conservation and resource management operations that ignore our present understanding of ecosystems frequently fail to meet their goals. There are numerous examples throughout history of well-intentioned initiatives to safeguard species and habitats from mismanagement and exploitation failing due to a lack of ecological knowledge.

One of the key foundations for resource conservation and sustainable development is a solid understanding of ecology. It is, however, insufficient as a foundation on its own. Ecology, on its own, cannot be the paradigm for conservation or sustainable development because it lacks a knowledge of the social values that forests are supposed to give and because it lacks a foundation for value judgments.

Based on extant societal value systems, we can only develop "ecologically sound management" or "ecologically wise" operations.

IV-   Biodiversity

Introduction

Evolution and the Genesis of Biodiversity

The origins of life on Earth, which began roughly three and a half billion years ago, are unknown. Organic reactions in the Earth's primordial waters are thought to have started life. Alternative scenarios have been proposed, such as life originating in a muddy ooze or life being seeded from outer space. Once life had established itself on the planet, it began to diversify. Plants and animals that started off as unspecialized unicellular forms eventually evolved into complex multicellular plants and animals.

The ability of living organisms to adapt to changes in their environment is referred to as evolution. As a result, abiotic changes in nature, including climatic and atmospheric upheavals, repeated glaciations, continental drift, and the construction of geographical barriers, separated distinct groups of plants and animals over millions of years, eventually leading to the emergence of new species.

History of Biodiversity

The term 'diversity' is not new, rather has a long history, but 'biological diversity' came into use in scientific literature only in the 1980s. The term was first coined by Lovejoy who, however, did not provide any formal definition to it, but considered it as only the number of

species. Rosen in 1985 used the term 'biodiversity' in the first planning conference of the 'National Forum on Biodiversity', Washington D. C., in Sept, 1986. Wilson edited the proceedings of the conference titled Biodiversity, and this popularized the concept.

Convention on Biological Diversity in June 1992, constituted a historical commitment by all nations of the world. For the first time, biodiversity was comprehensively addressed in this global treaty. At the same time the genetic diversity was considered and conservation of biodiversity was accepted as the common concern for the cause of human welfare

Definition

●   Biodiversity defined as 'the variability among living organisms from all sources, including inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part'

●   Edward Wilson "Biodiversity is the combined diversity at all the levels ofbiological organization."

Elements of Biodiversity

Life's diversity is manifested in a multitude of ways. Differentiating between different important elements can help to make sense of the variation. These are the fundamental components of biodiversity. There are three types of diversity: genetic, species, and ecosystem diversity.

Genetic diversity

Genetic variety refers to the components of genetic coding that shape organisms, as well as variance in the genetic make-up of people within and between populations. Simply put, this is the diversity of genetic information stored in all individual plants, animals, and microbes found within species populations. Simply put, it refers to gene variation within species and populations. The "fundamental currency of diversity" is genetic diversity, which is responsible for variation between individuals, groups, and species.

The aggregate total of genetic information contained in the Deoxyribonucleic acidof individuals of plants, animals, and microbes that live on the planet is known as genetic diversity. Any species requires it to preserve reproductive viability, disease resistance, and the ability to adapt to changing environments. It allows a population to respond to natural selection and adapt to its surroundings. Speciation is determined by the amount of genetic variety present. Environmental unpredictability typically boosts genetic variety within a species. Such genetic diversity has enabled the development of new breeds of crops, plants, and domestic animals, as well as the adaptation of species to changing environmental conditions around the world.

Species diversity Species diversity- This refers to the number of different species or living beings. It's calculated in terms of- Species Richness - This is the total number of species found in a given location. Species Abundance - This refers to the number of species in a given area. It encompasses a wide spectrum of organisms, from microbes to giants and mammoth plants and animals, such as single-

celled viruses and bacteria, as well as multicellular plants, animals, and fungus.

Ecosystem diversity: This refers to the biosphere's diverse habitats, biotic communities, and ecological processes. On the planet, there are many separate ecosystems, each with its own complement of diverse interconnected species based on habitat characteristics. Ecosystem diversity can be defined for a geographical region or a political body such as a country, state, or taluks. Landscapes such as forests, grasslands, deserts, mountains, and others, as well as aquatic ecosystems such as rivers, lakes, and the sea, are examples of distinct ecosystems. Farmland and grazing pastures are examples of man-made environments in each region.

VALUE OF BIODIVERSITY

At the global, regional, and local levels, environmental services provided by species and ecosystems are critical. Important services include the production of oxygen, the reduction of carbon dioxide, the maintenance of the water cycle, and the protection of soil. The loss of biodiversity is widely recognized as a contributor to global climate change. Forests are the primary source of carbon dioxide conversion into carbon and oxygen. The 'greenhouse effect' is exacerbated by the loss of forest cover, as well as the increased emission of carbon dioxide and other gases as a result of industrialization. Because of global warming, ice caps are melting, leading in an increase in sea level that would submerge low-lying places around the world. It's creating big changes in the atmosphere, resulting in higher temperatures, severe droughts in some areas, and unexpected floods in others.

Biological diversity is also necessary for the preservation of ecological processes such as nutrient fixation and recycling, soil formation, air and water circulation and purification, global life support, watershed protection, year-round stream and river flows, erosion control, and local flood reduction.

Food, clothes, housing, energy, and medicines are all resources that are tied to the biosphere's biological diversity, either directly or indirectly. Tribal societies that gather resources from the forest or fisher folk who capture fish in marine or freshwater settings are prime examples of this. Others, such as agricultural communities, exploit biodiversity to cultivate crops that are environmentally friendly. The majority of commodities and services used by urban communities are derived indirectly from natural ecosystems.

It has become clear that the conservation of biological resources is critical to humanity's well-being and long-term survival. This diversity of living species, which may be found in the wild as well as in our crops and cattle, is critical for human 'development.' As a result, every policy aimed at increasing human life quality must include the protection of "biodiversity."

Thecla M. Mutia points out the importance of biodiversity, that are follows;

IMPORTANCE OF BIODIVERSITY

❖ Ethical and moral values

Every type of life on Earth is unique and deserves respect, regardless of its value to humans; this is each organism's ecosystem right. It's important to remember that every

organism has an inherent right to exist, regardless of whether or not it's helpful to humans. Nature is a component of humanity, and the natural environment has a value for human legacy. The well-being of all future generations is a societal obligation of current generations, therefore an organism's survival necessitates its conservation.

❖   **Aesthetic value**

Natural environments provide a significant deal of pleasure to humans. Our senses are stimulated and our culture is enriched by the shapes, structure, and colour. This is exemplified by the widespread adoption of biodiversity conservation methods and the proliferation of organizations dedicated to the preservation of various organisms. Many organizations spend a lot of money to protect wildlife because of their worth in nature. Wild species contribute to our environmental appreciation and enjoyment by:

• Leisure activities e.g. bird watching and nature trailing;

• Spotting activities e.g. spot hunting, spot fishing, diving and mushroom picking;

• Hearing, touching or just seeing wildlife;

• Enjoyment as seen in art and culture e.g. dolls and teddy bears.

❖   **Utilitarian values**

These, in addition to our sensations and emotions, contribute to our material well-being and include conservative and productive materials from biodiversity,

such as agricultural or food supplies, medicine, industrial raw materials, educational values, and scientific research

❖   **Ecological values**

Biodiversity helps to keep the ecosystem in good shape by:

• Keeping the CO_2/O_2 ratio in check. The sequential balance of CO_2 and O_2 is maintained by biodiversity. The greenhouse effect arises as a result of CO_2 accumulation in the atmosphere. Over time, the ozone layer depleted, making the world warmer and more vulnerable to natural disasters.

• Biochemical cycles, such as O_2, hydrological cycles, and so on, are regulated. Biological resources are critical components of biochemical cycles; without them, the cycles would be incomplete.

• Decomposition-based absorption and breakdown of pollutants and waste materials, such as in food webs and food chains where energy flows through production-consumption decomposition, without which material breakdown and absorption would be incomplete. There is no trash in an ecosystem because decomposition occurs to purify our surroundings by changing garbage into various kinds of biodiversity.

• Influencing temperature, precipitation, and air turbulence to determine and regulate the natural world climate, whether local, regional, or micro.

• Acting as markers of environmental changes, such as the greenhouse effect, which causes variations in weather

seasonality and has an impact on agriculture, among other things.

• Protective services, such as protecting people from dangerous weather by functioning as windbreaks and flood barriers, among other things.

What are the Threats to Biodiversity?

The majority of these natural habitats have been overused or misused by humans. Once fertile forests and meadows have been changed into deserts and wasteland all over the planet as a result of this "unsustainable" resource consumption. Mangroves have been removed for fuel wood and prawn farming, resulting in a reduction in the environment required for marine fish spawning. To make more agricultural areas, wetlands have been drained. In the long run, these developments will have serious economic consequences.

The most serious threat to biodiversity worldwide is the current destruction of enormous regions of wilderness habitats, particularly in the extraordinarily diversified tropical forests and coral reefs. Scientists anticipate that by 2050, human activities will have wiped out around 10 million species.

• **Habitat loss and destruction**, As a direct result of human activities and population development, it is a major factor in the loss of species, population, and ecosystems.One of the primary causes of species extinction is deforestation. Forests were removed for agricultural operations, human residence, and grazing their livestock as the human population grew and the need for resources grew. The

utilization of natural resources was directly influenced by technological advancement and human growth.

Forest trees were felled to provide wood for building houses, creating furniture, and collecting firewood. Industries placed a high demand on forest resources such as wood for papermaking, gum and resin extraction, and forestland mining for mineral ores, building materials, and so on.

As a result, habitat degradation has a negative influence on wildlife since it results in the loss of an ecosystem that provides them with food, breeding grounds, or nesting locations to help them rear their young. Animals in the wild have no choice but to adapt, migrate, or die. Many species have had their populations decline due to widespread habitat destruction across the country, rendering them rare and endangered. We have upset the delicate balance of nature in our pursuit of progress and riches.

• **Alterations in ecosystem composition,** The extinction or decline of a species, for example, might result in a loss of biodiversity. Coyote eradication attempts in southern California canyons, for example, have been connected to a decline in songbird populations in the area. As the number of coyotes decreased, the number of their prey, particularly raccoons, climbed. Raccoons devour bird eggs, therefore fewer coyotes meant more raccoons ate more eggs, which meant fewer song birds.

• **The introduction of exotic (non-native) species** can devastate entire ecosystems and have an impact on native plant and animal populations. By eating, infecting,

competing with, or mating with native species, these invaders can cause harm to them.

This can be deliberate or unintentional. Changes in an ecosystem are caused by the introduction of new species. Introduced species are creatures that have emerged in areas/habitats where they were not previously found. Biological pollution is the term used to describe such introduced species.

Hybridization, out-competition, disruption of the indigenous ecosystem, plant pathogenic affects, disease transfer, disruption of food webs, and, in certain cases, extinction are some of the ecological consequences of the invasion. Species may be purposely introduced for ornamental purposes, agriculture, hunting and spotting, biotechnology for scientific research, and trade.

• **The over-exploitation** (over-hunting, overfishing, or over-collecting) of a species or population can lead to its demise.

Hunting and Poaching- Hunting and poaching are the uncontrolled killing of animals for sport, food, or furs. Skins, horns, and tusks, among other items, represent a major threat to wildlife existence. The Cheetah was hunted to extinction in India. A great number of tigers, leopards, deer, fishing cats, crocodiles, and snakes, as well as magnificent birds, have been killed as a result of the illegal trade in animal skins. For ivory, elephants were hunted. Because of the irrational idea that rhinoceros horns had aphrodisiac characteristics, the rhinoceros was murdered for its horns. Although the government has rules in place to prevent such unlawful activity, unscrupulous people, traders, and exporters frequently break them. The

commerce in exotic mammals, birds, and reptiles, as well as the utilization of wild animals in biomedical research, are all factors to consider.

• **Pollution and contamination** caused by humans can have an impact on biodiversity at all levels.

Pollution of the air, water, and soil as a result of numerous industrial operations has an impact not only on our health but also on the health and well-being of the animal population. When industrial effluents reach water bodies, they have a negative impact on aquatic life. Pesticides such as DDT and Dieldrin are extremely dangerous. These have a significant impact, especially on sea birds and their eggs. Another severe issue harming the waters is oil contamination, which occurs as a result of cargo ship leaks or accidents.

Aside from that, there are a slew of additional factors that have an impact on wildlife populations, the most of which are manmade.

• **Global climate change** can cause changes in the environment if species and populations are unable to adapt to new conditions or relocate, they may become extinct.

This is a major worry, especially as CO_2 levels in the atmosphere rise, resulting in global warming. Most species are born within a fairly restricted physiological range; as a result, nature maintains a range of tolerance for ecological stability. Changes may be gradual or rapid such that if the limit is surpassed the upper or lower, species experiences extinction.

Climate change, such as rising temperatures in some areas, has already had a substantial influence on biodiversity and ecosystems. They've had an impact on species distributions, population levels, reproduction and migration timing, as well as the frequency of pest and disease outbreaks. Climate change predicted by 2050 could result in the extinction of many species found only in a few geographical areas. Climate change and its consequences may become the primary driver of biodiversity loss by the end of the century.

In most parts of the world, as climate change worsens, the negative effects on ecosystem services will outweigh the positives. According to the Intergovernmental Panel on Climate Change (IPCC), by 2100, the average surface temperature will have increased by 2 to 6.40 degrees Celsius relative to pre-industrial levels. This is predicted to have a negative influence on biodiversity around the world.

Institutional / policy failure

To manage biological resources, some institutions have been established. Institutions and policies, on the other hand, fail to incorporate biodiversity values into the decision-making processes of their nations and individuals. Instead of taking a piecemeal approach to biodiversity conservation, such institutions/policies should take a comprehensive approach.

BIODIVERSITY CONSERVATION

Biodiversity conservation is concerned with the preservation of life on Earth in all of its forms, as well as the functioning and health of natural ecosystems. This includes the protection, maintenance, long-term usage,

rehabilitation, and promotion of biological diversity components. Where conservation refers to the responsible use of resources, which includes both protection and exploitation, and preservation refers to the act of preserving something without altering or modifying it.

Another complex component of biodiversity conservation is sustainable development. This refers to development that meets the current generation's wants without jeopardizing future generations' ability to meet their own. It simply means intergenerational and intragenerational equity. Sustainable development ensures biodiversity conservation when there is a balance between the environment, development, and society. This is only possible if policies, norms, and environmental institutions are properly enforced and implemented.

Why Conserve Biodiversity?

Biodiversity is the life support system of our planet; It all depends on the air we breathe, the food we eat and the water we drink. Penicillin, aspirin, taxol, and quinine are examples of medicines derived from wild species that have saved millions of lives and reduced great pain. Wetlands filter contaminants from water, while trees and plants absorb carbon, reducing global warming. Bacteria and fungi decompose organic matter, fertilising the soil. It has been discovered that native species richness, like human quality of life, is linked to ecological health. The more we examine, the more connections between biodiversity and our long-term future become apparent. We must protect biodiversity because it is essential to human survival.

Conservation measures of biodiversity

Ex-situ conservation:

It is also known as captive conservation and refers to the preservation of biodiversity components outside of their native environments, such as zoos, museums, gene banks, and botanical gardens/arboretums, for threatened and endangered species to prevent extinction. Collecting and preserving the genetic material of crops, animals, birds, and fish species is a major undertaking. Institutions such as the National Bureau of Plant Genetic Resources, the National Bureau of Fish Genetic Resources, the National Bureau of Animal Genetic Resources, and others are involved in this study. Reintroduction, captive breeding initiatives, and artificial feeding have all been used as conservation methods. Another type of ex situ conservation is the reintroduction of an extinct animal or plant into its native habitat. The Gangeticgharial, for example, has been reintroduced in rivers in Uttar Pradesh, Madhya Pradesh, and Rajasthan, where it has gone extinct. Ex situ conservation takes place in seed banks, botanical, horticultural, and recreational gardens. Ex-situ conservation measures are useful in conjunction with in-situ conservation.

In-situ conservation:

It refers to conservation of ecosystems and natural habitats including maintenance and recovery of viable populations of species in their natural habitats. Approximately, 4.2 percent of the total geographical area in India has been earmarked for extensive in-situ conservation of habitats and ecosystems. The results of this network have helped to

restore viable populations of large mammals such as tigers, lions, rhinoceroses, crocodiles, and elephants.

Community Participation in Biodiversity Conservation

Local communities must be involved in the planning, management, and monitoring of conservation programmes if legislative provisions are to be effective. There are a number of projects in this area, both from the government and from non-governmental organizations. The Joint Forest Management philosophy, for example, emphasizes village communities' involvement in regenerating and protecting degraded forest land near villages. Local communities' trust and engagement will be required for successful conservation measures.

Conclusion

Genetic diversity among species, as well as between people, and ecological variety, or the number of species in a community of organisms, are all part of biodiversity. Plant and animal species that exist today are the result of 3-billion years of mutation, recombination, and natural selection. Changes in the climate, such as warm and cool times, acted as selection pressures, resulting in the creation of new species and the extinction of others who were unable to survive in the struggle for survival.

V- Ecological footprint

Introduction

The ecological footprint is essentially an accounting instrument that assesses per capita consumption, production, and discharge demands using land as the unit of

measurement. It is predicated on the premise that every category of energy and material consumption, as well as waste disposal, necessitates the productive or absorptive capacity of a finite area of land or water. When all the land requirements for all types of consumption and waste discharge by a defined population are added together, the entire area indicates the population's Ecological Footprint on Earth, whether or not this area correlates with the population's home region.

Origin

Wackernagel and Rees established the phrase "Ecological Footprint," which was later developed by them and others to quantify societal pressures on the Biosphere's regenerative potential. Wackernagel and Rees first coined the term "appropriated carrying capacity" in 1992, and Rees later called the notion "ecological footprint" in 1996. Wackernagel and Rees released "Our Ecological Footprint: Reducing Human Impact on the Earth" in early 1996, which reorganized and accepted the concept globally. "Land area not only represents planet Earth's finiteness, it can also be considered as a proxy for various key life support processes from gas exchange to nutrient recycling," says Rees. Photosynthesis, the energy channel for the web of life, is supported by land. Photosynthesis is essential for the survival of all key food chains and the structural integrity of ecosystems."

What can we learn from the ecological footprint? Ecological footprint study can show us how much of the Earth's natural functions are required to support human activities in a clear, easy-to-understand way. Individuals, regions, countries, and humanity as a whole can all assess

their Ecological Footprint, which is measured in "global hectares" (gha). A hectare is the same as 2.47 acres.The resulting values can also be compared to the amount of available productive area.

The ecological footprint is a technique for calculating humanity's demand on the planet's ecosystems and comparing it to the planet's ecological capacity to renew resources. It also shows the quantity of biologically productive land and marine area required to replenish the sources used by the human population, effectively rendering the trash harmless. Thus, the ecological footprint is the total land required by people for agriculture, timber production, fishing, and other activities, as well as the land required to absorb carbon dioxide emitted by fossil fuel combustion.

The ecological footprint is founded on the premise that land is a key aspect on which all societies rely since it provides room for living, products and services to consume, and a waste sink. As a result, productive land is viewed as a proxy for society's environmental desires and needs. Human demands may be easily determined, and the biologically productive land areas required to offer these ecological services can then be converted. As a result, the ecological footprint can be thought of as a measure of how much stress a country or a section of it puts on the environment and ecosystem services.

The methods for calculating one's ecological footprint differ from country to country. Different methodologies for evaluating ecological footprint have been used in various researches. Different formulas were used in the studies to calculate marine area, fossil fuels, and nuclear power, among other things. Furthermore, the data sources

employed in these research differ, for example, when estimating the ecological footprint of a local specific location, weather average worldwide data or local data should be employed. The strategies for including room for biodiversity and imports/exports in the studies vary as well.

Calculation standards, on the other hand, are beginning to emerge in order to make outcomes more similar and uniform. Footprint 2.0, developed by Jason Venetoulis and colleagues in 2003, is a conceptually and methodologically enhanced version of the standard footprint technique. The entire area of the globe was incorporated in 'bio capacity estimates' for final calculations in this methodology. Other changes included allocating space for nonhuman species, switching the basis of equivalency factors from agricultural land to net primary productivity (NPP), and altering the carbon component of the footprint using global carbon models.

The ecological footprint is measured in the same way that economic consumption is calculated: by adding up all of a society's different types of consumption - food, housing, transportation, consumer goods, and services – as well as the trash they generate, which is then transformed into a common meter after biological productivity is taken into account. However, unlike economics, which utilizes prices as the primary measure of value, the ecological footprint utilizes a metric called "productive land area" or "global hectares" (gha). Carbon, food, shelter, transportation, and commodities and services all have different footprint values. As a result, this method can be used to calculate the ecological footprint of any activity, such as product production, reading a book, relaxing in an air conditioner, driving a car, or eating a loaf of bread.

Because of its consumption-based approach, the Ecological Footprint assigns environmental responsibility to the countries that consume resources rather than those that extract them. The nine forms of land area are often turned into the categories of consumption, which are then added together to arrive at the total ecological footprint. The land area types are (1) cropland, (2) grazing land, (3) forest (excluding fuel wood), (4) fishing ground, (5) built-up land, (6) the land area required to absorb carbon dioxide emissions from the use of fossil fuel, (7) fuel wood, (8) hydro power, and (9) nuclear power.

Depending on the amount of land production, the component ecological footprint is proportionately weighted. For example, one hectare of arable land has a bigger ecological footprint than one hectare of nonarable land, owing to arable land's higher production. As a result, nations' footprints may be larger than their own land areas. Nations' footprints may, on the other hand, be smaller than their own geographic areas.

Due to the time it takes to collect and publish the underlying facts all over the world, the Ecological Footprint of a nation is recalculated every year with a three-year lag period. While developing countries are often the least ecoefficient in terms of resource consumption per unit of GDP, they also consume the least amount of resources in absolute and/or per capita terms, according to a large body of empirical evidence.

Advantages of ecological footprints

1. It is a single unit that allows indications to be disaggregated.

2. It might be used in a variety of programmes and activities.

3. It can be done from the top down or from the bottom up.

4. It can be used as a communication policy tool.

5. The Global Footprint Network is constantly updating and improving the method.

6. It is capable of indicating the nature of natural capital that is limited.

7. As a policy tool, it establishes credibility.

8. It has the ability to deconstruct a hazy concept into measurable goals for long-term development.

Disadvantages of Ecological footprints

1. Ecological footprint study is conducted on hypothetical land that does not reflect actual land use.

2. It makes the usage of natural resources easier.

3. It runs the risk of duplicate counting.

4. The majority of the works are portraits of consumption.

5. Except for the subtraction of consumption, it does not provide clear policy recommendations.

6. It is sometimes founded on dubious assumptions.

Critiques of the Ecological footprint

Despite its quick rise and widespread adoption, the Ecological Footprint has received a lot of flak. One of the advantages of the Ecological Footprint is that it provides a single aggregate indication of environmental impacts. However, such aggregation necessitates the simplification of a complicated reality, one of the Ecological Footprint's assumptions is that technology is the same around the world and through time. Critics further claim that the Ecological Footprint technique encourages more intense production practices that enhance yields per unit of land in the short term but are less sustainable in the long run, such as speeding up land deterioration. Similarly, despite other environmental benefits, organic agricultural practices with lower yields than conventional agriculture may appear to have a larger footprint.

Others believe that Ecological Footprint study is highly anthropocentric, focusing exclusively on land and marine areas that are valuable to the human economy while ignoring the needs of other species. Indeed, the Ecological Footprint does not evaluate changes in biodiversity, for which other metrics are needed. Ecological Footprint proponents admit that it cannot incorporate all key environmental consequences, given the absence of data for some concerns and the difficulties of transforming other forms of ecological demands, for which no regeneration capacity exists, into a measure of land area. Toxic compounds, greenhouse gases other than carbon dioxide, and water usage are among the primary impacts not accounted for in the Ecological Footprint.

Some detractors also object to what they see as the insinuation that a country's population should live within its own bio capacity rather than relying on outside resources through commerce. Small, densely populated areas, for example, may be very ecologically efficient but will almost always be ecological debtors relying on outside resources, whereas large, sparsely populated countries like Canada and Australia appear to be living well within their ecological means, despite their per capita footprints being among the highest in the world.

The Ecological Footprint's proponents have acknowledged some of the concept's flaws and are working to improve it. The first set of guidelines for calculating and communicating the Ecological Footprint was published in 2006, and updates are ongoing. The Ecological Footprint is a good indicator of sustainable natural resource use that is easy to express and comprehend, according to an assessment conducted for the European Commission in 2008. Although complementary sustainability indicators and additional improvements in data quality and methodology are needed, the assessment concluded that the Ecological Footprint is a good indicator of sustainable natural resource use that is easy to express and comprehend.

1.2 Environment and Society- Need for the study of environment

Introduction

Furthermore, every society has an ecological foundation. The web of physical and biological systems and processes that people are a part of is referred to as the ecological basis. Rivers, mountains, flora and animals, and so on, are

all part of the ecological process. Environmental sociology is centred on the study of the interplay between the environment and society. However, because the nature of such interaction is complicated, environmental sociology encompasses a wide range of phenomena. The analytical framework for this topic that we will offer is intended to understand the nature and diversity of societal-environmental interactions.

Environment and society

To refer to other people, groups, organizations, communities, civilizations, or social relationships that are not part of the one being researched. The study of 'societal-environmental interactions' is at the heart of environmental sociology, however there are two degrees of interaction to consider when looking at human-environment interactions. For the time being, we'll name them the 'symbolic level' and the 'non-symbolic level' because we don't have any better terminology.

Human persons, groups, organizations, and communities respond to the meanings they assign to varied environmental conditions on a symbolic level; they act in accordance with their views of their surroundings. On a non-symbolic level, however, human individuals and collectivities like other kinds of animals, are influenced by environmental factors they may not be aware of and hence have not attributed cultural meaning to.

Both are included in our 'symbolic' interactions category "Insofar as behaviour is mediated by cognitions or symbolic activity, the 'cognitive' mode of 'human-environment transaction' and the 'behavioural' mode of 'human-

environment transaction' However, we would identify the interaction if the environment influences behaviour even if the individual is unaware of the influence "'non-symbolic' is a term used to describe something that isn't In addition to the effects mediated through symbiosis, natural risks such as floods and earthquakes, depleted oil resources, water sources containing disease organisms or carcinogens, and so on, can have direct, non-symbolic consequences on human lives and habits.

It's important to note that when we talk about interacting with an environment on a symbolic level, we don't mean that people are only responding to environmental qualities in a cognitive way, with no overt behavioural engagement. We simply mean that a cognitive process, a situation definition expressed in words or other symbols, influences behaviour in relation to the environment. We also don't mean that all of the behavior's visible effects are deliberate; rather, we mean that the interaction would have happened differently if the circumstances had been defined differently by a different individual or group.

There are two types of non-symbolic interactions with the environment: behaviour stimulated directly by some environmental condition without cognitive or perceptual mediation, for example, when a person walks faster downhill than uphill simply because gravity makes it easier one way or the other, whether it is thought about or not; and physiological or metabolic changes, physical, chemical, etc. Human metabolic or physiological activity, including the 'physiology' and 'metabolism' of human technology extensions, e.g. machinery that consumes fuel, factories that discharge wastes etc.

Need for the study of environment

The environment is a topic that is both global and local in nature. The environment is vital for everyone since it belongs to all living things. Environmental challenges such as global warming, ozone layer depletion, depleting forest, energy resources, loss of global biodiversity, and so on affect everyone, regardless of their vocation. The study of the environment entails the examination of processes in water, air, land, soil, and creatures that contaminate or degrade the environment. It aids in the development of standards for a safe, clean, and healthy natural ecosystem. It also addresses critical issues such as safe and clean drinking water, sanitary living conditions, clean and fresh air, land fertility, healthy food, and development.

Large-scale destruction of natural resources has occurred as a result of contemporary man's ever-increasing progress; the public must be educated about the idea that if we degrade our environment, we are essentially injuring ourselves. Global warming, ozone depletion, depleting forests and energy resources, loss of global biodiversity, and other issues that will affect humanity as a whole are global in nature, and we must think and prepare worldwide to address them. However, there are some environmental issues that are just of local concern. We must think and act locally when dealing with local environmental challenges such as the effects of mining or hydro-electric projects in a region, problems with solid waste disposal and management, river or lake pollution, soil erosion, water logging and salinization of soil, fluorosis in the local population, arsenic poisoning of groundwater, and so on. It is critical to make everyone environmentally informed in order to make people

aware of those components of the environment with which they are so directly involved.

It is vital to raise public knowledge about environmental pollution and its negative consequences in order to stimulate effective public participation and environmental protection. The United Nations Conference on Environment and Development in Rio de Janeiro, followed by the Earth Summit on Sustainable Development, highlighted significant worldwide environmental challenges and drew public attention to the deteriorating environment. Any government, at any level, will not be able to achieve the goal of environmental conservation unless the public is involved. Only when the public is aware of ecological and environmental challenges can it play a participatory role. In short, if we want to manage on this planet, we must educate the entire population on environmental issues.

Environmental awareness should have the following goals:

(a) Improving environmental quality.

(b) Raising public awareness of environmental issues and conservation.

(c) Creating an environment in which people feel capable of participating in the decision-making process for environmental development programmes.

The general public must be educated on the fact that if we harm our environment, we are also harming ourselves. This is due to the fact that we are a part of a complex network of environments in which every component is interconnected. It is all the more important to educate people about the fact that sometimes the negative effects of the environment are

not felt until a certain point is reached. As a result, a disaster could catch us off guard. The government's campaign to prohibit the use of polythene for littering will fail unless the public understands the environmental consequences. The public must be made aware that littering polythene not only harms the environment, but also poses a serious health risk.

Conclusion

We all know that as the human population on Earth grew, so did human needs, and in order to meet these ever-increasing needs and desires, nature and its natural resources were exploited. Human activities have increased day by day with the advent and development of science and technology. This has its own set of benefits and drawbacks, as well as natural resource depletion and environmental degradation as side effects. The ever-increasing needs of humanity have become a source of concern for environmentalists all over the world, and this portends a bleak future for mankind.

1.3 Environment in Culture and Religion: Non Western Views of the Environment, The Judeo-Christian Legacy, Pre-nineteenth century social readings

Introduction

The predominance of a particular Western way of thinking about and interacting with the environment, as well as a distinctly Western or European set of values, institutions, and principles around 'modernity' and 'development,' which will be discussed later in this chapter, may have something

to do with the environmental and social problems we see around the world today, at least in part. All I want to do here is point out that there is and has been a variety of non-Western environmental social theory.

Non-Western views of the environment

Most non-Western social theorizing about the environment has historically taken religious and 'traditional' cultural forms, just as it has in the Western world. It simply means that people's attitudes toward the environment were largely shaped by myths and stories passed down through the generations as tradition. We can find a wide range of environmental thinking in the Middle Eastern civilizations of Egypt and Mesopotamia. 'The attitude of the peoples of Mesopotamia toward nature... is marked by a strong sense of battle,' Hughes writes. Nature was depicted as monstrous chaos in Mesopotamian mythology, and chaos could only be overcome and order established through the constant labours of people and patron gods.

Confucianism, Shintoism, and Buddhism were all oriental religious teachings with their own perspectives on the proper place of the environment in their respective worldviews, as well as their own set of rules and principles for the treatment and use of the environment. In general, Buddhism showed a high regard for the natural world, and a fundamental Buddhist belief is that all forms of life are interdependent, which includes the principle of ahimsa, or nonviolence toward other living beings.

Hindu religious thought dictated specific treatment of domestic animals and prohibited the consumption of beef. Islam had its own set of rules about how to think about and

interact with the environment, which were laid out in the Koran. Morgan says 'Muslims have a strong sense that the entire universe, including the sun, moon, stars, trees, birds, and flowers, is God's creation and "signs" of His being, and that humans are khalifa, vice-regents under God with responsibility to care for what God has made,'.

One feature that all of the world's "major faiths" have in common, and which is crucial to highlight, is that they are all "agricultural" faiths. That is, these faiths may be traced back to a time when humanity had progressed beyond the 'hunter-gatherer' stage of human social evolution and were prominent in civilizations and empires dominated by agricultural civilizations. Another point to consider is that most of the civilizations from which these faiths arose had cities and towns as key centers of political, economic, religious, and military organization and power. Aboriginal peoples throughout Africa, Australia, the Americas, and Asia had their own traditional methods of thinking about and treating their environments, which were usually religiously informed. Traditional modes of thinking and doing included animism, which is the belief in forest spirits or specific animals, as well as nature worship and sun worship.

In general, these traditional aboriginal cultures were less anthropocentric and more prone to emphasize continuity rather than separation between the human and nonhuman realms, in contrast to the Judeo-Christian religious worldview. These more "environmentally friendly" worldviews have long served as a source of inspiration for green social theory and action. As Wall points out, "current hunter-gatherer societies and their ancient forebears have been offered as an example of ecological ethical conduct by

greens and fellow travelers' '. This strategy, however, is not without flaws and criticism.

For example, the philosophy, worldview, and associated ways of life of American Indian nations have long been a point of reference for many environmental arguments and groups, on the grounds that they reflect real-world examples of 'living lightly on the earth' and how to live in peace and balance with the environment. Similarly, as Guha correctly pointed out, some Western social theorizing about the environment has a tendency to read non-Western philosophical values and positions into Western ecological thinking, such as the association of 'deep ecology' with Buddhist or aspects of Hindu thinking, which does not pay attention to or respect the cultural specificity of those non-Western. Those who want to make a case for the harmony between Chinese, Indian, or other Asian cultures and nature, for example, should look to the original sources rather than popular and selective Western interpretations of these non-Western sources' religious, cultural, or folk wisdom.

The Judeo-Christian legacy

We can say that Judeo-Christianity was a limited, but nonetheless significant, reflection on the relationship between human society and the natural environment, to the extent that theological debates about spiritual and worldly matters can be considered a form of social theorizing. It is impossible to overstate the importance of beginning our examination of the relationship between Western social theory and the environment with a look at the Judeo-Christian legacy. While many people regard Western societies and social theory as "secular" or "non-religious,"

exploring their Judeo-Christian origins and contexts can be very instructive.

In general, describing Western societies as "post-Christian" is more accurate and useful. This means that, while these societies are no longer as deeply Christian as they once were, Christianity and Christian values and perspectives have shaped and continue to be reflected in many of their practices, institutions, and cultures. This is especially true, as I hope to demonstrate below, when it comes to Western environmental social theory.

The 'natural environment,' in Jewish tradition, was viewed as something akin to 'wilderness,' which human society had to contend with. At the same time, there are more peaceful perspectives on humanity's relationship with nature. It's worth noting that Judaism, in particular, has a lot to say about how to treat domesticated animals and forbade needless environmental destruction, even to subdue one's enemies.

Both the Jewish and Christian views of the environment were not of a 'giving environment,' in contrast to some hunter-gatherer views of the environment, and more in line with the Mesopotamian view mentioned above. The concept of a 'giving environment' refers to a positive image of hunter-gatherer peoples' typical environment, in which people simply picked or procured what they needed from the abundant resources of their immediate environment with little effort. The Judeo-Christian attitude toward the environment, on the other hand, is a mix of a negative view of 'wilderness' and a deep understanding of how the environment required intensive human labour and effort, such as agricultural and animal husbandry practices, in

order for humans to survive and prosper in 'unforgiving' and often hostile environments.

The biblical story of Adam and Eve being expelled from the Garden of Eden for defying God and eating fruit from the tree of knowledge is directly related to the latter idea of having to work for a living in the world. God curses Adam and his descendants to have to "work by the sweat of his brow" after removing them from a comfortable environment where all of their needs were met without them having to work. The significance of the Garden of Eden story as the Christian creation story is not determined by whether or not it is 'true.' Rather, its importance stems from the fact that it is one of the first systematic and powerful stories or narratives about the human-environment relationship.

As a result, we can say that this story is a significant attempt to theorize the environment and our proper relationship with it. It contains a lot of the elements that come up later in environmental social theory. The role of knowledge in how we think and should think about and interact with the environment; the distinction between a 'giving' and a 'nongiving' environment; the crucial role of human labour in our relationship to the environment; and finally, the dangers inherent in particular flora and fauna.

Aspects of this Judeo-Christian attitude toward the environment can be traced back to ancient Greece and the story of Prometheus, the Greek hero who stole fire from the Gods and symbolises humanity's triumph over nature, which is often viewed as an enemy or a denying force for humanity. 'In Greek mythology, Prometheus stole fire from

Zeus, substantially increasing human power to alter the environment for human interests,' writes Dryzek. Prometheans have unwavering faith in the ability of humans and their technologies to solve any problem that comes their way, including what we now call environmental issues.

Some of the roots of how the environment has been viewed and treated in Western society and social theory can be found in the Christian Bible. People frequently cite the passage in Genesis in which God commands Adam and Eve to "dominate and subdue" the Earth and "go forth and multiply," as evidence of Christianity's anthropocentric nature. This anthropocentrism within Christianity is an attitude toward the nonhuman world in which the environment is viewed and valued instrumentally; that is, humans are permitted and indeed encouraged to use and value the environment only insofar as it is useful to human ends or purposes, according to this reading of the Bible. In other words, the environment has no intrinsic value, but has instrumental value, which is determined by how useful or instrumental it is in achieving a goal other than its own, such as meeting the needs or goals of another entity.

According to Lynn White Jr. in his influential essay titled "The Historical Roots of Our Ecologic Crisis," Christianity is the most anthropocentric of all religions because of what he calls the "domination of nature" story and imperative in Genesis and biblical teaching. Not only is 'man' created in God's image, but God also gives Adam the power to name each creature, demonstrating humans' superiority over the nonhuman world. White points out that 'Christianity... not only established a dualism of man and nature, but also insisted that it is God's will that man exploit nature for his

proper purposes, and he concluded that 'we will continue to face a worsening ecological crisis until we reject the Christian axiom that nature exists solely to serve man'.

This meant that certain rules governed how the environment, including its plants, animals, and other living things, were to be treated. One implication of the stewardship viewpoint, which will be discussed further in the conclusion, is that humans have an obligation to pass on the natural environment to future generations as stewards of creation. The question of whether this obligation meant leaving the environment in the same state as they found it, or whether humans were obligated to 'improve' the natural environment, is crucial. 'God created the woodlands for the salt-water spring, in order that the woodlands might continue eternally like the spring,' said the chancellor of Reichenhall, an old Bavarian salt-works city, in 1661. As a result, the men must act in this manner: they must not cut down the old trees before the young trees have grown up.'

The 'Great Chain of Being,' is another significant contribution of Christian thinking to environmental theory.As the name implies, the essence of this viewpoint was that the world was made up of a hierarchical set of relationships, with God at the top and clay/dirt at the bottom, with angels, men, women, animals, and plants in between.
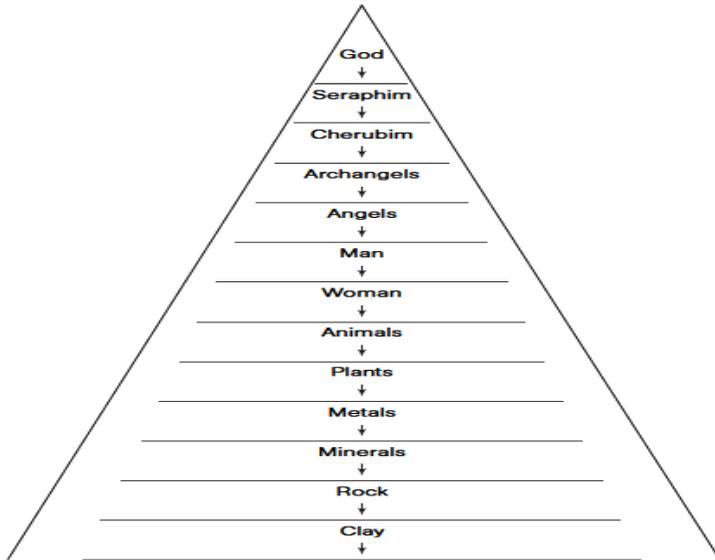
Figure 2.1 The Christian 'Great Chain of Being'
Source: Adapted from Pepper (1984)

Source: Barry, J. (1999). Environment and social theory. New York

However, it's worth noting that there have been those who reject this hierarchical view in both Jewish and Christian theology. 'It should not be believed that all beings exist for the sake of the existence of humanity,' wrote Jewish kabbalist (mystic) Maimonides. All beings, on the other hand, were created for their own sakes, not for the sake of something else.' St Francis of Assisi, who famously preached to the animals and developed a Christian pantheism in which the naturalenvironment shared in God's divinity and grace and was not simply a set of spiritually meaningless or empty resources to be exploited, made a similar argument. In 1979, the Catholic Church designated St Francis as the patron saint of animals and ecology for his ecological awareness and earth-sensitive theology.

Despite these and other counter-currents, Judeo-Christian attitudes toward the environment have been dominated by the Great Chain of Being. The hierarchical arrangement of entities implied different grades of value or importance, with those above/below having more value/importance. Within these broad categories, there are often gradations, such as certain metals being more valuable than others, or within the animal category. This divine order, in which every living and non-living thing has its place, continues to shape how many people view and think about the natural world.

This Great Chain of Being idea operates in both everyday life and social theory, such that humans are regarded as 'higher' or 'more important' than animals or plants, and indeed, this led to views in which certain human beings were regarded as 'higher' than others. The commonplace designation of certain animals as superior to others, such as the lion as the "king of the jungle" in the popular children's animation The Lion King, is a more popular representation of this idea. 'All animals are equal, but some animals are more equal than others,' as the pigs in George Orwell's Animal Farm might put it.

From the sixteenth to the eighteenth century, human change and use of the natural world were more emancipated from a rigorous mediaeval Christian framework. From the sixteenth century onwards, the environment grew increasingly open to human manipulation and modification, and with the arrival of the Enlightenment age in the eighteenth century, this vulnerability became flagrant exploitation. By exploitation, we mean that environmental use was becoming less and less governed by moral or religious considerations, and was increasingly evaluated in

non-moral, economic terms. As a result of this evolution, the line between acceptable 'use' and illegitimate 'abuse' has blurred, and the criterion for judgments about how humans interact with the environment has shifted from ethical conceptions of 'right' and 'wrong' to 'profit' or 'usefulness.'

Pre-nineteenth-century social readings of 'nature'

One of the major backdrops against which social theorizing about the nonhuman world took place was the sixteenth to eighteenth century's "scientific revolution." As Pepper points out, this period of European history coincides with the birth of contemporary industrial capitalism. The foundation of both 'modern science' and the modern 'worldview' is the change in how the natural world was perceived, its codification and application of mathematical methods, rigorous modes of investigation, and what one would call the scientific mission of 'dominating' nature and discovering secrets.

Unlike the pre-modern, mediaeval worldview, which was founded on Christian cosmology, the concept of a "Great Chain of Being" outlined above, and the "modern" worldview held that the Earth is like a clock that can be understood and intelligible to human reason through scientific inquiry. This mechanistic understanding of nature was at the heart of the evolving modern worldview, and it helped to pave the way for the Enlightenment and the industrial revolution.

From the sixteenth century on, the concept of a "state of nature" was frequently utilized in social and political

philosophy to exemplify ideas about how the social order should be organized, what constitutes a "good society," and how political and social change should be understood. This section examines three influential political theorists in order to demonstrate how the environment was conceptualized in early social theory.

Various thinkers employed the concept of the "state of nature" to demonstrate, explain, and justify their respective social theories. Typically, the state of nature referred to a 'pre-social' stage of human evolution; that is, how humans were before the development of society, the state, social institutions, laws, principles, and regulations. This stage of human evolution was generally seen as inferior to and shown as a lower level preceding the 'civilized' stage, during which human society is established and institutions like the state, monarchy are established.

Thomas Hobbes

Later nineteenth- and twentieth-century anarchist ideas of humans as innately harmonious, cooperative, and not requiring a coercive state to enforce social order, based on a reading of nature as cooperative, would have been heresy for seventeenth-century political philosopher Thomas Hobbes.

Hobbes saw life in the "state of nature" as "solitary, nasty, brutish, and short," rather than the natural harmony and cooperation that anarchists believed existed before the establishment of the state. Hobbes maintained that 'human society' as such did not exist at this pre-state stage of social development, property was not secure, and those unfortunate enough to live in such a condition were

constantly in fear of their lives, unable to make plans for the future, and entirely lacking in security. Hobbes' ideology was founded on security and insecurity, and it was on this foundation that he described and advocated the need for a centralized, authoritarian 'sovereign' power and nation-state. In this way, Hobbes did not see the concept of 'natural society' as a good stage in human history, but as a primordial and what later social theorists in the eighteenth century would refer to as a 'rude state of society'. That is, humans in their natural state were at a level of social development that was uncivilized and backward.

'Hobbes describes the state of nature as "natural," although he combines a number of interpretations and judgments about politics into this "natural condition,"' writes John Meyer in his authoritative examination of Hobbes. In other words, Hobbes, like much social theorizing about the environment, 'reads into' nature what he wants to 'read out' of it, therefore providing an ideology and value-based interpretation of the natural world rather than a 'objective' or 'neutral' reading. In other words, Hobbes' defense of the need for a powerful state and sovereign is based on social and political norms and principles rather than some quasi-scientific or objective account of the "state of nature."

John Locke (1632–1704)

Another English social and political thinker, John Locke, had a more positive vision of human social life in a "state of nature." He did, however, indicate that such a primitive form of society was one that was very basic, poor, and in need of growth and growth, while not necessarily being "nasty, brutish, and short," as Hobbes had so graphically stated. Later social theorists regarded the nonhuman world

differently because of how he suggested it be done. Without delving into the nuances of Locke's theory, one of his primary points was that humans might claim sections of the nonhuman environment as their personal, private, and exclusive property, as long as there was "enough and as good" for others. Nor was this acquisition of any parcel of land, by improving it, any prejudice to any other man, since there was still enough, and as excellent left; and more than the as yet unprovided could utilize, as he puts it in his classic book, "Two Treatises on Government".

As a result, there was never less for others as a result of his enclosure for himself: he who leaves as much as another can use is as good as taking nothing at all. No one could consider himself harmed by another man's drinking, even if he took a good draught, because he had a whole river of the same water to satiate his thirst; and the case of land and water, when there is plenty, is exactly the same.

Locke is one of the first theorists to rationalize an instrumental and possessive attitude toward and valuation of the nonhuman world in this way. The nonhuman environment, unspoiled by humans, is seen as "valueless" in his opinion. It's also worth noting that Locke's defense of private property in the environment was justified in the name of liberty as well as productivity, in the sense that by possessing a natural right to private property, "man" had a sphere of freedom from fellow citizens and the sovereign or public authority. Thus, the prevalent attitude of social and political thought toward the nonhuman environment up to the modern era was shaped by Hobbes' view of the "state of nature" as something to be feared, Locke's view of nature as worthless in its unspoiled state, and promoting private

property as the most productive method for humans to interact to and use nature.

Jean-Jacques Rousseau (1712–78)

However, in Jean-Jacques Rousseau we find a social theorist who varies in his judgement of the state of nature from both Hobbes and Locke; he is also one of the first and most strong critics of the modern worldview, its social arrangements, goals, principles, and animating objective of progress. He specifically chastised Locke and Hobbes in his Discourse on the Origin of Inequality for describing a "state of nature" that failed to consider the influence of the society that arose from that state of nature on human character.

Hobbes and Locke, he said, "spoke about savage man, and it was civil man that they depicted," but he agreed with them on the foundational character of private property for modern "civilized society," but, unlike them, he also points out that private property is unequal and based on power differentials and class-based rivalries.

Rousseau maintained that 'man' is essentially cooperative, and that "primitive communities like those of the indigenous Americans and Africans were the "best for man"; civilization, far from being a boon, is always accompanied with costs that are higher than the benefits". Rousseau's concept of the "noble savage," as well as his positive perspective of life in the natural world, made him an early Enlightenment critic, and he can be considered as a forerunner of later Romantic and green conceptions of primitive peoples as ecological sages.

Rousseau proposed that the pre-civilized stage of human evolution, and human character, was in reality more

virtuous, morally excellent, and admirable than the so-called 'advanced' civilized and cultured stage of social growth, going against the prevalent view of the position of 'savage' non-civilized peoples. Rousseau wrote in 1851 that "before art had new fashioned our actions, and taught our passions to speak an affected language, our manners were undoubtedly rustic, but true and natural", and that "our minds have been perverted in proportion as our arts and sciences have progressed towards their perfection".

Rousseau was one of the first thinkers of his time to dispute the idea that the 'Natural' was inferior to the 'Artificial,' and that a less complicated society was inevitably inferior to an advanced civilized culture like that found in eighteenth-century Europe. In contrast to those social theorists, economists, philosophers, and political theorists who saw the Enlightenment, science, technology, and industrial growth as unquestionably a positive stride forward in human social evolution, he saw the emerging modern European capitalist civilizations in a rather different light.

Rousseau questioned whether civilized society's "progressive" nature represented a step forward in human social evolution. He foresaw a crucial component of the Romantic critical reaction to industrialism in the nineteenth century in this, and his critique of modernity and its vision of progress lies at the heart of the later formation of green social and political philosophy in the twentieth century.

One of the first critiques of the Enlightenment from a 'green' perspective is Rousseau's critique of the 'artificial' as the polar opposite of the 'natural,' and his blaming of social evils on the corrupting effects of 'civilization.' Nature and the natural environment represented innocence,

genuineness, and wholesomeness to Rousseau as a counterbalance to the corrupting influences of urban, sophisticated, civilized life. In doing so, he was defying the conventional Enlightenment social theory's depiction of social progress from primitive to agrarian, to city-states, and finally to eighteenth-century commercial civilization and modern nation-states.

We can see echoes of the various values assigned to various sorts of environments in social theory in Rousseau's views. He was utilizing a notion of the environment as countryside/garden as morally superior to the vast, urbanized cities and systems of governance of his period in showing a mostly rural, agricultural society of 'rough equality' and democratic republican rule.

In contrast to Locke and Hobbes, Rousseau questioned both the inevitability and the acceptability of socioeconomic inequalities as a necessary 'cost' of social progression from the 'state of nature' to 'civilized society,' preferring instead a state of 'rough equality,' where no one was wealthy enough to buy another person, nor poor enough to be forced to sell themselves. Simultaneously, his admiration of the "noble savage" suggested a good appraisal of "wilderness" and those who lived there, as well as a positive endorsement of "non-Western" cultures and ways of life.

1.4 Environmental Sociology: Field and Scope, Development of Environmental Sociology in India

Introduction

Environmental sociology is a new branch of sociology that arose in response to people's increased awareness about environmental issues. It focuses on two things. On the one

hand, it is concerned with how humans in society interact with the natural world. The link between societal well-being and environmental quality is becoming more and more of a social focus. Environmental sociology is a branch of sociology concerned with the relationships between the physical environment, social organization, and social behaviour. Environmental sociologists focus on the social causes that generate environmental problems, as well as the societal consequences of such problems and efforts to overcome them.

Subject matter of Environmental sociology

Environmental sociology, as described by Catton and Dunlap, is "the study of interaction between the environment and society," or sociocultural environmental interactions or linkages. In this vein, we argued that studies of the relationship between social class and environmental degradation, or the impact of energy shortages on society, were qualitatively different from studies of public opinion or environmental activists, and that the former constituted true environmental sociology.

Environmental sociology is a new branch of sociology that arose in response to people's increased awareness about environmental issues. It focuses on two things. On the one hand, it is concerned with how humans in society interact with the natural world. On the other hand, it examines 'environmentalism' as a social movement, as well as the evolution of environmental concern and the social context of environmental acts. It may be claimed that sociologists have always been interested in how individuals interact with the natural world.

Over the last quarter-century, an almost inexhaustible number of environmental issues have surfaced around the world, particularly in highly industrialized countries. New problems regarding the quality of our air, water, and land are constantly being uncovered, but several fundamental patterns stand out: (a) humans are having an increasingly detrimental impact on the physical environment; (b) these impacts are occurring at ever-larger geographical scales; and (c) the consequent environmental degradation poses substantial challenges to human health and welfare. Indeed, it is commonly acknowledged that human activities are disturbing ecosystems to the point where they may cause irreparable damage, not only on a local level but also on a global scale. The ramifications for our species could be enormous.

Although it is true that successive populations of Homo sapiens have altered their physical surroundings to the point that they have suffered severe consequences as a result of the resulting environmental change throughout history, it is now recognized that the scope and amplitude of human-induced change has reached unparalleled proportions.

While the above remark emphasizes humans' impact on the planet's environment, or modern cultures' involvement in causing global environmental change, the fast expanding interest in global environmental change derives from the recognition that human-induced changes to the natural environment will have important consequences for human society. A small shift in Earth's temperature, for example, might have unforeseeable consequences for agricultural production and fisheries, as well as significant changes in energy consumption and migration patterns. In the worst-case scenario, melting polar ice caps could elevate ocean

levels to the point where many coastal areas would be flooded. As a result, examining societal-environmental interactions, or the effects of human activities on the environment and the repercussions of the consequent environmental changes on human societies, is an inextricable part of studying global environmental change.

Field and scope of environmental sociology

We feel that sociology will not be able to contribute much to our understanding of global environmental change unless we remove the exemptionalist blinders that our founding fathers instilled in us. In the natural sciences, as well as in society at large, there is a rising recognition that humankind is actually "an integral part of the earth system." Not only is our species having an unprecedented impact on the global ecosystem, but the resulting ecological changes may have far-reaching implications for human life quality. Recognizing that modern industrial societies are ecosystem-dependent necessitates rejecting the exemptionalist notion that modern technology has liberated us from ecological restrictions, which is still prevalent in mainstream sociology.

If we are to make significant contributions to understanding the social causes and implications of global environmental change, we must adopt a truly ecological perspective that makes us aware of our species' position in the global ecosystem. We need to build a full-fledged "ecological sociology" that analyses the complex interdependencies between human societies and the ecosystems in which we live, not only reviving environmental sociology, or the study of societal-environmental connections. The kind of assumptions outlined in the national environmental

programme will underpin such an ecological sociology, but it will necessitate a significant amount of conceptual, theoretical, and methodological retooling. It will be fundamentally interdisciplinary, and it will have to reject the separation from bio ecology that has grown common among current sociologists who refer to themselves as "human ecologists" but who accept human exemptionalism as fervently as the rest of the discipline.

In other places, we've made a modest start in building ecological sociology by elucidating the multifaceted character of Homo sapiens' relationship with the natural surroundings in which we live. We highlighted in particular that the environment provides three critical and frequently conflicting purposes for our species. It acts as a supply depot, a garbage disposal facility, and a living area for us. Energy shortages of the 1970s emphasized potential resource supply constraints, and the "limits to growth" discussion was framed primarily in terms of the supply depot function. However, since the 1980s, the environment's failure to absorb the waste products of modern industrialized societies, from the local level to the global level has shown that nature's finite ability to act as our garbage repository may be the more important restriction.

Furthermore, these three functions clearly compete with one another, and human usage of an ecosystem for one function may interfere with its ability to fulfill one or both of the others. When an area is used as a waste site, such as a garbage dump or a chemical waste dump, it loses its appeal as a living environment. Similarly, if hazardous materials escape from a landfill and contaminate the soil and water, the area cannot be used as a source of safe drinking water or

food. Finally, transforming agricultural or forest land into housing subdivisions expands people's living space while eliminating the area's usefulness as a food or lumber supply depot. At a global level, the use of the Earth's atmosphere as a dumping ground for a variety of pollutants may have an impact on the planet's ability to provide natural resources and make it less suitable for living space.

We can no longer think of growth limits as just an issue of natural resource availability; instead, ecological limits relate to the entire set of constraints imposed on humanity by the environment's finite ability to perform all three tasks at the same time. Issues like ozone depletion, acid rain, and global climate change, for example, show that the Earth's ability to serve as our garbage dump while still providing us with the living space and natural resources we need for a high quality of life is plainly limited. At the very least, ecological sociology must recognize human life's inherent ecosystem reliance and reject the exemptionalist assumption that our species has escaped nature's limits.

Conclusion

The sociological study of how humans interact with diverse parts of the environment is known as environmental sociology. In other words, how individuals approach environmental issues such as pollution, conservation, and recycling. This type of research is critical in helping to develop better ways for nature and humanity to interact, reproduce, and prosper. The sociology of environmental issues and nature is introduced in current environmental sociology, which is historically rooted.

Development of environmental sociology in India

The term "environmental sociology" allows us to keep the social sciences' disciplinary orientation while focusing on social connections and processes as they influence and are impacted by the biophysical reality in which social beings exist.

RadhakamalMukerjee created the concept of 'region' in the 1920s as a way to bring ecology and sociology together. 'Not only to temperature, humidity, sunshine, altitude, etc., but also to their indirect effects, the interwoven chain of biotic communities to which it is inexorably related, the plants that it cultivates, the animals it breeds, and even the insects that are unique to the region,' noted Mukerjee. He also claimed that "the area" is "at once an ecological aggregation of humans, an economic framework, and from the area, Mukerjee ecology", which he later tested through empirical studies such as those of the Indo-Gangetic Plain and agricultural production in the princely state of Gwalior."

Radhakamal Mukerjee was the first Indian scholar to draw attention to the connections between the social and biophysical worlds. Patrick Geddes, a Professor of Sociology and Civics at Bombay University in the 1920s, was someone Mukerjee liked much. He devoted most of his time to the effort of urban planning, with the explicit goal of preserving "the best historical traditions of the past, people's involvement in their own advancement, and the recovery of earlier traditions of city design that purposefully articulated the aesthete aspirations of the society."

While Kumarappa, a Gandhian economist who drew up a roadmap for an ecologically sustainable village-centered development, was marginalized by the dominant hegemonic ideal of resource-intensive growth. Kumarappa may believe that a free India will maintain its inherent integrity.

According to Guha, the early decades after independence were an era of 'ecological innocence,' which explains why environmental ideas had little traction in intellectual and political circles. Environmental sociology did not develop in a systematic way until the 1970s. The advent of environmental movements in the 1970s sparked a renewed interest in environmental sociology, putting the environment and development on the public agenda.

There was a divide in the early arguments on 'environmental' issues, such as Chipko and the Silent Valley, between those who favoured 'development' over 'environment' and those who advocated for 'environment' over 'development.' The 'development' camp was dedicated to the cause of boosting human welfare by accelerating economic expansion through industrialization, whereas the 'environment' camp was concerned with the preservation of distinctive ecosystems and endangered species, as well as the maintenance of an overall ecological balance. Environmentalists have been accused of imposing their elitist fads on a poor country whose primary concern should be meeting its residents' basic necessities.

This accusation was somewhat true. Wildlife conservationists—amateurs as well as members of the scientific establishment- were among the environmentalists who had special access to Indira Gandhi. This group of environmentalists succeeded in persuading the government

to establish a network of national parks and sanctuaries across India to safeguard endangered species, despite local populations' subsistence claims. The Kerala government's Silent Valley power project, which was abandoned by the Centre due to rainforest concerns, was an example of elite environmentalism's triumph.

The pioneering work of Gadgil and RamachandraGuha in explaining the broad ecological repercussions of independent India's economic development is an example, although neither of them is a sociologist in the traditional sense: Gadgil is an ecological scientist, whereas historians. In reality, Indian historians are far ahead of their sociological colleagues when it comes to examining environmental change; the colonial state's impact on traditional forest, pasture, and water management techniques has been debated to the point of exhaustion.

The credit for trying an ecological analysis of India's social structure's iron framework, the caste system, must go to ecologist MadhavGadgil and anthropologist K C Malhotra. These scholars have portrayed the caste system as a collection of trophic levels in which various castes occupy ecological niches distinguished by division of labour and resource partitioning in a groundbreaking but divisive work. They argue that the caste system has survived for centuries because it promotes ecological stability by reducing inter-caste rivalry for natural resources.

In India, development sociology has tended to focus on processes occurring within the nation-state. In contrast to Latin American sociologists, for example, Indian sociologists do not view development as a worldwide process of resource extraction and transfer. In India, the

interaction between nation-states and global capital circuits has received little attention. Even though post-colonial Western discourses on population growth, protection of "wilderness," genetic diversity and rights, cultural rights of "indigenous people," and other topics have had a huge influence on moulding Indian discussions, Indian researchers have not looked into international processes and discourses in environmental sociology.

Projects face opposition from the public. Because the Andolan was in the forefront of opposition to projects like the SardarSarovar Lake Chilika, a shooting range in Netarhat, and others, media attention and scholarly interest were fast to follow. It's worth noting that while researching development initiatives, environmental sociology gives forest residents, particularly adivasis, a disproportionate amount of attention. Environmental sociology hasn't paid much attention to Dalits, landless labourers, and other socially marginalized groups.

The articulation of environmentalist ideology by social movements influenced sociologists to consider not just the inequitable impacts of development programmes, but also to launch a broader critique of the development paradigm, criticizing the ideals on which it was founded. Scholars such as Vandana Shiva, AshisNandy, and Shiv Visvanathan challenged the ideology of dominating nature that underpins Western science and technology in a discourse that claimed a Gandhian ancestry. As a result, within environmental sociology, a critique of modernity has been a significant tendency.

Recent ecological movements in India, including the Chipko movement and the Narmada Bachao Andolan, as

well as conflicts over natural resources such as water, forest, and fisheries, have recently found a home in social science research. Due to the prevalence of conflicts/struggles over forest, water, fish, land, pasture, and village commons throughout the country, numerous studies on these topics are required; it is also true that sociology has a long history of studying social movements. Before a thorough picture of a situation as complicated and varied as ours can emerge, each of these areas must be further studied and examined. Environmentalists, journalists, and activists have been tasked with addressing these challenges, which have hitherto been considered outside the scope of serious social science study and left to environmentalists, journalists, and activists.

Many assistance agencies' policy interventions are based on the goal of a self-sufficient peasant community. Environmental sociologists, too, are susceptible to the romanticization of rurality. Migration from rural areas is always seen as a negative in this situation, as a failure of the rural environment to sustain livelihoods. As a result, policy interventions are aimed at bolstering livelihoods based on land and other natural resources, rather than forcing people to relocate. However, the scant evidence implies that migration happens as a result of both pull and push factors, such as the allure of cash salaries, urban lifestyles, and rural poverty. Migration and urbanization, on the other hand, have been largely overlooked or portrayed as societal "issues" that need to be addressed in the discipline of environmental sociology.

Conclusion

In the analysis of environmental challenges, a sociological/social science perspective is still emerging. While a vast field of research has emerged in the last two decades or more, it still exists on the periphery of disciplines, unabsorbed and hence unintegrated. Sociologists are only now beginning to study the numerous elements of today's environmental concerns, in response to the demands of social reality. However, the seemingly endless options for investigation and thought are accompanied with a lack of theoretical and conceptual clarity.

<div align="center">

MODULE 2

Major Environmental Ideologies

</div>

2.1. The Enlightenment, Environment and Social Theory - 19th-21st century social theory-Development of Environmental Sociology

Introduction

The Enlightenment is commonly viewed as a set of linked and sometimes profound developments that occurred across several realms of human thinking and activity in Europe from the mid- to late-eighteenth century. There is no single date that can be pinpointed as the start of the 'age of reason,' nor is there a single writer or school of social thought that can be traced back to the precise beginnings of the seismic shifts in European intellectual, political, economic, and social life that happened at this period.

The enlightenment

The Enlightenment is crucial for tracking and comprehending the historical link between social philosophy and the environment. Many modern environmental problems have their roots in the Enlightenment, but some of the foundations of 'green' critiques of and alternatives to industrialism also have their roots in the diverse reactions against the Enlightenment. As a result, the Enlightenment marks a watershed moment in social theory's treatment of the environment.

The Enlightenment believed individuals might improve themselves by improving nature, giving a programme of

development through science, technology, and industry,' according to Porter. We can cite as an example the progress and development of mankind through the application of reason.The exploitation of the natural environment through the application of scientific knowledge and technology to industrial production was at the heart of Enlightenment social theory. The Enlightenment is divided into two parts for the purposes of exposition: the industrial revolution and the democratic revolution.

The industrial revolution

The term "industrial revolution" refers to the multiple changes that occurred in European economic life between the sixteenth and nineteenth centuries, both in terms of conceptions, theories, and ideas, and in terms of real practice, which established the groundwork for the formation and development of modern industrial society and a capitalist economy. The United Kingdom is often referred to as the "cradle of the industrial revolution" since it was the first country to adapt along industrial lines.

The environment was viewed as a collection of tools for human purposes, including raw materials for factories, machines, and newly developed productive technology. Science, in conjunction with technology, was seen as revealing the secrets of nature, creating fresh insights into its inner workings, and providing more effective means for humans to exploit it. The environment was altered and reduced to a store of raw resources for human economic needs as a result of the industrial revolution.

The democratic revolution

The democratic revolution refers to the profound changes in thought and practice that occurred in politics throughout the late eighteenth and early nineteenth century. The American Revolution and the French Revolution are the two most important historical events in this area. The notion of popular government – that is, governance of, by, and for the people – was at the heart of the democratic revolution, which sought to replace rule by unelected monarchies, aristocrats, and the Church with that of elected monarchies, aristocrats, and the Church.

The French Revolution's slogan, 'liberty, equality, fraternity', neatly summarizes the heart of the Enlightenment's democratic imperative, which abolished kings' divine right and organized religion's power. The use of the vocabulary of rights in political, social, and moral thought, the increasing emphasis on the individual, the emergence of representative government and liberal democracy, the establishment of constitutions, the separation of state powers, and the rule of law rather than the monarchy were all important aspects of the Enlightenment's democratic imperative. Thomas Paine, Jean-Jacques Rousseau, Voltaire, William Godwin, and Montesquieu were among the writers who wrote about, justified, supported, and/or participated in the democratic revolution.

An especially instrumental approach toward and exploitation of the natural environment was also at the heart of the democratic movement. In the first scenario, most proponents and theorists of democracy thought that this new form of governance required material prosperity, and that

the industrial revolution was thus a necessary prerequisite for democratic politics to blossom.

Second, in the sense that democratic rights were not extended to everyone, the democratic revolution was a property-owning democracy. Only men with property were allowed to vote, which had the critical consequence of legitimizing the concept of private property in land. To put it another way, extending the right to vote required extending private land ownership to an ever-increasing number of individuals. Of course, this meant not just treating the natural environment as raw materials, but also taking into account the unique status of agricultural life and those who cultivate the land.

As a subject of study, 'social theory' is particularly difficult to pinpoint or describe. Social theory, as defined above, is the systematic study of human society, including social development and transformation processes, involving the production of theoretical hypotheses, explanations, justifications, and prescriptions. The phrase "social theory" is frequently used interchangeably with "sociological theory," and current social theory has its roots in the sociological tradition.

The Social-scientific' approach to the study of society is included in social theory. History, philosophy, moral theory, and cultural geography are all disciplinary approaches to social theory. As a result, the term "social theory" serves as a catch-all term for a variety of ways to thinking about society, explaining social phenomena, and providing explanations for supporting or opposing social change. Although components of current social theory can be found in pre-Enlightenment thinkers and schools of

thought, the historical beginnings of social theory may be traced in the Enlightenment.

In recent work in this area, adopting an explicitly interdisciplinary approach to examining the relationship between society and environment has been a dominating position. This is partly due to the fact that there isn't just one relationship between society and the environment. Rather, the term "society-environment relationship" refers to a set of interconnected relationships that span the physical, social, economic, political, moral, cultural, epistemological, and philosophical realms, encompassing a multifarious, multi-layered, complex, and dynamic interaction between society and environment. Given the numerous interconnections between civilization and the environment, it is evident that no single field or technique can expect to capture the whole complexity of these interconnections. In discussing how the environment has been conceived, used, and abused within social theory, an interdisciplinary approach relying on a number of sources is not only valuable, but in some ways crucial.

Social theorizing and the environment

The physical reality that surrounds or surrounds something is sometimes referred to as the environment. Most generally, the environment is conceived of as equivalent with the 'natural world' or 'nature' in current language. In other words, the environment is frequently conceived of as objective rather than subjective. Another way to think about the fact/value divide is that saying the environment is objective means it is a factual reality that exists independently of our subjective value judgments. The environment simply is, as objective reality.

One of the issues with social theorizing about the environment has been that the latter has been viewed as essentially nonhuman and beyond human society and culture by the former. So, for example, the environment has been defined as the "natural world" or "nonhuman nature," something that surrounds us while also existing outside of human culture.

One of the first things to notice about the terms "nature" and "environment" is that they are frequently used to contrast human society and culture. In this sense, anything that is natural or environmental is distinct from an unrelated to human society. And this appears to be true in some ways, at least intuitively. Trees, for example, flourish and ecosystems function without regard for human society or culture. Nature, or the "natural environment," is not dependent on mankind at this level. Indeed, it appears that humans, like all other living animals, need their surroundings to survive and thrive. So, according to this first interpretation, the environment is distinct from human society. This isolation, however, does not negate the fact that humans have a relationship with their surroundings. They are plainly tied to their environment because they rely on it and survive inside it. However, just because humans are connected to and reliant on the environment does not mean they are identical to it. Humans, like all other creatures, exist in a state of separation from, but also in a relationship with, their environment.

Second, there is another aspect to the relationship: the distinction between 'nature' and the 'natural environment' as 'nonhuman' versus 'human.' As a result, the term "nonhuman" can be used to characterize what is "human" or "truly human." In this regard, nature as nonhuman is a

crucial idea in social theory, perhaps even a founding idea, because it defines what is human, or genuinely human.

Third, we can see that the term "environment" might relate to something that occurs naturally rather than something that is man-made or artificial. Indeed, this final set of competing conceptions – between the 'natural' and the 'artificial' – is one of the most fundamental ways in which humans have thought about and continue to think about the environment. The environment is typically thought of as a collection of entities like rocks, rivers, creatures like bears, lions, foxes, and processes like carbon cycles, hydrological cycles, that are clearly not human-made. As a result, the environment here is that which occurs naturally, and many natural processes and things predate mankind and human civilization. We have an idea of the environment as nature, which is one of the oldest and most durable concepts of the world that humans have. This idea of the environment as something nonhuman, the exterior and eternal natural and naturally occurring surroundings that encompasses both humans and nonhuman entities, resonates with this understanding of the environment.

At a very basic level one can intuitively grasp what it means to claim that the environment is socially constructed by noting how different societies, different ways of thinking and social theorizing reveal diverse ways of thinking about and seeing the environment. Discursive or conceptual understanding of the 'social construction' of the environment, there is a material dimension to the 'construction' of the environment which refers to the real, material, physical creation and change of the environment by the human species.

Agriculture, the creation of particular landscapes by human practices that differ from the environment in its 'natural' state, and the creation of hybrid species of plants and animals as a result of human intentional selection and crossbreeding are examples of human environmental transformations.

Four environments for humans in social theory

Environment as wilderness

Rennie-Short says, 'Wilderness is a word whose first use signals the change from a hunter-gathering economy to an agricultural civilization". That is, a view of the natural environment from a 'civilized' or 'cultured' perspective is referred to as 'wilderness.' According to Rennie-Short, there are two types of responses to wilderness. The first is a negative reaction in which the primary goal is to 'pacify,' 'tame,' or 'conquer' untamed nature in order to turn it into a 'garden' for human enjoyment and in accordance with human goals.

For most of human history, this has been the mainstream perception of wilderness: wild nature as dangerous, unpredictable, and unstable, posing a constant threat to human social order. The 'romantic' or 'green' vision of wildness is a more optimistic perspective. Wilderness is recognized here as something to be preserved and respected in the face of a world where humans are rapidly 'developing' or destroying the natural environment.

Another positive view of wilderness may be seen in contemporary popular culture, in which 'nature wild and free' is not only viewed as something to be valued but also under threat from the bureaucratic, mundane, and stultifying

processes of modernization. Popular music, films, and books, etc. reflect this current sentiment regarding the environment.

Environment as countryside/garden

The perception of the environment as the countryside is distinct from that of wildness. The countryside might be viewed as a 'garden,' a 'tamed,' or a 'humanized' natural habitat. The environment here refers to nature as it has been modified by and in service of human needs, goals, and purposes. Environment can be positioned as countryside between 'wilderness' and the urban environment, both historically and figuratively.

That is, the concept of the environment as the countryside distinguishes between the natural environment and the produced, artificial environment. The concept of the environment as a countryside or garden is frequently used to explain cultural and environmental contrasts between European and other 'industrialized' countries. Unlike other countries such as America and Australia, Britain has no wilderness areas, and its natural settings are humanized in the sense that they are the result of past human change. They resemble cultivated gardens rather than natural areas.

The urban environment

The human-made places, buildings, developments, and structures found in towns and cities are referred to as the urban environment, as opposed to either wilderness or the rural countryside. The city and town reflect the artificial environment that humans create for themselves and others, and the emergence of the urban environment is also the most modern of settings that humans inhabit, both

historically and theoretically. Indeed, the urban environment and modernity are so intertwined that traditional descriptions of the latter include urbanization as a defining feature. To put it another way, to be 'modern' is to live in a city rather than a rural setting.

Over the last 200 years, the establishment and growth of the urban environment has had a significant impact on how people regarded and thought about the natural world. People got increasingly isolated from direct contact with nature as they moved from the countryside to the cities. This isolation from the natural world heightened a feeling of the natural world's symbolic value and a desire for its preservation.

The global environment

The concept of the 'global environment' is the most modern interpretation of the term 'environment,' and it emerged from discussions about the 'environmental catastrophe' in the 1960s and 1970s. While there has always been a global ecosystem or biosphere, it became a focus of public and political attention when dangers to it emerged. The images of the Earth taken from space in the late 1960s were particularly significant in the development of the global environment.

The "global environment" gained traction in the 1980s and 1990s. With the rise of 'global environmental problems' like biodiversity loss, global warming, and ozone depletion - that is, environmental problems that are worldwide in scope but not necessarily global in origin – the concept of a global environment became clear.

The concept of the global environment has risen to prominence in social theories about globalization, joining the likes of the "global economy," "global communications," and the "global village." The global environment expresses another level of interdependence between distant people and places, much as the global economy generates a global network of socio-economic interconnections between distant locations and people. Environmental issues, like the current global free market economy, have little regard for national borders.

Global environment conveys some essential messages.

● The first is connectivity, which means that when it comes to dangers to the global ecosystem, we are all in the same boat.

● The second is that the global environment is, at its core, a human-endangered ecosystem.

● The third point, which is related to the last, is that when we talk about dangers to the 'global environment,' we often imply that because these problems are global, affecting everyone on the planet, and we are all in the same boat, we are all to blame.

19th and 21th century- social theory

The use of scientific knowledge did not stop at improving humans' ability to use the natural world more productively. The nineteenth century saw the fast application of information obtained from the study of the physical world to the study and organization of human society, in keeping with the Enlightenment conviction in human reason's power to explain and solve practically everything. Many social

theorists were persuaded by the self-evident success and explanatory capacity of scientific knowledge that all one had to do was adapt the methods of investigation used in natural science to the study of society.

All in all the nineteenth century was a spectacular period at every level in Europe in methods of thinking about the natural and social worlds. In every sphere of social and individual life there were great developments. The nineteenth century in Europe was the origin of a new industrial society that was both quantitatively and qualitatively distinct from any previous stage of human social history in practically every area or dimension of human life we can think of - economic, social, political, cultural, religious, home, legal, and personal.

The dynamics of this industrial style of socioeconomic existence became the principal focus of social theory study. Utopian schemes, revolutionary criticisms of and alternatives to the current industrial social order, bold recommendations for social development and progress, as well as less defenses of the present quo proliferate within social theory, in keeping with the immense increase in human intellect and knowledge that characterizes this age.

Theoretical orientation regarding nature- 19th -21st century

Thomas Malthus' population theory is one of the most important areas of overlap between the environment and social theory in the nineteenth century. Malthus "had argued that progress was constantly threatened by population growth and the fact that food production could not keep up with such growth." Malthus' problem stemmed from the

simple fact that, while population grows geometrically (2,4,6,8), food supply grows arithmetically (1,2,3,4). For what we now term "ecological" and "biological" reasons, the divergent rates of growth of the two "proved" that societal progress of the kind favoured and recommended by Enlightenment thinkers was impossible to attain. Because the land's ability to provide food without tight population control has clear boundaries, society progress would collide with these non-negotiable, nonhuman natural boundaries. As a result, he contended that increasing resources for the poor would simply increase their numbers, and thus their unhappiness.

Malthus' population theory is notable not only for its emphasis on "ecological" concerns, but also for its attempt to be "scientific." Empirical evidence was faulty, spotty, and would not satisfy statistical criteria today. It comprised demographic, agricultural, and other statistics and empirical data from various regions of the world, including travelers' diaries and other written reports of excursions to foreign nations. His beliefs, however, were regarded 'scientific' by the norms of early nineteenth-century social theory.

The canon of classical social theory particularly that left to us by Durkheim, Weber, and Marx may serve as a source of inspiration for contemporary sociologists interested in environmental issues. To some extent, each of these sociological forefathers had something significant to say about nature and society, even if it was often suggested rather than stated explicitly. Durkheim is the least likely of the three founding thinkers of sociology to be recognized as an environmental commentator. This is due in large part to his conscious decision to prioritize social facts over "lower-order facts". He discusses the transition of contemporary

societies from a condition of mechanical solidarity, where social solidarity is a product of shared cultural norms, to one of organic solidarity, where social solidarity is a function of interdependence, most notably that deriving from an increasingly complex division of labour.

Durkheim's hypothesis, according to Catton, was really an attempt to develop a solution to what is essentially an ecological dilemma of expanding population coupled with inadequate resources. It would have been devastating if everyone continued to participate in agriculture as communities grew larger and denser. Occupational specialization has reduced competition for arable land, even as that land has become more productive as a result of technological progress.

Max Weber is a second sociological pioneer whose work is claimed to include an ecological component. Murphy distinguishes two interconnected processes initially identified by Weber at the turn of the twentieth century that have become characteristic aspects of our time: the intensification and magnification of reason. We open the door to a swarm of undesirable and harmful outcomes the more we try to run things according to the idea of dispassionate calculation. This is known as ecological irrationality when applied to nature. It manifests itself in a wide range of damaging outcomes, ranging from flashy technology disasters like nuclear accidents to everyday pollution events like industrial dumping into city storm sewers.

The sociological tradition linked with Karl Marx has elicited the most extensive reaction from contemporary environmental interpreters of the three primary sociological

systems. Although Marx and his early partner Friedrich Engels were only tangentially concerned with environmental deterioration, their analysis of social structure and development has served as the foundation for a number of significant current environmental theories.

Marx and Engels argued that social antagonism between society's two main classes, capitalists and proletariats, not only alienates ordinary people from their employment, but also separates them from nature itself. This is most visible in 'capitalist agriculture,' which prioritizes making a quick profit from the land over the welfare of both humans and the soil.

Contemporary Marxist theory clarifies not only the role of the capitalists, but also the role of the state in fostering environmental destruction.Both elected politicians and bureaucratic bureaucrats are portrayed as mainly committed to safeguarding the interests of capitalist investors and employers. While the motivation is partially financial e.g., corporate campaign contributions, future job offers, public servants, politicians, and capitalist producers are considered to share a "ethic" that emphasizes capitalism accumulation and economic expansion as the twin engines that propel development. They contend that this holds true at all levels of government, from the global system to the small community.

The first encounters between social theory and the environment, both as a precondition for society and when translated as "nature" or "natural," as it was put to a variety of ideological uses during the late eighteenth and nineteenth centuries, may be found with the Enlightenment or "modernity." According to Weber, "nature" and the natural

environment were "disenchanted" with the arrival of modernity; that is, the natural world was reduced to a collection of "natural resources" or "raw materials" for human productive use.

We can discern a similar conception of 'social progress' within main nineteenth-century schools of social philosophy, such as liberalism and socialism. Progress and 'development' were viewed as a chronological progression from pre-industrial society to the more sophisticated and advanced stages of the industrial socio-economic system. This particular linear vision of human historical evolution is, in many ways, an upward and ever-increasing journey from ignorance, poverty, squalor, and backwardness.

While socialism criticized industrial society's capitalist nature, it did not criticize the industrialization process in general, or how it resulted in the nonhuman world being 'controlled' and exploited, and seen and employed largely as a means to human objectives. While liberalism, the other main nineteenth-century social ideology, agreed with socialism on the link between society and environment and the pursuit of material progress, J.S. Mill stands out in the face of this widely held idea of industrial growth. His views on the idea of a "stationary state" distinguish him as an early green social theorist, in addition to his defense of the extending of moral concern to nonhuman animals.

The importance of the environment in the work of John Stuart Mill, one of the most influential liberal political philosophers of the nineteenth century, can be traced back to his rehabilitation from a mental breakdown, which was improved by reading nature love. Wordsworth and Coleridge's Romantic poetry His unique perspectives on

what we now refer to as "ecological issues" were unheard of at the time, and foreshadowed many of the concerns that would later be labeled "green" or "ecological."

Modern social theory is concerned with the causes and effects of the current ecological problem, which is a relatively recent concern. Large-scale environmental degradation is viewed as a hallmark of modern life. Several researchers, such as Giddens and Beck, stress the society's catastrophic nature through an extensive examination of risk. The hitherto ignored relationship between humans and nature, as well as the negative effects of human behaviour on the latter, has surfaced as a serious issue, particularly in the last century and a half. Another key topic in contemporary thought is the rise of environmental politics and movements, which pose a challenge to the modern industrial/capitalist method of production and consumption, which is fundamentally environmentally harmful. The following sections expand on some of these points.

Until recently, the discussion over whether capitalism or industrialism was the primary driver in building the contemporary world, according to Giddens, neglected the potentially disastrous implications of contemporary production methods on the environment. The environmental catastrophe, according to Giddens, is caused by the combination of capitalism and industrialism. In his later publications, he specifically relates environmental concerns to modern industrial civilizations and emerging country industrial sectors. Whatever the causes of the issue, he argues that modern industry, influenced by a mix of science and technology, is responsible for the largest transformation of the natural world ever.

Ulrich Beck characterizes current society as the risk society, characterized by its catastrophic potential as a result of environmental deterioration. Natural hazards posed risks in pre-industrial societies, which could not be attributed to voluntary decision-making because of their nature. The nature of risk changed in the industrial societies. Industrial risks and workplace accidents, as well as the perils of unemployment brought on by economic cycles, could no longer be blamed on nature. In addition, these civilizations established organizations and techniques to deal with dangers and risks, such as insurance, compensation, and safety, among other things. In reality, Beck sees the welfare state as 'a communal and institutionalized response to the nature of industrialized hazards.

We can divide risks into a number of categories:

1 *Ecological risks*: global warming, biodiversity loss, ozone depletion, ecosystem destruction.

2 *Health risks*: health risks due to genetically altered foodstuffs, skin cancer, food safety scares, 'avian flu', SARS, pollution-related illness such as asthma, cancer, heart disease.

3 *Economic risks*: unemployment and decline in job security.

4 *Social risks*: decline in personal safety, rise in crime and breakdown of community, rise in divorce and separation.

One of the many qualities that postmodern social theory shares with ecological or green moral and political theory is that it is one of the most recent breakthroughs in Western social philosophy. The goal of this section is to see how far

environmental difficulties and difficulties might be considered "postmodern" in some ways, as well as to look at the contribution of postmodern social theory to environmental study.

Towards the emergence of environmental sociology

By the early 1970s, a large number of sociologists had realised that environmental problems and ecological constraints were real and posed serious problems for human well-being, owing to ecological literature such as Carson, Hardin, Ehrlich and Ehrlich, and Commoner, as well as first-hand knowledge and media accounts of environmental deterioration. Many of these sociologists were interested in how the public perceived such concerns, which led to a slew of studies on public attitudes toward environmental issues.

Similarly, the public sector actively engaged in combating environmental misuse drew sociological attention, leading to various studies of the "environmental movement". While attitudinal and social movement studies were fairly common types of sociological research, they were a useful first step toward a sociological knowledge of environmental challenges, and they also served to pique sociologists' interest in the subject.

The rise in popularity of environmentalism and the environmental movement had re-ignited social interest in environmental issues by this time. Silent Spring (1962), Rachel Carson's best-selling expose of ecosystem devastation caused by agricultural pesticide use, had been a major trigger for this a decade previously. Then, in the early

1970s, the considerable attention given to The Limits of Growth's catastrophic predictions, combined with the US's "energy crisis," heightened academic concern about the environment.It also widened the scope of sociological interest in environmental issues to encompass topics such as resource scarcity and energy consumption.

William Catton, a sociologist, was greatly influenced by this. Catton broadened his earlier research interest in national parks and wilderness visitors to a more theoretical worry with overpopulation and diminishing fossil resources when he returned to the University of Washington from New Zealand in 1972. This came to a head in 1980, when the famous book Overshoot: "The Ecological Basis of Revolutionary Social Change" was published.

Riley Dunlap, one of the field's founders, sees a two-step growth when looking back on that time period. Initially, scholars, inspired by the widespread attention given to environmental issues, applied classic sociological perspectives on public opinion, social movements, and formal organizations to concerns such as the social characteristics of environmental activists and environmental groups' tactics and strategies.Gradually, however, attention switched toward the creation of an environmental sociology that would be distinct enough to deserve its own field. The fundamental links between modern industrial societies and the physical surroundings in which they live were the main focus.

Most early work on environmental problems in Europe was concerned with environmentalism and the environmental movement, which was sparked by the development of the 'greens' as a political force. One exception was in the

Netherlands, where early on, nodes of environmental sociology activity sprang up around concerns of agriculture and risk assessment. The relationship between society and nature was weighed against conventional sociological viewpoints on social class and industrialism in Britain, where environmental interest tended to be expressly theoretical.

The creation of new social groups, new interests, and new values that cut beyond traditional class-based alignments, according to most writers on the subject, poses a fundamental challenge to the present political system. The central values and ideology of modern industrial society, as well as much of modern technology and the centralised industrial mode of production and consumption, are being questioned and challenged, resulting in a high-growth, energy-consuming, and environmentally damaging way of life.

2.2. Environmental Visions - Thoreau, Rachel Carson, Gandhiji

Henry David Thoreau

Henry David Thoreau was an American philosopher, poet, and environmental scientist who lived from 1817 to 1862. Thoreau made a number of key contributions to the ecology movement, the most notable of which are his own personal published conservation views and his search for meaning in life through his interaction with nature. Whose major work, Walden, is a meditation on the real issues of living in the world as a human being that draws on each of these identities.Henry David Thoreau is a well-known American author who is known for his relationship with nature and his

opinions about the world. Thousands of people around the world are familiar with his views and concepts, which are tied to Transcendentalism. His writings included essays, poetry, diaries, and publications that, while not producing outstanding effects on people at the time, later served to transform people's thoughts and had a significant impact on subsequent generations.

Thoreau perspective regarding environment

Henry David Thoreau, a Ralph Waldo Emerson student, craved solitude and closeness to nature. He suggests in his writings that all living things have rights that humans should acknowledge, implying that we have a responsibility to respect and care for nature rather than destroy it. Thoreau, who is associated with the transcendentalists, looks to nature to find the meaning of life. Nature, according to Thoreau, is a direct representation of divinity and spirituality. He attempted to hear the language that all things and events communicate, as well as to recognize God in nature. He questioned the contemporary subject-object framework of perception, which he believes distorts and limits the diversity of human experience. For him, perception was a comprehensive experience that encompassed everything the living planet reveals. Smells, tastes, textures, beauty, vibrancy, and all other senses are all part of his concept of "perception." Thoreau learned to grasp the rich and delicate interdependence of beings through his observation of the minute aspects of life in nature.

Thoreau was significantly influenced by the phrase Transcendentalism. This belief, which dates back to the nineteenth century, holds that divinity pervades all of nature

and humankind; transcendentalism aims to heighten consciousness of the existence of nature and the spirituality that pervades it, as well as the spirituality and nature that resides within one's own self. Transcendentalism indicates movement: a spiritual and intellectual awakening, a rising in consciousness, and a transcendence of one's limits. The intrinsic goodness of both people and nature was one of the transcendentalists' basic beliefs. They believed that society and its institutions eventually taint an individual's purity.

In 1846, Thoreau began writing Walden, or "A Life in the Woods," about his experiences living simply and idyllically. Thoreau's response to the thousands of questions he got while living in his modest home in the woods at Walden Pond is depicted in this piece. From July 1845 to September 1847, Walden documented a two-year era in Thoreau's life. Other renowned passages were Thoreau's encounters with a Canadian woodcutter and an Irish family, a journey to Concord, and a description of his bean crop. Walden is without a doubt Thoreau's most comprehensive work. It reveals his relationship with the world around him.

He sought to share information about his quiet and happy life in nature, as well as to explain what he saw around him. He led a calm and inactive existence while residing at Walden. He was able to observe society from the outside and saw that his situation differed from that of the majority of people, who spent all of their time and energy attempting to gain luxuries. They were unconcerned about human happiness. Thoreau believed that spending time in nature, thinking about beautiful things, and breathing pure air was preferable to working long hours to pay for large homes, luxury cars, or properties. He could see how men were enslaved by their "needs"; guys did not work because they

were passionate about it; they worked because they needed large sums of money to fund their extravagant demands.

When read as a whole, Walden paints a clear image of Thoreau's ideal existence, which encompasses health, freedom, enjoyment, companionship, a rich experience, knowledge, self-culture, and personal achievement. 9 He goes into great depth about his pursuit of these "goods," typically in terms of his relationship to nature. For Thoreau, freedom entails not only the absence of physical force, but also the opportunity to study his surroundings and the privilege of strolling through the local terrain without fear of being imprisoned for trespassing. Perhaps some of your readers may define freedom in the same way.

He finds enormous physical pleasure and sensual stimulation in living and working in the woods, contrasting his life favorably with that of so many of his peers; poor factory girls forced by necessity, as well as wealthy Concord burghers who are free to live as they like. He claims that living alone and apart from people opened his eyes to the possibilities of friendship and connection with nature. Thoreau makes it clear that he is not establishing universal norms. However, his experiment beside the pond demonstrates that, for those willing to try, living healthily in nature is possible. It also implies what we might give up in order to live a more urbanized life.

Thoreau, seeing the dangers of urbanization, emphasizes the "desire to stay away from metropolitan, industrialized places." Overcrowding in cities contributes to overpopulation, which encourages waste and pollution. Because there are too many people to feed, natural resources are depleted, forcing manufacturers to work

harder and pollute more. It's a never-ending loop that simply adds to the difficulties. We must, as Thoreau says, return to the wild in order to save our ecosystem.

Conclusion

Thoreau interrogates his audience throughout his texts, promoting existential reflection and consideration. His systematic interrogation forces readers to be introspective and discerning, promoting an ethical approach to one's relationship with nature. Thoreau has aided readers in recognizing the need for environmental preservation. Of course, Thoreau could never have imagined the current state of our environment. Thankfully, he was ahead of his time and has left behind a legacy for us to examine as a model for environmental protection.

Rachel Carson

Rachel Carson was an introverted leader who, via her book Silent Spring, helped to establish a global environmental movement that continues to inspire readers today, and there are countless things we can take from her inspiring leadership. First, we see how small actions of writing, educating, mentoring, and other such activities may genuinely ignite change in the world. Rachel Carson also demonstrates how a common ordinary scientist can attract the attention of an entire nation, as well as the entire world, by raising awareness of a huge disregarded concern, such as the environment, which plays such an important role in human life.

Rachel Carson contribution to environment

During the 1960s, Rachel Carson was a leading champion for social justice in the United States. She did not, however, advocate for LGBT rights, Feminism, or the Civil Rights Movement; instead, she tried to raise environmental consciousness by advocating for a cleaner Earth. Concerns about DDT were growing among wildlife biologists, which was controlled by the US Fish and Wildlife Service, and elsewhere by the time Carson became interested in pesticides in the mid-1940s. Concerns over pesticides' negative impact on birds and flora sparked high-profile lawsuits from homeowners who wanted the aerial spraying to stop.

Carson worked as a science editor for the US Fish and Wildlife Service, a New Deal-era organization. She freelanced for The Atlantic and Reader's Digest, among other magazines, since she wanted to be a writer. She wrote on everything from where to go for summer vacation to what to do with the catch of the day to the life cycles of sea critters, all inspired by her love of the sea. Carson believed that people would only conserve what they cared about, therefore she attempted to instill a sense of awe in people about nature. She used simple and occasionally emotional narratives about the oceans in her works "The Sea Around Us," "The Edge of the Sea," and "Under the Sea-Wind" to convey complicated ideas about the inner workings of largely unseen things.

Rachel Carson's greatest gift was writing, and her book Silent Spring, which inaugurated the modern environmental movement, was her most important contribution to the world. Carson campaigned to rid the United States of lethal

pesticides like DDT, which were widely used in agriculture and other areas. Chemical firms' hazardous pesticides harmed all parts of the food chain, starting with birds and working their way up to humans; as a result, Carson sought to preserve human health as well as wildlife and the environment.

Rachel Carson is a strong proponent of both the environment and human rights, as her scientific career focused on enhancing the quality of life for all people on the planet. Rachel Carson has been dubbed the "Father of the Modern Environmental Movement," with some putting the release of Silent Spring in 1962 as the starting point. The thesis for Silent Spring is based on multiple verifiable and scientific evidence of agricultural and industrial chemical use and abuse.

"Silent Spring" was more than a study of synthetic insecticides; it was a critique of the late 1950s. In the interest of progress, Carson maintained, humans should not aim to govern nature through chemicals. Technology, in Carson's opinion, has the potential to irreversibly damage the natural order.

Carson had no plans to become an ecologist or a chemist. Her credentials indicated that she was a relative newcomer to pesticide research. Her ability to be an informed voice for science may have been harmed as a result of this. Carson's broader focus, on the other hand, allowed her to synthesize the work of a number of researchers. Carson, for example, used data from a variety of sources to present her thoughts on the causes of cancer in people. As a result, she was able to spot repeated patterns that pointed to a relationship between pesticides and cancer. While her conclusions were

based on the work of others, some of which have subsequently been refuted, her broad conclusions regarding dangerous chemicals in the environment remain unchallenged today.

Carson's pesticide argument was both specific and broad. Her particular thesis focused on how people utilise and apply chemical pesticides. Carson did not advocate for the banning of all pesticides. She proposed that where and where the harmful effects of chemicals could be managed, selective use of chemicals would be beneficial. Only the indiscriminate application of particularly potent pesticides caused difficulties.

Contributions to ecology

The growth of ecosystem ecology and new breakthroughs in evolutionary theory had a significant impact on Carson's environmental thinking. The ecosystem concept evolved for Carson as the foundation of a major challenge to the notion of human dominance over nature. She maintained that the modern revelation of "the fact that man, like all other living beings, is a component of the earth's vast ecosystems, subject to environmental factors," was on par with Darwin's theory of evolution.The obvious conclusion of such an evolutionary-ecological perspective is that "man is affected by the same environmental variables that control the lives of all the many thousands of other species to which he is evolutionary related."

Conclusion

Carson appears to have been equally worried, if not more so, about the destruction of natural nature and the resulting human loss. Rachel Carson produced many essays in the

1960s that sparked widespread concern about pesticides' impacts on nature and humanity. She wrote the well-known book "Silent Spring," which influenced government policy and raised public awareness. Carson was a naturalist and scientist first and foremost. Her grasp of the devastating ecological forces at work in modern civilization, however, propelled her into the role of radical critic.

Gandhi vision on environment

Introduction

Despite the fact that Gandhi was not an ecophilosopher and can only be described as an environmentalist with difficulty, he strikes a striking chord with all people who have cared for the environment, practiced vegetarianism, valued the values of nonviolence, resisted developer depredations, or granted animals the dignity of humans. Gandhi's true significance as an environmentalist does not lay in his vision and correct understanding of the man-nature interaction. He made sincere efforts to put his ideas into practice.

Gandhi views on environment

Gandhiji's environmental beliefs are extremely valuable to us now. He did not speak directly about the environment, however, because his thought was shaped by the social condition of the time. Gandhi was a one-of-a-kind guy of the last millennium who had a human and global perspective that was beneficial to the international community's welfare, and who considered both human existence, human continuity, and humanity's survival in

sense and substance. His environmental viewpoints provide a practical means to improve one's quality of life.

Gandhi thought that there is yet hope in the global age to turn consumerist lifestyle into good living in full cooperation, coordination, and harmony with nature. Gandhi had warned the world about the challenges of large-scale industrialization, which we are currently facing, far before any modern-day environmentalist. Gandhi predicted that mechanization would lead to not only industrialization, huge urbanization, and unemployment, but also to environmental damage. His ground-breaking effort,Hind Swaraj, written a century ago in 1909, foresaw the perils that the world faces now, such as environmental damage and the damage to the planet. Because Gandhi emphasized mass production over mass production, his idea becomes even more essential when it comes to achieving sustainable growth and development. This, he claims, will lead to the establishment of an economic system capable of minimizing environmental deterioration and achieving long-term development. His concept of Swaraj, or self-rule, allows for practical, long-term growth that does not jeopardize people's quality of life.

Gandhi vacillated on whether human life was superior to non-human life because he considered all life sacred. He believed that it is, for the most part, because of human logic and morality. However, the supremacy is not 'absolute,' because nonhuman species, like humans, are of the same nature and deserving of respect in the universe. It is without a doubt a part of Ahimsa for him not to harm any living thing. In addition, Gandhi believed that creatures discovered in nature should be protected. Non-killing of animals in general might be considered an obligation for

those who follow the ahimsa path. The Gandhian concepts of Satya and Ahimsa can be effective in reducing individual and societal greed. In this way, his vision of nonviolence included all living beings and embodied the everlasting ideals of life in his thoughts and acts.

His interest for environmental conservation is seen throughout his ideas. At the same time, it makes us aware of the importance of a healthy environment for our survival. Instead of a life based on machines, he proposes a natural and happy life centered on the modest and self-sufficient unit of a village.

We must avoid or limit the use of machines if we are to save the ecosystem from destruction. Gandhiji's support of Khadi and Village Industries is more vital today than it was during the liberation war. Gandhiji's Constructive Programme should be read. Women and Harijans are still not treated equally in our society. In rural India, health and cleanliness are in short supply. In the constructive programme, many other facets of life are explored.Adopting some of his suggestions will be the first step toward environmental preservation. It should be remembered that Gandhiji recognized renewable energy sources, the perils of large-scale industrialisation, and the perils of environmental degradation eight decades ago, when he focused more on nonviolent rural upliftment and the use of labor-intensive manufacturing techniques.

Sarvodaya is a notion that is akin to sustainable development and is an aspect of environmental ethics. Gandhi's concept of Sarvodaya entails a healthy development and environment that man can create in order to live in harmony with nature and other living beings.

Gandhi did not recognize separate norms for different areas of human life, but instead saw all realms as one, exemplifying the human ecological worldview best. What he preached and lived relates to what we now refer to as environmental protection and living in peace with nature.

Gandhi had underlined the value of natural resources and the need to protect them. This has a direct impact on the connection between man and the environment. The significance of Gandhian philosophy is evident in the current day, in which human beings' lifestyles have evolved in a direction of excessive consumerism and waste generation. This has a two-way effect on the environment. To begin with, the rate of resource depletion has grown dramatically, and the presence of toxicity in the air, water, and soil has grown as well. In fact, he spoke on a variety of topics related to environmental preservation, such as sanitation, cleanliness of the environment, hygiene, air and water purity, the importance of sunlight, and so on. Sanitation and cleanliness were given top attention by him. In fact, he was extremely worried and troubled by our people's unsanitary and polluting habits.

Gandhi backed the Chipko movement to ensure that people are committed to environmental preservation, pollution control, wildlife preservation, and doing everything possible to ensure that the precious Earth on which we live is not plundered for profit and destroyed by human folly. Furthermore, he did not believe that there should be a contradiction between "growth" and "ecological concern," meaning that "development" refers to the material and objective foundations of existence, whilst "ecology" refers to non-material and spiritual qualities such as scenic beauty. According to Gandhi, there was no conflict between

development and ecology; rather, he emphasized the importance of ecologically healthy development. Today, having ecological stability has become the mantra for everyone, as it gives the best guarantee for guaranteeing a solid material base for living for all.

Gandhi is a fervent supporter of a life pattern built on three cardinal principles: simplicity, equality, and justice. Slowness and diminution. Modernity complicates life by increasing the number of daily requirements. In reality, it is entrenched with this level of complexity. A complicated life is unlikely to be serene and happy in the end. Tension and frustration, on the other hand, are associated with it. A simple life is one in which only the fundamental requirements of life are required. It's a contented life, a pleasure, some austerity experiment.

Gandhi thought that a good life could only be lived in a small group of people. Big cities, he believed, were hotbeds of corruption and all manner of vices. As a result, he remained a staunch supporter of village life throughout. India, he added again, resided in her villages. What he was attempting to convey was that the village was where India's soul resided; that village life is the ideal life, and that India should live in villages. This is, in fact, his general prescription for a happy existence. It's a life of peace and calm, inherent simplicity, and living in closeness to nature.

Conclusion

Gandhiji was an environmentalist who saw the big picture. Today, when we have distanced ourselves from nature, Gandhiji's advice to live close to the fundamental components is worth following. Gandhiji, a great believer in

natural living, emphasized the importance of the five natural elements: air, water, earth, light, and sky, which are all necessary for existence. Nature has deteriorated as a result of man's progress and growth. He has taken full use of nature in his endeavour to meet his requirements. In these circumstances, Gandhiji's famous remark "The world has enough resources for our needs, but not for our greed" comes to mind.

2.3. Anthropocentrism, Anthropocene and Deep Ecology

Introduction

Anthropocentrism is the view that value is human-centered and that all other beings are merely means to human aims, as defined by environmental ethics. Authors concerned about the environment have suggested that anthropocentrism is unethical and at the root of ecological disasters. Many people believe that anthropocentrism is unavoidable and even beneficial for environmental protection, while others believe that it is insufficient for biodiversity conservation.

Anthropocentrism

The terms "anthropocentrism" and "kentron" stem from the Greek words "anthropos" and "kentron," respectively. 'Anthropos' is Greek for 'human being,' and 'kentron' is Greek for 'centre.' So, anthropocentrism denotes "human-centeredness" etymologically. The notion or worldview that humans are at the centre of the cosmos is hence referred to as "humanism." Anthropocentrism is frequently blamed for the current environmental disaster, human overpopulation,

and the extinction of many non-human species. Because anthropocentrism can be interpreted in a variety of ways, we must first comprehend the various varieties of anthropocentrism.

Anthropocentrism can be viewed from an ethical, ontological, and epistemological standpoint. Anthropocentrism refers to the explicitly stated or implied belief that only human beings have intrinsic value, while all other natural beings and things have only instrumental value, and that human interests always trump nonhuman and environmental interests. Many non-anthropocentric philosophers feel that this evaluative and priority judgement indicates an arbitrary prejudice.

Ontological anthropocentrism: - Anthropocentrism is an ontological perspective in which humans are considered as the center of the universe or the purposes of creation. It is sometimes referred to as Aristotelian or Thomistic. Environmental philosophers frequently mix ontological and ethical stances in both their critiques and positive nonanthropocentric recommendations, despite the fact that, as Tim Hayward pointed out, ethical anthropocentrism does not always imply ontological anthropocentrism and vice versa. Many self-identified Christian, Jewish, and Islamic anthropocentric environmental philosophers, on the other hand, are both ontological and ethical anthropocentists, rooting the latter in the former.

Anthropocentrism is a tautological epistemological position: all human values are human values, including the inherent value that ethical nonanthropocentrists place on nature. As a result, no ethical nonanthropocentrist can be a self-consistent nonanthropocentrist, despite the fact that this

truism is frequently missed or ignored during the anthropocentrism-nonanthropocentrism argument.

Epistemological anthropocentrism: - Epistemological anthropocentrism is a philosophical viewpoint in which every discussion of knowledge begins with a study of consciousness, a stance in which the sole subject and goal of philosophical analysis is human awareness. According to this viewpoint, we can only speak of knowledge in terms of human beings. Epistemological anthropocentrism can be found throughout the history of contemporary philosophy, most notably in Descartes, Locke, Leibniz, Berkeley, and Hume, as well as in Kant's philosophy. Kant, for example, looks for the meaning of what is in the subject and claims that the truth of judgments is founded on internal subjective relations rather than a correspondence of their contents with an acknowledged or denied state of events that exists objectively.

Anthropocentrism is sometimes confused with other terms that come up in talks about the human-nature interaction, like anthropomorphism and anthropogenic. The first phrase refers to the practice of ascribing uniquely human characteristics to nonhuman people or entities. The second term simply implies "human caused" as opposed to "naturally occurring," as in anthropogenic climate change.

Ethical anthropocentrism:- Anthropocentrism, as used in environmental ethics and philosophy, is a viewpoint in which nonhuman nature is valued primarily for its ability to satisfy human tastes and/or contribute to larger human goals and interests. Individual plants and animals, populations, biotic groups, and ecosystems are only given instrumental,

rather than intrinsic, worth in the anthropocentric worldview.

The historian Lynn White, Jr.'s 1967 piece in the magazine Science, "The Historical Roots of Our Ecologic Crisis,' ' was one of the most influential impacts on the growth of the anti-anthropocentric agenda in environmental ethics. White's article sparked debate, primarily because of its scathing judgement of the Judeo-Christian tradition's environmental ethic. According to White, the Genesis creation narrative places humans in a superior ontological position: Man was created distinct from the rest of Creation, and he alone was given ''dominion" over the earth's creatures and ordered to ''subdue" them as well as the world.

White's argument, particularly his identification of anthropocentrism as the root of the ecological problem, had a significant impact on environmental ethicists' work in the decades that followed. Since the publication of White's paper, non-anthropocentric environmental philosophers have concentrated their efforts on undermining both ontological and ethical anthropocentrism as a philosophical attitude toward nature and developing an alternative worldview and ethical framework that recognises both the inherent and instrumental importance of nature.

However, some environmental ethicists contend that anthropocentrism detractors are misinformed or even misanthropic. They argue as follows:

- By failing to discriminate between acceptable and illegitimate human goals, anthropocentrism can be harmful and misleading.

- Because humans have such a wide range of environmental affects, resolving human disparities should be a precondition for environmental protection.

- Because ecosystems provide humans with a "life-support system," anthropocentrism may and should be a potent motivator for environmental protection.

- Human self-love is not only natural, but it's also a good place to start when it comes to loving others, especially nonhumans.

Conclusion

Despite the expanding number of anthropocentric environmental ethics theories and the grim potential of global climate change's impact on humans and human interests, non-anthropocentrism remains the mainstream philosophical viewpoint in the subject. Furthermore, non-anthropocentric philosophers are committed to using non-anthropocentric arguments to supplement anthropocentric arguments in ethical and policy debates.

Anthropocene

Introduction

Humanities researchers have begun a spirited debate about the philosophical, legal, artistic, pedagogical, and cultural ramifications of the Anthropocene, while earth scientists address the hard facts of geological layers. The Anthropocene, according to most academics, is a novel and broadly defined paradigm for rethinking the relationship between nature and culture, environment and civilization. The Anthropocene thesis, in their opinion, goes beyond the

primary premise that humans alter nature to offer new forms of knowledge creation, politics, culture, and lifestyles.

Origins of the Anthropocene concept

Crutzen and Stoermer coined the term 'Anthropocene' in 2000. They proposed this new word for a new geological epoch in order to "highlight humanity's fundamental involvement in geology and ecology." Following that, several comparable definitions have been proposed, but the underlying idea is that people are now a major geological and environmental force, equal to or greater than natural factors. The Anthropocene was born out of natural science in general and earth science in specific. The central assumption is that, during the last two centuries or so, humans have altered nature in such a way that a new, human-made stratum has appeared in the geological record.

Key features of the Anthropocene often include emphasis on –

(a) The global and pervasive nature of the change

(b) The multifaceted nature of global change beyond just climate change, including biodiversity decline and species mixing across continents, alteration of global biogeochemical cycles, and large-scale resource extraction and waste production

(c) The two-way interactions between humans and the environment.

(d) A sense that our planet's overall functioning is undergoing or about to undergo a fundamental shift.

The Anthropocene in social sciences

When the problems being examined are produced by humans, hurt humans, and can only be fixed by humans, social scientists have been quick to point out that the current concentration on the biophysical components of global environmental change makes little sense. There is an obvious need to understand the linkages between biophysical and social change processes, as well as to incorporate contributions from economists, geographers, demographers, sociologists, anthropologists, psychologists, and others from across the social sciences. Many authors have voiced the expectation that by understanding the difficulties we confront under the Anthropocene umbrella, diverse disciplines will be able to collaborate and develop methods to deal with global change.

All disciplines that utilize the word "Anthropocene" call for planetary stewardship and global environmental governance, implying that such a partnership, maybe centered on a global geographical database of Anthropocene impacts at first, is not an unrealistic ideal. Another common topic in the Anthropocene literature is the need for environmental scientists to communicate more effectively with political and commercial leaders, as well as the general public, reflecting the awareness that people are at the heart of both the problems and the solutions. Finally, because it acknowledges the significance of human activity, the Anthropocene notion must have a moral component, according to some.

Conclusion

The term's underlying notion is that human activity has a disproportionate impact on numerous parts of the natural world and the operation of the Earth system, and that this has ramifications for how we view and interact with the natural world—and perceive our role in it. In contrast to prior terms that attempted to encapsulate human influence on the environment. An Anthropoceneworldview might support human dominance of the natural world, with nature increasingly being viewed as a tool for control and gardening rather than a source of awe, spirituality, and respect.

Deep Ecology

Introduction

Deep ecology supporters all despise the human-centered value system that underpins European and North American industrial society. Environmental philosophy, according to deep ecologists, must recognize the values that exist objectively in nature, independent of human goals, needs, or desires. Deep ecology, in this context, refers to a phenomenologically based egalitarian and holistic environmental philosophy. One acknowledges the equal fundamental worth of all biota as well as one's own ecological connectivity with the life world in all its diversity through firsthand experience of nonhuman nature.

Origin

In his famous 1973 English-language article, ''The Shallow and the Deep, Long-Range Ecology Movement: A Summary," Arne Naess coined the phrase deep ecology.

Naess refers to a ''ecology movement" as a cosmology or worldview. Naesscriticizes European and North American civilization for its arrogance in using nonhuman nature for human purposes. He contrasts his new "deep" ecological vision with the "shallow" paradigm that is currently popular. He believes that mainstream environmentalism's narrow worldview is simply an extension of European and North American anthropocentrism.

Deep ecology, in its narrow academic sense, is based on two foundations: a biocentric egalitarianism axiology, means that the study of the criteria of value systems in ethics and a metaphysical holism ontology, the study of existence, which says that the biosphere is made up of internally connected individuals that make up an ontologically unbroken whole. Both concepts are based on an intuitive epistemology similar to Descartes' "clear and distinct" criteria- once you understand them, you can't deny their truth.

The first principle, biocentric egalitarianism—also known by other terms that combine biocentric, biospherical, and ecological with equality and egalitarianism asserts that all biota have equal inherent value and rejects differential valuation of creatures. Naess says ''The equal right to live and blossom is an intuitively evident and obvious value premise". Metaphysical holism is the second principle. Enlightenment, or ''self-realization," is one way to comprehend ontological interdependence. The self's ontological bounds expand outward, absorbing more and more of the surrounding universe.

Deep ecology that usually expresses the following ideological principles:

1. Human and nonhuman life on Earth's well-being and flourishing are valuable in and of themselves. These values are unaffected by the non-human world's use for human needs.

2. The richness and diversity of life forms both help to realize these ideals and are valuable in and of themselves.

3. Except to meet critical requirements, humans have no right to reduce this richness and diversity.

4. A significantly decreased human population is compatible with the flourishing of human life and cultures. Non-human life needs a lesser human population to thrive.

5. Human intervention in the non-human world is currently excessive, and the situation is quickly deteriorating.

6. As a result, policies must be altered. These policies have an impact on the foundations of the economy, technology, and ideology. The eventual situation will be vastly different from what exists now.

7. Rather than adhering to an ever-higher standard of living, the ideological shift will focus on enjoying life quality. There will be a clear understanding of the distinction between excellence and bigness.

8. Those who agree with the preceding points have an obligation to try to make the necessary changes, whether directly or indirectly.

The eight criteria were established by Arne Naess in partnership with George Sessions and are updated on a regular basis to ensure that they do not approach a dogmatic

certainty that is incompatible with the movement's claim to flexibility. Deep ecology has been adopted as an ideological platform by Earth First, an American radical group known for spiking trees and conducting theatrical protests against logging firms and the Forest Service. Social ecologists have criticized it, claiming that it is a politics based on naive nature worship rather than a rigorous study of our culture's unequal social arrangements.

While deep ecologists may be relativists when it comes to social values, they do argue for a single set of 'correct' attitudes, as defined by ecological principles, that should be shared by all civilizations. 'Although humans have unique traits as a species, they are nonetheless subject to the same ecological rules and restrictions as other animals,' meaning a reliance on 'limited' natural resources and a need to reduce pressure on the planet's carrying capacity through population management. This indicates that under existing social systems, profound social change—society-nature relationships—cannot be substantially modified. Those who claim they can are labeled as "shallow ecologists," technocrats and managers who claim that conclusive proof that our current methods are damaging the planet has yet to be found.

Deep ecology's approach to social change centers on individual consciousness transformation. The most important thing each person can do is adjust their attitudes, values, and lifestyles to emphasize respect for and peaceful coexistence with the environment. When a sufficient number of people have done so, the entire society will alter.

Conclusion

Deep ecology thus acknowledges science's achievements, but maintains that they are insufficient to sustain our biosphere's life-giving properties. Some see climate change as a global threat that will finally persuade us that we need to change the way we define our species in relation to nature by uniting people around deep ecology principles. Climate change has attracted philosophers' attention in recent years, moving beyond prior appeals for acknowledging the value of nature in and of itself, and the more lighthearted notion that human society could be made more "sustainable" by using less energy and not increasing at an intractable rate.

2.4. Green dilemmas: Consumerism and Environmentalism

Introduction

Relationships between consumers and producers have evolved significantly through time. Consumers in the West, for example, are increasingly incorporating new criteria like as 'value for people' and 'value for the environment' into their product and service selections, in addition to the traditional criterion of 'value for money.' The increased public knowledge that wasteful lifestyles and over-consumption have highly serious environmental implications is the driving factor behind those changing attitudes and behaviours.

Green consumerism

The advent of environmentalism, the introduction of environmental responsibility in the business sector, and the

introduction of awareness about the environmental problem in consumption and lifestyles of elitist social classes are all aspects that contribute to green consumerism. International organizations, governments, public institutions, private corporations, and society in general have been taking steps to establish this mindset since the 1970s.

The most powerful motive in green consumption, according to Vining and Ebreo, is environmental. The usage of high technology is the second motivating reason, in which consumers value the introduction of high-quality technologies because they believe they contribute to a higher standard of living. Finally, the influence of marketing or promotional strategies used to sell green products to consumers is the third motivating reason. Although little research has been done on this motivating factor, it has been shown that it has a bigger impact on the consumer depending on their age.

Green consumer behaviour, also known as pro-environment consumer behaviour, favours environmental issues and concerns. It will guide businesses in developing and structuring policies that are environmentally friendly. Green consumer behaviour is defined as a pattern of conduct in which consumers recognize and comprehend the issues, causes, and concerns involved with ecosystem depletion and degradation, which results in adverse repercussions on the world. Environmental structuring has degraded as a result of a huge number of human acts, resulting in the emergence of environmental inequities

Importance of Green Consumerism

Green consumerism is a holistic and responsible management strategy that meets, recognizes, fulfils, and predicts the demands of stakeholders while preserving the environment's natural well-being and not endangering human health. As a result, the following are some of the benefits of consumerism:

1. Reduced waste in packaging

Green consumerism promotes the use of less expensive packaging. It has social attitudes such as a preference for loose produce such as vegetables and fruits over pre-packaged foods. It also stimulates the reuse of paper and plastic packaging bags and tins, which are frequently responsible for environmental degradation.

2. Increased energy efficiency

Green consumerism promotes energy efficiency, which saves money, lowers utility costs, reduces greenhouse gas emissions, and allows economies to meet rising energy demands. Environmental and economic benefits of utility systems, as well as risk management associated with inefficient production processes, have all been achieved through green consumerism.

3. Decreased release of emissions and other pollutants during production and transportation processes

Green consumption has resulted in significant reductions in emissions from the transportation and manufacturing sectors. Furthermore, strict emission limits have been enacted as a result of green consumerism advocacy and

initiatives, resulting in decreased emissions from engines and motors and the advancement of clean-burning fuel sources.

4. Consumption of more healthy foods

There has been a growing need for more environmentally friendly food production as a result of green consumerism advocacy. As a result, consumers are progressively building a culture of purchasing more organic and local food, which is presumably healthier because it is grown or produced without the use of artificial chemical fertilizers, antibiotics, hormones, or pesticides.

Many businesses are attempting to go green, and an increasing number of consumers are seeking to associate themselves with environmentally friendly products. However, incorporating green marketing into a firm is a difficult task. While pursuing green marketing, the company will confront numerous hurdles, limits, and problems. The following are some of the hurdles, restrictions, or problems:

● Green products necessitate the use of expensive renewable and recyclable materials.

● Requires a technology, which necessitates a significant investment in research and development.

● Standardization is required.

● For the masses, a new concept.

● The vast majority of people are unaware of green products and their applications.

● The majority of consumers are unwilling to pay a premium for environmentally friendly products.

● Customers may not believe in the company's Green marketing strategy.

● Only in the long run will green marketing be successful.

● The company may abandon the Green marketing concept or be forced to use unethical methods to cut costs in order to stay competitive, making the entire concept of going green a circus.

● Green marketing firms must work hard to persuade stakeholders, and there will always be those who refuse to believe and cooperate.

● The economic aspect of marketing should not be overlooked when it comes to green marketing. Marketers must be aware of the consequences of green marketing.

Green products are those that are environmentally friendly, such as organic products, energy-efficient products, and products that are devoid of chemically hazardous ingredients. As a result, green consumption refers to the fact that when consumers buy, use, or dispose of things, they consider their influence on the environment in order to limit possible pollution and increase long-term benefits, such as buying tiny, energy-efficient cars rather than large, high-energy-consumption cars, and recycling and reusing waste items rather than tossing them away.

Although using green items is good for the environment, paying higher prices for low-performance products and

switching to a different mode of consumption costs more. Green consumption is thus an expression of altruistic or prosocialbehaviour. However, there is a disconnect between mindset and conduct when it comes to green consumption. .

How can promote green consumerism?

One of the simplest ways to communicate and educate consumers about environmentally friendly items is to use the 'Green Dot System.' Because they feature a green dot on the top of their package, an average educated customer may quickly identify an environmentally friendly product and separate it from other products in industrialized countries.

There is a need to raise consumer knowledge of environmental issues and provide environmental education. The influence of environmental issues on all humankind has gradually been apparent during the previous two decades, as is evident. Environmental concerns have gotten so serious that some scientists feel they may jeopardize human life's future survival. Consumers, as we all know, have a significant role in environmental degradation. Many of the world's tropical forests have been chopped down for fuel or for subsistence farming; many of the world's tropical forests have been chopped down for fuel or for subsistence farming.

To attain the above goals, environmental education should be introduced at the elementary and secondary school levels, so that environmental awareness can be instilled in the brains of customers at an early age. Environmental education should be made a part of the formal education curriculum at all levels, according to the World Commission on Environment and Development, "to

promote a sense of responsibility for the state of the environment and to teach students how to monitor, protect, and improve it."

Business ethics, in general, and environmental ethics, in particular, must be improved. Environmental protection is an important aspect of corporate social responsibility. Business plans must encompass not just commercial but also social objectives. As part of their broader social obligation, producers and manufacturers must strive to make as many environmentally friendly items as feasible, even if the production and/or packaging of such products may be more expensive than basic ones. Consumer advocacy groups may need to keep a close eye on this as well.

There is a need for the media to lend a hand to consumer advocacy groups and environmental organizations. The media's importance can be seen from at least two perspectives. To begin, the media is expected to quickly and publicly expose environmental violations in order to warn the public about the serious effects of such violations as well as potential violators. Second, and more crucially, the media should play an active role in raising public awareness about the need for environmental cleanliness. Consumer groups must make effective and constructive use of the media to inform and educate customers about the need of buying green products, hence fostering green consumerism.

Conclusion

Green consumerism has the potential to dramatically lessen our environmental impact. As a result, anybody concerned about the future should be able to distinguish between

"green" and "ungreen" consumerism. However, there are several important limitations to the success that can be accomplished by a person's firm commitment to that choice. Building a better society necessitates not just individual efforts, but also communal activities and political and institutional reform based on a clear understanding of the concept of ecological sustainability and the limits of expansion.

Environmentalism

Introduction

One of the most powerful and long-lasting social movements of our time is environmentalism. The modern environmental movement, which exploded onto the American scene in the late 1960s, has not only taken root in the United States, but has also spread around the world. The environmental movement is largely regarded as one of the most successful social movements of the late twentieth and early twenty-first centuries, particularly in terms of garnering widespread societal support of its goals, and it is likely to play an important role in regional, national, and global politics in the future.

Historical origins of environmentalism

Environmentalism is a movement that may be traced back to the works of persons like Henry David Thoreau and Aldo Leopold, who recognized numerous benefits in natural, unmanaged ecosystems and believed in the importance of treating the environment with respect. Concern for the natural world and its protection from excessive human destruction is defined by the word "environmentalism."

Environmentalists are persons who are concerned about environmental issues and actively try to address them. They are persons who advocate for limiting human population increase and promoting environmental conservation and sustainable management of renewable resources. Environmentalism represents a desire to preserve and sustain specific values and circumstances in the environment in the face of increasing human pressures and demands on it.

Environmentalism is the paradigm we need for sustainable resource development and conservation. It is defined as a system that integrates inputs from the sciences, both biophysical and social, and "green" belief systems with the needs and aspirations of human civilizations.

The origins of modern environmentalism have discovered a variety of roots in ancient Greek political ideologies, religious doctrine interpretation, and scientific developments during the Enlightenment. Romantic poets and artists such as William Blake and William Wordsworth were vocal advocates for the preservation of natural beauty during the 18th and 19th centuries, as part of a larger reaction to the scientific revolution, which conceptualized nature as a machine rather than a constellation of living organisms.

Many of these studies share common ground, particularly in terms of identifying a convergence of early concerns about the effects of industrialization and urbanization on nonhuman nature, which coincided with allied discussions about the need to conserve and preserve specific rural and agrarian landscapes in the late nineteenth century. These concerns and debates have long been regarded as

forerunners of modern environmentalism, which is generally regarded as having emerged in the 1960s. The inclusion of societal considerations in environmental debates, a broadening of the social base of those participating in these debates, and the emergence of pressure groups across Western countries following World War II are all hallmarks of the modern era of environmentalism. Simultaneously, the consequences of environmental disasters were being transmitted to a wider audience via mass media and popular books.

The persistent denial of scientific evidence of human-induced changes to our global climate and the subsequent influences on environments around the world by a small number of high-profile and often wealthy individuals and organizations in the early decades of the twenty-first century was most clearly manifested by a backlash against environmentalism. In the second decade of the twenty-first century, populist governments from Brazil to the United States ran on a platform of repealing environmental legislation and opposing global environmental agreements that had been meticulously negotiated and fine-tuned over decades.

Types and contributions of environmentalism

Conservative environmentalism: -Conservatism emphasizes 'conservation' and gradual, incremental change in society. Conservatives emphasize the value of generational connections between those who have gone before, those who are alive now, and those who will be born in the future. The countryside and hunting are important aspects in environmental conservation, and conservatism is often associated with anti-industrialization, anti-urbanism,

and pro-hunting. Environmentalism is mostly a preoccupation of the countryside, small towns, and 'historic' cities. The preservation of historic structures and townscapes is a common focus of urban environmental concern. Despite the fact that both are Roman settlements with significant 'historical' significance, Bath appears to be more worthy of preservation than Manchester.

Socialist environmentalism:-Capitalism, socialists contend, exploits both humanity and the natural environment. Only by moving toward a post-capitalist society will environmental goals be accomplished. Many Marxists regard environmentalism as a distraction from the class fight, whereas some socialists regard it as even more vital. Environmental socialists believe that class conflict unjustifiably postpones the need for environmental improvement. Recycling, increased use of public transportation, and energy efficiency are all examples of green lifestyles that require immediate planning, tax, regulatory, and other reforms.

Liberal environmentalism:- Liberals think that the "market" can assist in the resolution of most environmental issues. The key issue is that 'public goods,' such as clean air, fish, and water, a beautiful environment, and wild animal species, are all considered to be 'free.' People have an incentive to use up a finite free resource before it runs out. The market's failure to appropriately safeguard the environment stems from government laws that distort markets, as well as a lack of value placed on the environment by individuals and corporations. Indeed, the latter take advantage of the environment by contaminating and harming the environment as a result of their actions and then leaving society to clean up the mess, lowering

their own expenses. Create a well-functioning market in which people bear the full costs of their activities, and you'll be on your way to improved environmental protection.

Feminist environmentalism:-This word refers to the concept that male oppression of women and male oppression of Mother Earth are linked as a result of male power and dominance beliefs in the human and natural world. Because of their critical function as mothers and caregivers, women have a unique role in green politics.

Future of Environmentalism

With each blow of environmentalism, new alliances and generations of environmental activists are emerging, the reason being that the wrong Hobson choice is being introduced, low pay and the choice of jobs that are harmful to the environment.Environmentalism is not dead, according to hopeful voices like Chiara Certomà, but it is adapting in the face of new socio technical and socio ecological realities, increasingly incorporating nonhuman actors and more-than-human networks to supplement its social configurations.

Others, such as Paul Wapner, have questioned if the long-held belief that environmentalism is basically about the defense of nature against humans, as if nature were a distinct category, has now lost its legitimacy. McKibben has pointed out that, Human actions are increasingly obvious everywhere, including in the earth's geological structures.

There is no agreement within the field of environmentalism, in its broadest sense, that environmental problems require human attention at all. There have been cases presented,

sometimes dubbed Promethean or cornucopian, which reject the presence of acute environmental concerns, which are logically recognized as an extreme position of the technocentric camp of environmentalism. This view argues that humans not only have the ability to overcome any obstacles they meet, but that these obstacles actively spur innovation, and that many of the environmental worries raised by more radical environmentalists lack a rational, scientific basis.

Conclusion

In many nations, environmental activism has a long history, despite the fact that it was not commonly characterized as environmentalism until recently. This is especially true in the world's poorer countries, where colonization and imperialism have historically challenged not only natural resource bases but also the life and livelihood of local peoples. Such historical threats have not vanished for many individuals in poorer countries.

MODULE 3

Theoretical Perspectives in Environmental Sociology

3.1 Duncan's Ecological Complex: POET Model

Introduction

Otis Dudley Duncan, a sociological human ecologist, coined the phrase "ecological complex." Duncan makes an attempt to apply general ecological principles to the study of human ecology. Duncan created a simplified version that focused primarily on humans and highlighted unique aspects of human life. The four components of the ecological complex-population, organization, technology, and environment-emphasize that human populations rely heavily on social organization and technology to adapt to their environments. As a result, rather than attempting, the ecological complex allows human ecologists to focus on human populations by understanding humans as just one species in a multi-species ecosystem.

Ecological complex and POET model

The term 'environment' is used to refer to all parts of the ecosystem that are not related to human populations, social organization, or technology. The ecological complex depicts the interaction of people, organizations, technology, and the environment. Each of the four elements is linked to the others, showing that they are "functionally interdependent." Because of this web-like interdependence, any change in one piece is likely to affect all of the others, and hence the entire complex. Duncan contends that the
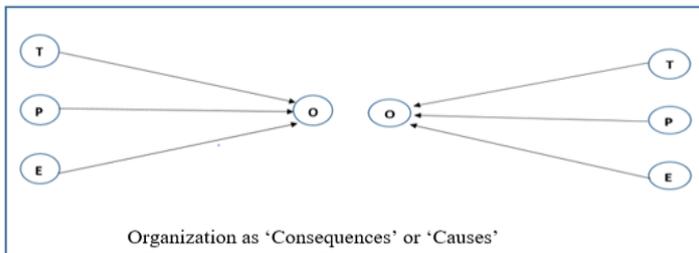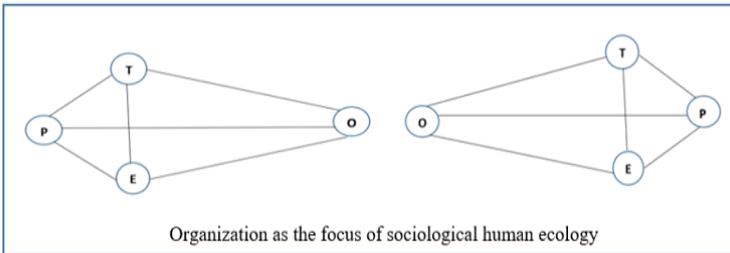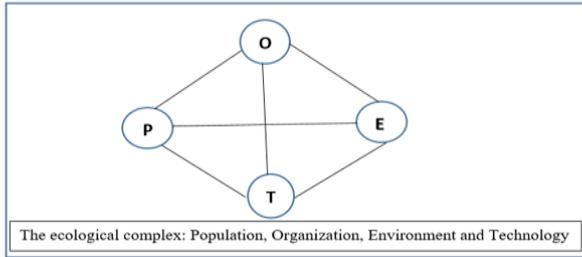
ecological complex provides a somewhat arbitrarily simplified means of identifying clusters of interconnections in an early account of ecosystem processes, notwithstanding its anthropocentric emphasis on humans.

Duncan is interested in how human aspects in the ecosystem appear to be focal points for these processes. In brief, the ecological complex is a useful conceptual tool for understanding the intricate interactions between human populations and their ecosystems. However, some sociological human ecologists have failed to recognize the concept's simplicity and have mistakenly equated the ecological complex with the ecosystem.

The term 'environment,' as used by sociological human ecologists, does not signify the same thing to the general public or biological ecologists. While the ecological complex's 'environment' has been widely described as "any phenomena, including other social systems, that are external to and have influence upon the population under study," in reality it has been considered as a social, or at best spatial, variable devoid of any physical substance. The ecological complex, a basic concept in sociological human ecology, can provide a valuable framework for organizing the large range of phenomena pertinent to environmental sociology in a cohesive manner.

Duncan's POET model, which recognizes interdependencies among population (P), social organization/structure (O), and technology (T), while maintaining that all three are important drivers of environmental problems (E) and have repercussions for one another and the environment itself. Key innovations include the examination of ecological

elements as both predictors and outcomes, as well as the modeling of feedback loops across all parameters.

The ecological complex: Population, Organization, Environment and Technology

Organization as the focus of sociological human ecology

Organization as 'Consequences' or 'Causes'

Adapted from Duncan

Source: https://www.researchgate.net/publication/229703160

Duncan's work articulates a conceptually rich, logically persuasive, hypotheses-derived framework that is open to empirical specification and analysis in the human ecology tradition. Following that, empirical applications

demonstrate the POET model's viability across a variety of themes, but not limited to demography, disasters, and agriculture. Cases in which POET is used in practice encourage testing and theoretical refinement. The holistic approach of the POET model provides a valuable framework for investigating the links that connect societal–environmental interactions.

Landfills can be seen as components of both the T and E words in terms of human ecology, as they are a technology designed to control waste's environmental strain. Indeed, population growth and density are driving forces behind the need to handle waste in an orderly and technical manner (P, E, O, T). The expanding environmental burden of garbage influenced social organization and technology through the establishment of waste collection routes and landfills, and the organization of social and technical responses to trash has altered environmental quality in landfill-affected areas.

 In mutually reinforcing ways, the social organization surrounding landfills reflects changes in environmental quality via accompanying losses of land and housing values. To elaborate, there is conflicting evidence that the arrangement of political and economic institutions places a disproportionate cost of environmental externalities   on vulnerable people. Simultaneously, communities' closeness to polluting and toxic land uses lowers the value of the land and dwellings in the area, potentially affecting population organization in ways that exacerbate inequality. Additional feedback effects are likely to occur as communities restructure to avoid unpleasant land uses such as landfills.

Furthermore, environmental crises, such as natural disasters, dramatically increase the amount of garbage that

communities must handle in order to reorganize their populations following calamities. Concerns about disasters prompted the federal and state governments to organize in order to standardize disaster response and management. Finally, we place organizational and technological contributions to engineering catastrophes inside the POET paradigm, noting how these arrangements magnify the severity of their catastrophic impacts.

The POET model is a really useful framework for thinking about nature–society interactions in general, and it's especially good for our specific focus on population, organization, environmental crises, and the distribution of technical responses to control environmental pressure. Given the growing body of research demonstrating the political and economic dynamics that shape all of the components that make up our analytic focus, such as the patterns of environmental injustice discussed above, it's critical to combine the POET model with a political economics lens that takes these dynamics into account. We use a human ecology approach to environmental injustice to do this.

The ecological complex and environmental sociology

Environmental sociology is defined by the importance placed on the environment as a factor that can influence, and in turn be influenced by, human behaviour. Environmental sociologists are interested in the interaction between the environment and other parts of the ecological complex, which is the organizational emphasis of sociological human ecologists. The other three elements—population, technology, and organization, though with slightly different names—have long been referred to as the

"social complex" by Park. Environmental sociology can thus be thought of as the study of the interaction between the physical environment and the social complex.

The concept of the social complex emphasizes the fundamental distinction between the environment and the other components of the ecological complex. P, T, and 0 are fundamentally social variables, because both technology and organization are created by human populations. As a result, it is reasonable to regard these three components as forming a 'complex' that is analytically separate from the environment. Furthermore, emphasizing the interaction between the social complex and the physical environment aids in restoring the ecological complex's utility, which has been lost as a result of sociological human ecologists' preoccupation with the social environment.

Human ecologists look at aggregates such as nations, cities, racial groups, and so on, rather than individual players. When the major objective is evaluating the antecedents and implications of social organization, this level of study is perfectly suitable. When we want to look at the full range of human interaction with the physical environment, however, it becomes too limited.

Just by taking into account not only the organizational structures of human collectivities, but also their shared cultural values and the personalities of their constituent individuals can we produce a healthy physical environment. This entails using the more broad term 'social organization' instead of the three-part distinction of cultural system, social system, and personality system. Despite their obvious interdependence, the three systems are frequently viewed as analytically different in the social sciences.

Conclusion

The physical environment can be influenced by each aspect in our expanded version of the social complex: population, technology, cultural system, social system, and personality system. As a result, this is the model for our proposed environmental sociology analytical framework. Environmental sociology, we believe, should investigate how population, technology, culture, social systems, and personality systems influence the physical environment, and how changes in the physical environment may alter population, technology, culture, social systems, and personality systems.

3.2 Dunlap and Catton's Ecological Explanation

Introduction

Catton and Dunlap both worked with notable environmental sociologists such as Eugene Rosa, Loren Lutzenhiser, Lee Freese, and William Freudenburg for a substantial part of their careers. The work of Catton and Dunlap was significant because it opened up a vast swath of new territory for sociological investigation. It paved the way for a growing body of sociological research that studies both human influences on the environment and environmental consequences on society. Catton and Dunlap coined the term "new human ecology" to describe a tradition that they believed was at the heart of environmental sociology.

Ecological explanation

Housing and design, urban planning, social impact assessment, outdoor recreation, resource management, energy, and natural hazards are just a few of the topics

covered by environmental sociology. As a result, the physical environments they study range from the microcosm to the entire biosphere, and from the completely "built" to the "natural." As a result, despite a shared interest in the interactions between human societies and their physical environs, environmental sociologists do not appear to have a strong sense of professional identity or orientation.

In the 1960s, sociologists were not at the forefront of scientific investigation into environmental challenges. However, a number of sociologists began to examine environmental issues in the late 1960s and early 1970s, prompted by rising societal attention to urban degradation, pollution, overpopulation, resource limitations, and other challenges. Initially, their research focused mostly on applying standard sociological ideas to environmental issues. There were studies of public attitudes toward environmental issues, environmental organization members, resource management agency challenges, and so on. However, at the same time as the growth of this "sociology of environmental issues," a few sociologists began to look into a topic that had hitherto been overlooked in sociology: the interaction between human society and the physical environment. The impact of human societies on the environment, as well as the impact of the environment on social organization and human behaviour, were the focus of such writers.

By the mid-1970s, the term "environmental sociology" had gained widespread acceptance, as evidenced by the founding of an American Sociological Association Section on Environmental Sociology (ASA). Even so, there remained a lot of ambiguity in how the phrase was used. To

many, it referred to any sociological study of environmental issues, with studies of environmentalism being the most common. The majority of these studies focused on the application of normal sociology views to environmental challenges, such as those from social movements, social psychology, public opinion, and social problems theory, rather than the creation of a whole new field of study. Several different groups of sociologists were engaging with environmental concerns prior to the broad sociological attention to environmentalism, most notably through studies of housing and the built environment, natural disaster studies, and natural resource management studies.

The word "environment" comes to mind. We've discussed how environmental sociologists care about the physical environment versus how other sociologists care about the social environment, as well as how environmental sociologists distinguish between built and natural environments.

The seeds of later conclusions that the paradigmatic underpinnings of the profession itself hindered investigation of ecological factors can be found in these early texts. In an article, Catton points out that ''Pressure from physical and biological boundaries has begun to render obsolete the sociological premise that reality is essentially socially created,".

Catton suggested that sociology needed to build a new paradigm to overcome this prevailing "antireductionist" assumption, one that saw the human person "not merely as a creature of culture, but also as a growing animal and component of a changing ecosystem." In Catton's collaborative work with Dunlap, the essence of this new

paradigm, as well as a greater explication and critique of the dominant paradigm within sociology, was spelt out much more completely.

Dunlap began planning a study in the mid-1970s to operationalize the concept of a Dominant Social Paradigm and evaluate its relationship to environmental sentiments. During this time, he came to the idea that popular themes in pro-environmental publications, such as the inevitability of growth limitations, the rejection of an anthropocentric worldview, and so on, were emerging into a scientific alternative to the Dominant Social Paradigm. Dunlap and his student associate Kent Van Liere coined the term "New Environmental Paradigm" to describe this alternative. It was during this period that Dunlap and Catton started working together.

"Environmental Sociology: A New Paradigm," published in 1978 in a special issue of "The American Sociologist" devoted to "New Theoretical Perspectives," was the first publication. This paper served two purposes.

First, it gave a simple definition of environmental sociology as the "study of social-environmental interactions," highlighting that humans not only have an impact on the physical environment, but that environmental factors also have an impact on humans and human societies.

Second, it argued that environmental sociologists' willingness to investigate environmental variables posed an implicit threat not only to the Dominant Social Paradigm, but also to our own discipline's basic assumptions or paradigm.

Catton and Dunlap said that sociology suffered from a preoccupation with the social origins of social facts, as well as an implicit set of assumptions that pushed the field to disregard the ecological restrictions that all other species face, as a result of the cross-fertilization of their previous work. Catton and Dunlap coined the term "Human Exceptionalist Paradigm" to describe the disproportionate emphasis on Homo sapiens' "exceptional" features.

A third theme in Dunlap and Catton's publications is that environmental sociologists should anchor their work in a strong ecological viewpoint, in addition to their efforts to identify environmental sociology as a field of expertise and to underline its paradigmatic implications. They claim that sociology and human ecology can provide useful information.

In addition to their intellectual contributions, Dunlap and Catton have provided organizational and institutional leadership that may prove to be just as vital in certain ways. The significance of their contribution can be seen in part because of the prominence that Washington State University has achieved in the field of environmental sociology, mostly due to their leadership, but it can also be seen in the fact that the two colleagues played key leadership roles in all three professional sociological associations that have provided the organizational foundation for environmental sociology. Riley Dunlap initiated the formation of the "Environmental Problems Division" within the Society for the Study of Social Problems (SSSP) in 1973, serving at its chair through 1975.

Catton and Dunlap contributions up to this point have been classified as follows.

- First, most environmental sociologists would likely agree that Dunlap and Catton's efforts to define, integrate, and change the field had a significant impact on the field, giving practitioners with a sense of identity as well as visibility inside the larger discipline.

- - Dunlap and Catton's second contribution is their broadening of the human ecological paradigm. Focusing on the reciprocal causal relationship between human activity and the physical environment avoids the risk of a narrow deterministic point of view while simultaneously providing a more complete analytical framework—indeed, a more "ecological" framework—than what had become the traditional sociological human ecology. Another contribution is the idea that certain human activities tend to contribute to disequilibrium and environmental deterioration rather than equilibrium with the natural environment.

- - Third, whether or not the current theoretical viewpoints in sociology form a single meta-theoretical paradigm, as Catton and Dunlap suggest, many of them share an implicit assumption that the physical environment is mostly useless for sociological analysis. In this sense, Dunlap and Catton's viewpoint has been "self-consciously fashioned as a critique of 'mainstream' sociology," as Buttel points out, and mainstream currents in any subject can be famously slow to shift.

- Fourth, Catton and Dunlap offer the New Ecological Paradigm as an alternative to the current sociological paradigm, which they describe as a single paradigm. This divide between Human Exceptionalist Paradigm and New

Environmental Paradigm, in particular, has had a "strange influence on environmental sociology," as Buttel puts it. On the one hand, most environmental sociologists recognize the Human Exceptionalist Paradigm - New Environmental Paradigm distinction's validity; on the other hand, it's developed at a level of abstraction that makes it difficult to apply in empirical study.

-        Finally, Catton and Dunlap have contributed to a better understanding of current public and political environmental debates in the United States by bringing the historical experience of American society, as reflected in the Dominant Social Paradigm, to the fore. The Dominant Social Paradigm - New Environmental Paradigm distinction, in contrast to the Human Exceptionalist Paradigm - New Environmental Paradigm, has had a significant impact on empirical study, probably because it emphasizes on society as a whole rather than the discipline of sociology.

Conclusion

Dunlap and Catton bolstered the case for common ground among environmental sociologists, emphasizing commonalities and the need to bridge the gap between those who study the "built" and those who research the "natural" environment. As Dunlap and Catton have pointed out, there is a clear choice to include the environment in sociological analysis.

3.3 Political economy interpretation- Allan Schnaiberg

Introduction

Production expansion is a process that builds on and contributes to a series of societal changes. On the one hand, the expansion is predicated on the mobilization and organization of a former period's excess. Expanded production, in general, necessitates new inputs, which often arise from the accumulation of capital and the availability of labour that was previously unavailable due to sociocultural or biological demands. This is frequently expressed in terms of prospective savings and investments, which may then be utilized to fund new physical capital for increased output.

Political economy interpretation

A variety of decisions must be made in order to expand production. These are frequently made by public agencies, presumably working in the name of society, in state socialism or state capitalist systems. Many of these decisions are made by capital owners and managers in the capitalist civilizations we are studying. Because this group is mostly in charge of production, it is mostly in their hands to make dispositional decisions-for both past and future surplus.

In the contemporary era, capital, labour, and the state have become increasingly complicated, divided, and heterogeneous. Because of the complexity and adaptability of modern capitalist institutions, many of Marxists' and neo-Marxists' particular forecasts have proven to be incorrect.

However, my own interpretation of the tensions created by environmentalists' growth/no-growth debates is that they confirm the relevance of structural analysts like Marx's broad institutional viewpoint. Regardless of the growth of the "new middle class" of technostructural professionals who link capital and labour in current technical forms of production, this remains the case. It's critical to comprehend this class's social role, as well as its unclear relationship to capital and labour as social categories.

In current capitalist production systems, capital and labour are linked in cooperative and competitive partnerships. They work together to produce, with capital providing the physical technology and labour providing the human energy to put that technology to use. They are cooperative in the consuming connection to some level as well. Capital aims to maximize consumption of manufactured products, whereas labour aims to maximize physical comforts or comforts. They are competitive, on the other hand, in the sense that capital strives to extend profits by reducing production costs, including wage income. Labor, on the other hand, strives to increase wage income as well as job security, both of which limit capital's ability to regulate production costs.

There are intimate ties between capital and labour in terms of the state. On the one hand, the government supports economic growth in order to encourage private capital accumulation. Because private capital is characterized as contemporary society's productive arm, the government has a vested interest in economic growth through capital accumulation and investment. Taxes and capital's political backing are both reliant on this relationship.

The stakes for each of these primary social components in terms of production expansion are somewhat different. Two primary issues for capital are: (1) ensuring that increased production is consumed by labour; and (2) ensuring that adequate profits are generated to safeguard the company from rivals and allow future expansion. Concerns about labour include: (1) a betterment in life conditions, including both consumer comforts and qualitative shifts in their social milieu; and (2) a rise in employment availability and salary income (better schools, health services, recreational facilities). For the government, higher productivity means: (1) higher private-sector revenue such as capital and labour taxes; and (2) improved ability to meet the needs of both constituencies for economic and social programmes.

This governmental policy is clearly based on the demands of capital and labour. The state fiscal and monetary policies have become both conceivable and necessary as a result of the previous generation of economic surplus generated through output expansion. For the postwar growth alliance, a steady increase in productivity, profits, and consumption was promised. Whenever they have been threatened, the state has stepped in to save capital and/or labour in various kinds of production or consumption stimulation, to differing degrees.

One common response to any new societal welfare calculus, as well as the reorientation of economic policy and structure in that direction, is that we know very little about the mechanisms that enable such welfare.

Treadmill of production

In the recent decade, a distinction has formed between the huge, capital-intensive productive segment and the remaining sociocultural production agencies. Whether the shape is referred to as the techno structure, giant firm, monopoly capital, oligopolistic sector, or something else, observers from various political orientations have come to stress it. Allan Schnaiberg proposed the treadmill of production theory in his book "The Environment: From Surplus to Scarcity", which suggests that the capitalist mode of production is characterized by a never-ending cycle of production.

After World War II, the economy grew, which necessitated the usage of more resources. In a capitalist society, industries, businesses, and individuals all desire to maximize their profits, therefore money began to be invested in new technologies and machines that substituted human labour while also requiring additional materials, chemicals, and other resources.

These chemical and technological advancements accelerated capital accumulation by intensifying or speeding up production while requiring less labour input. As a result of this expansion, environmental degradation continues, creating a contradiction between capital accumulation and ecological destruction under capitalism.

Schnaiberg contrasts the neoclassical economics perspective, which argues that production is dictated by consumer demand, with the reality of the capitalistic production treadmill, in which customer wants are shaped by already created items. Every subsequent investment

degrades the environment and disadvantages workers in the manufacturing process. People tolerate this pollution because they are afraid of losing their jobs. In a capitalist system, more things are created than consumers can use or consume. More waste is created as a result of this consumer surplus.

Private investments in fixed capital, public institutions built by the state to support economic growth, and the direction of organized labour toward these investments and institutions are all examples of treadmill interests.

Because human societies rely on natural energy flows, Schnaiberg claims that this energy can only be altered, and that each transition is a degradation in and of itself. Withdrawals and additions are depicted in the treadmill of production, which illustrates the two dialectic processes of societal-environmental interaction. Additions to the environment are pollutive or toxic waste that is returned to the natural world, whereas withdrawals from the environment are raw materials collected from nature in order to transform them into commercial commodities.

Consumption is how capitalism makes money, with commercials and marketing constantly boosting human consumption to obscene levels in order to make money. Basic supply and demand theory predicts that when demand rises, supply rises in response, resulting in an increase in the rate of production. That manufacturing method causes an exponential rate of withdrawals and additions, depleting natural resources and dumping harmful waste back into the environment. As a result, treadmill theory predicts environmental degradation as a result of present human activity patterns.

The treadmill of production viewpoint understands that technical advancement frequently entails increasing operational efficiency, which means using fewer inputs to achieve a given quantity of output. However, whether efficiency leads to a reduction in overall resource demands—a decoupling of the economy and the environment—is a hotly debated topic. According to the treadmill of production perspective, this predicament arises when gains in efficiency are outstripped by growth in the scale of production.

The treadmill of approach, in general, argues that the link between environmental problems and economic progress has stayed relatively stable, if not increased in magnitude, through time. The steady extraction of natural resources at rates that generally surpass the regenerative potential of ecosystems is required by the drive for continuous growth through expanded industry. Economic efficiencies are sought by modern industries in order to improve production processes and raise profitability. Manufacturing commonly incorporates energy-intensive materials, resulting in an increasing amount of waste. Producers attempt to externalize environmental costs as much as possible to enhance profits.

Treadmill of production theory, like ecological modernization theory, highlights human civilization's reliance on the biophysical world, but it rejects the idea that the link between economic progress and environmental degradation should diminish in scale over time, independent of a society's degree of development. The Treadmill of production theory contends that the ongoing urge to grow capital increases the volume of natural resources and energy

taken and needed to maintain greater and more intense productive processes.

Conclusion

Corporations, the state, and labour are all devoted to economic expansion, as Schnaiberg stated in his initial formulation of the "treadmill" hypothesis, and this ideology of growth has dominated both capitalism and socialist nations in the twentieth century. As a result, economic growth has come to be regarded as "the only way to social progress, albeit unwillingly." The quest of economic growth has inevitably resulted in rising environmental harm due to greater output and ever-increasing capital intensity.

3.4 Indian thinkers: RadhakamalMukerjee, Ramachandra Guha

Introduction

Despite being based in Indian culture, Radhakamal Mukerjee's conception of sociology was universalistic. He saw the potential for creating a broad sociology theory based on social action theory. This notion would be taken from Indian philosophy and tradition in the case of India. Man's harmonious growth necessitates coexistence with other members of the community as well as with nature, the environment, and ecology. Radhakamal Mukerjee has made an incomparable contribution to the field of social ecology research. Human or social ecology is, after all, the study of all elements of man's reciprocal relationships with his environment.

Mukerjee Perspective on ecology

Mukerjee authored six research articles in British and American sociology periodicals between 1931 and 1933 that examined and analyzed ecological principles. His book The Regional Balance of Man: An Ecological Theory of Population was released in 1938. Man and His Habitation: A Study in Social Ecology, written by Mukerjee, was published in 1940. This book is essentially an examination of many forms of habitation, including primitive, rural, and urban, as well as human adaptation to those habitations. He released his major work, social ecology in 1945.

Man's geographic and temporal location, like that of plants and animals, is primarily determined by ecological considerations. Human positional and distributive variables, geographical and food interactions, habitations, and institutions are all studied in social ecology. It focuses on three key inter-relationships between man and his environment:

i).The impact of his environment on his food and aggregation, as well as his work and social contacts.

ii). Man's greatest economic position in the face of shifting environmental pressures, adaptations, and balances.

iii).The impact of mobility, specialization, and distance on interpersonal relationships, as well as the stratification and segregation of functional groups and classes.

Mukerjee defined human ecology as a synoptic study of the balance of plant, animal and human communities, which are systems of correlated working parts in the organization of the region'. 'Because only within the regional area can one

fully grasp the intricate interrelations between culture bearing human groups and the plant, animal, and non-living surroundings with which they interact,' Mukerjee stated that the 'human region' is the right unit for analyzing human connections. Mukerjee was correct in designating human 'regions' as the legitimate unit of sociological analysis, because the nation-state, which became the widely acknowledged unit of analysis in social science and was viewed as identical with 'society,' caused disaster, because most nation-states are artificial political constructs.

Mukerjee's broad theory of society places ecology at the centre. Ecological, psycho-social, and telic moral are the three critical components he identified for understanding the structure of the social system. 'The ecological aggregation of the human population, regulated by climate to topography and resources, offers the basic bio-physical framework within which a thorough explanation of social interactions and processes should be explored,' he argued. In the areas of ecology, institutions, and culture, individuals and societies are always interacting.

According to Mukerjee, "Society, properly conceived, is the sum of the structures and functions through which man orients himself to the three dimensions or levels of his environment, ecologic, psycho-social and telic-moral and fulfills his basic requirements of sustenance, status and value-fulfillment".

Mukerjee's comprehensive theory of society included ecological as well as society, culture, economics, government, and personality. All of the constituent pieces of this vast system are interpreted to be interrelated. However, although some of the aspects are highly linked,

some are just tangentially linked, and others may not be related at all. And not all of the factors may be directly interconnected. As a result, he distinguished between ecological and cultural behaviour, claiming that the former is influenced by restricted environmental conditions. Cultural behaviour, on the other hand, is the outcome of social concerns and tradition. Ecological relationships, he claims, create "fraternal forms of behaviour," whereas cultural relationships create "super individual planes." However, as technology advances, the necessity for collaboration, both interpersonally and among groups, may diminish and vanish entirely.

The 'exaggerated rise of individuality,' according to Mukerjee, is due to a 'deep loss of balance between ecological, economics, and the state'. Individualism, centralization, formalism, contract, and cosmopolitanism are all mutually interrelated. As a result, 'human culture cannot be imagined without knowing its ecological or natural resources, methods of use and the economic and political nature of land ownership and distribution.

The original plant-animal ecosystem is destroyed as industrialization proceeds, and even tamed plants and animals fear extinction. Thus, Mukerjee indirectly accepted the importance of technology in generating population growth and ecological imbalance, but he did not predict technology's devastating potential. According to him, to minimize chaotic urban expansion, technology should be used sparingly. With its ecological distribution of man, utilities, and institutions, technology has been a significant factor in the establishment of the bee-hive city with its slums and tenements, family dysfunction, and criminal

behaviour patterns; and it is to a new technology, with its ecological distribution of man, utilities, and institutions, that we must seek for new social habits, organizations, and ethics.

On the issue of environmental solidarity and social distance, Mukerjee gave little attention to the gap between rural and urban communities. The transformation of a village into a small town, which is based on a shift in the community's ecological foundation, is accompanied by a shift in mental and social interaction, as well as the framework for communal existence. Persons' ecological relationships to the land, machines, and fellow individuals as competing or cooperating units in the quest for sustenance, as well as their position and rank, control social interaction. According to him, every civilization organizes its density, geographic distribution, occupation, and social stratification to fit harmoniously into its ecological foundation. According to him, social distance between groups aids in adequate collective socio-ecological adaptations that assist the population maintain a steady average abundance. As a result, social mobility and distance are mechanisms for achieving numerical balance in the ecological order.

He demonstrates that when there is great mobility, there is quick change in the sorts of human connections and human interactions, which correlates with changes in the ecological organization or patterns of the city at a faster rate than those of the countryside.

Views regarding conservation of forest

Mukerjee spent a lot of time writing on the dangers of deforestation. Cutting down trees exposes the land to the

wrath of floods and lowers soil fertility. Floods and excessive rains wash away topsoil, which cannot be replaced. As a result, India's forests and woodlands were an ecological advantage. A number of activists, including volunteer organisations such as Chipko and Appiko, have taken up his call for tree preservation. Mukerjee also warned against the dangers of mono-cultivation, or the cultivation of a single cash crop, such as cotton or sugarcane etc., at the expense of crop rotation. Deforestation and mono-cultivation, for example, disrupted the delicate ecology and caused serious environmental concerns. Every year, floods or droughts strike various portions of India, particularly in the north. Of course, storms in coastal areas are uncontrollable, but man-made disasters, such as the loss of natural resources due to deforestation, may be slowed or avoided.

Mukerjee pushed for the integration of village, town, and country development into a unified, broad-based process. The development of the city at the cost of the hamlet should be avoided. Agriculture should be decentralized, and industry should be diversified. A more fair distribution of money and resources would result in a more balanced development, not just across sectors of the population but also between regions.

Conclusion

Although human ecological theory, sociological theory, and theory of values and symbols all have autonomy, it is via their integration that a macroscopic general theory of society may emerge. The ecology and sociology of rural and urban habitations are of enormous practical importance for alleviating the current disorder in the economy and

technology, as well as in man's ecological, occupational, and power interactions in all nations.

Ramachandra Guha perspective on environment

Introduction

RamachandraGuha is arguably the most distinguished Indian academic who has made important contributions to our knowledge of "Indian ecology." Guha argues that environmentalism should be understood as a social programme, a code of conduct that aims to safeguard valued environments, protest against their deterioration, and prescribe less damaging technologies and lifestyles.

In his book "Environmentalalism: A Global History," Guhaemphasises the two phases of global environmentalism. Guha highlighted three streams in India's environmental movement in an early exposition: Crusading Gandhians, Appropriate Technology, and Ecological Marxists.

Crusading Gandhians

The first strand, known as the 'crusading Gandhian,' rejects the contemporary way of life by relying mainly on a moral/religious worldview. Environmental degradation is considered first and foremost as a moral issue, with its roots in a larger embrace of materialism and consumerism ideology, which pushes humanity away from nature while encouraging wasteful lives. The essence of 'Eastern' civilizations, according to crusading Gandhians, is their indifference, if not outright hostility, to economic gain. As a result, if India abandons its pursuit of Western economic

models, it will simply be reverting to its cultural origins. As a result, these environmentalists advocate a return to pre-colonial village civilization, which they see as a model of social and ecological harmony. In this case, Gandhi's invocation of Ram Rajya is understood literally rather than symbolically. Crusading Gandhians commonly reference Hindu texts as examples of a 'traditional' reverence for nature and living forms in this respect.

Ecological Marxists

Marxists see the problem in political and economic terms, stating that uneven access to resources, rather than an issue of morals, better explains India's environmental degradation patterns and processes. The affluent damage nature for profit in this starkly stratified society, while the impoverished do it merely to survive. As a result, for ecological Marxists, the establishment of an economically equitable society is a necessary precondition for social and ecological harmony. Socialist activists put a strong focus on organizing the poor for collective action, with the greater objective of redistribution of economic and political power in view.

While ecological Marxists are associated with different Naxalite and radical Christian groups in India, they are most closely associated with the People's Science Movements, whose initial focus with bringing science to the people has been expanded to include environmental conservation. Ecological Marxists differ from Gandhians in two ways: their unwavering antagonism to tradition and their preference for confrontational activities.

Appropriate technologists

Crusading Gandhians and ecological Marxists might be considered as the Indian environmental movement's 'ideological' and 'political' radicals, respectively. Their arguments are frequently powerful, though to various groups of individuals, because of their ideological purity and consistency. Between these two extremes, there is a third inclination known as 'appropriate technology,' which occupies the enormous middle ground. This branch of the environmental movement seeks to achieve a functional synthesis of farm and industry, large and small units, and Western and Eastern technical traditions.

It is heavily inspired by Western socialism, both in its ambivalence about religion and in its critique of conventional social structures. Yet, in emphasizing constructive action in the real world, it draws into another Gandhian tradition. As a result, suitable technologists have pioneered the development and dissemination of resource-conserving, labor-intensive, and socially liberating technologies.

The Chipko movement, the most well-known environmental project, represents all three trends. Outside of the Himalaya, the Gandhian movement is most recognized for its association with SunderlalBahuguna. The Uttarakhand Sangarsh Vahini, a youth group that has coordinated public actions against commercial forestry, uncontrolled mining, and the illicit liquor trade, has

represented the Marxist trend in Chipko. Finally, the Dasholi Gram SwarajyaMandal, under whose auspices the movement began and whose excellent ecological restoration work has previously been mentioned, represents the proper technologists.

Conclusion

The core of the Indian environmental movement is social action in the three broad approaches indicated above. While there is general agreement among the environmental movement about the current development model's shortcomings, there is little agreement on, and much less effort put into developing viable alternatives. Within the movement, we can see three major ideological orientations. Of course, it's possible that none of the recognized ideologies are present in a given conflict, or that supporters of all three positions are working together on a single effort.

MODULE 4

Debates on Environment

4.1 Capitalism and Implications on Environment - Eco-crisis, Human Progress versus Ecological Collapse

Introduction

Capitalism is defined as profit-oriented manufacturing in a competitive market. It is an economic system whose qualities are based on the private profit maximization concept. Its benefits are rooted in its high production and growth rates. The profit-maximization rationale encourages producers to focus on what they do best and invest in cutting-edge technology to boost production and efficiency.

Capitalism and Implications on Environment

The profit-maximization theme also encourages business owners to boost productivity on a big scale in order to maximize profits. Using the same profit-maximization pattern, economic actors can allocate resources in ways that promote growth and dynamism. Firms are compelled by market competition to invest in cost-cutting technologies that allow them to withstand the pressure that their competitors face in the marketplace. This results in a virtuous cycle of increased efficiency, production, and profit.

Consumption is a requirement for production. The production cycle would be stopped if there was not enough consumption, which produces further needs for production.

As a result, consumption is the inverse of a robust production cycle. However, capitalism drives extremely high rates of productivity. As a result, widespread consumption, often known as consumerism, is more than a cultural phenomenon. It is ingrained in the fundamental concepts of capitalism as an economic system

Firms in a capitalist environment are under great pressure to lower expenses because their competitors will if they don't. Because their competitors lower expenses in order to reinvest in the firm's growth and so become more competitive, if one business does not do so, it will be quickly driven out of the market by others.

The market dynamics of capitalism do not give any means to inhibit this behaviour on their own; non-market intervention, whether by the state or organized social forces, is required. States have demonstrated a reluctance to take action or a purposeful refusal to do so. However, in democratic countries, social forces have more leeway to unite behind this cause. Social activists with a variety of interests, including the environment, frequently take it upon themselves to bring this issue to the public's notice. Environmentalists can exert pressure on the government to establish laws on firms that are less harmful to the environment by banding together.

Under capitalism, the pricing of non-renewable natural resources is frequently structured around very short-term perspectives, with little regard for the future worth of these finite resources. Since the mid-1990s, the rate of greenhouse gas emissions into the atmosphere has risen dramatically, owing mostly to significant economic growth

in emerging nations, which frequently use large amounts of natural resources such as oil, gas, and other minerals.

The majority of the globe currently responds to global environmental change in the context of capitalism. It causes certain types of environmental change and serves as the foundation for the political institutions and social connections that determine our collective ability to adapt to environmental change effectively.

Mineral extraction, production, and consumption are primarily the outcome of undervaluing such natural resources. That is to say, the vast mineral consumption that is responsible for a significant portion of global pollution is not taken into account in the market pricing. As a result, purchasers tend to utilize these resources excessively. The most revealing example is the shifting price of oil produced by the Persian Gulf States.

Due to the utilization of machinery and power, a market-oriented massive manufacturing process consumes a lot of energy. All extreme weather occurrences are primarily driven by a rise in global temperature, which is exacerbated by capitalism's increased need for energy. Since the Industrial Revolution, fossil fuels such as natural gas, oil, and petroleum have been one of capitalism's primary energy sources. Most nations utilize fossil fuel to generate power because the price-performance ratio is among the greatest of any energy source, such as electricity. When fossil fuels are used to create electricity, vast amounts of carbon dioxide are released into the atmosphere. Carbon dioxide is a type of greenhouse gas that traps the sun's heat in the lower atmosphere and reflects long-wave radiation back to the earth's surface, potentially raising global temperatures.

Increasing the greenhouse effect and raising the earth's surface temperature.

Large companies have opted to employ biofuels as a subsidy to fossil fuels due to technical advancements since they are more sustainable and can minimize carbon emissions by absorbing the carbon dioxide created when biofuels are burned. In order for the company's image to look more "green" and ecologically friendly. This is not the case, though. Because firms wish to plant biofuel crops on a wide scale, planting biofuel farms necessitates a big amount of land.

As a result, businesses may clear wooded land to expand their biofuel farm because the site is more suitable for growing biofuel crops. The most significant carbon sink on the planet is forests. A carbon sink is a natural reservoir that can retain carbon-containing compounds like carbon dioxide indefinitely. When trees are chopped down for deforestation and biofuel farm construction, the carbon dioxide contained inside the trees is released into the atmosphere, reducing the extent of the carbon sink. Even while biofuel crops can operate as a smaller carbon sink than trees in the forest, they cannot store as many carbon-containing compounds. Finally, additional carbon dioxide created by burning fossil fuels will contribute to the worsening of greenhouse effects and an increase in global surface temperature.

The rate of evaporation in various locations may increase as the earth's surface temperature rises. Drought happens as the planet warms and the water in the soil evaporates, leaving the land barren and uncultivable. When there isn't enough vegetation on top of the soil, the plant's binding

effect on the soil is reduced, causing the earth to loosen and fracture. Eventually, farmers may not be able to cultivate crops in the barren area, limiting the global food supply. Because of the loss in food production, food must be imported from other nations to ensure that the countries have enough food. Poor nations, on the other hand, lack the financial resources to purchase imported food, and their local farms are unable to meet the country's needs.

Social forces are a type of non-market intervention that still exists. People in democratic regimes have a certain amount of freedom to engage in social engagement. As a result, environmental activists in democratic regimes may build disruptive groups that seek significantly more strict environmental legislation. They may be able to persuade the state to place limits on the enterprises and examine them on a regular basis in some situations. This appears to be a real solution, but activists will have to bear the burden of organizing enormous public rallies to put pressure on the government and firms.

Conclusion

Effective abatement requires international collaboration as well. However, developing genuine international cooperation has been difficult. Despite having a common goal in mitigating climate change, many countries are hesitant to cut carbon emissions on their own. The recent Paris Climate Agreement, in which 195 countries ratified the world's first universal, legally enforceable global climate agreement, is a significant step forward in international collaboration to safeguard the planet.

To summarize, market systems under capitalism do not create incentives for environmental preservation. Market rivalry is always putting pressure on businesses to lower expenses and increase profits. As a result, the environment is subjected to the capitalist mode of production's compulsive market behaviour. Capitalism as an economic system will not be able to protect our planet without the participation of non-market institutions such as the government, international organizations, and social movements.

Ecological crisis

The possible annihilation of circumstances that support human life on Earth is the current ecological catastrophe. All currently available evidence leads to a cascade change in the earth's bio-geo processes that might make human survival problematic, if not impossible. Rather of focusing on a single cataclysmic event that poses a threat to our species' existence, some scientists have identified a number of critical thresholds for sustaining human existence on Earth.

Apart from climate change, which has gotten the most attention and sparked the most debate, a group of scientists has identified eight other "planetary boundaries" that are critical to human survival on the planet: ocean acidification, stratospheric ozone depletion, nitrogen and phosphorus cycles, global freshwater use, land use change, biodiversity loss, and atmospheric aerosol loading. Each of these aspects of the earth system that are necessary for human survival is under threat in varied degrees; some have passed the tipping point, indicating that they have beyond their sustainability limitations. Given the level of our understanding, we still

don't completely comprehend the dimensions and ramifications of current changes in these traits in certain cases.

These planetary changes have left a lasting human imprint that can be traced back to the dawn of the industrial age and capitalism. The Anthropocene is noteworthy because it emphasizes how people are a part of the earth ecosystem, continually modifying it and being influenced by it. The Anthropocene, which can be traced back to the dawn of industrial capitalism, reveals a complicated relationship between people and their environment, in which humans modify nature not only as biological species and abstract people, but also through human social organization.

The importance of scrutinizing the logic of capitalism is closely associated with the relationship to nature. In 1988, James O'Connor's concept of the "second contradiction of capital" emerged as a significant theoretical insight on the link between capitalism and the current ecological disaster. O'Connor expands on the notion of capitalism as a system driven by internal contradictions, namely the conflict between the forces of production and the relations of production, by identifying a second source of conflict inside capitalism, namely the conflict between the forces and relations of production combined and the circumstances of production. This explained the creation of a diverse range of social movements concerned with environmental issues, and it claimed that ecological shifts were a manifestation of capitalism's crisis.

Foster's work exposing basic truths within Marx's work on the human/environment interaction sparked a broader discussion on the nature of capitalism, the repercussions of

its inevitable modification of ecosystems, and its prospects for addressing the crisis. This reintroduced a materialist understanding of the link between nature and capitalism to the conversation, demonstrating that the global crisis poses a danger to more than just economic institutions.

Climate change is likely the most well-known planetary barrier, and it is one of two that many scientists believe has been crossed. Global warming and an increase in the frequency of extreme weather occurrences have been observed frequently enough to convince most sceptics to be worried at the very least. While climate change deniers are becoming rarer, it is noteworthy that they are frequently held by the world's most powerful and consumptive nations and people, who contribute heavily to global warming.

The latter half of the 20th century saw massive social, cultural, and technological changes linked to accelerated globalization, as seen by population growth, agribusiness expansion, a deepening internationalization of production and consumption, consumerism cultures, the development of nuclear capabilities, and the advancement of computer and digitized communication. Significant occurrences occurred often throughout this time period, bringing into focus and disturbing the interplay between human and nonhuman nature at the core of such fast change.

Regeneration, production and consumption

The colonization of regenerative sources of life renewal is the ultimate ecological crisis: patriarchal science and technology have ripped apart cycles of regeneration and pushed them into linear flows of raw materials and commodities in the service of patriarchal capitalism.

Consumption systems have been raised to 'production' systems that provide goods to customers, while self-provisioning, self-regenerative systems have been degraded to 'raw' material.

Because, as Marilyn Waring has pointed out, the concept behind the collecting of data for the national accounts is to remove data pertaining to output where the producer is also the consumer, the disruption of natural growth cycles becomes a source of capital growth. The destruction of regeneration is not exposed as destruction, but rather as development, as the number of 'producers' and 'consumers' and commodities increases.

Human Progress versus Ecological Collapse

'Mother India' was the emblem and motivation for the independence movement against British colonialism throughout the colonial period. It was a category that was decolonizing. The 'motherland' metaphor vanished from the rhetoric of nation building throughout the four decades from 1947 to the end of the 1980s, when 'development' was the primary goal of the nation state. The state acts as the patriarchal father, controlling life while simultaneously seeking to provide for fundamental requirements by safeguarding the national economy and natural resources from foreign predation.

More direct uprooting occurred as a result of development initiatives. One million people, or one-sixteenth of the country's population, were to be relocated as part of the Mahaweli project. Aside from large-scale ecological destruction, the initiative caused new gender and racial inequities. The initiative took away women's rights to land

that they had previously enjoyed. In areas of the North Central and Eastern provinces, it resettled displaced peasants. This resettlement strategy resulted in a significant shift in population patterns, notably in the Eastern provinces, changing ethnic composition and escalating ethnic strife.

With the loss of rootedness in the soil and local social structures, new uncertainties and scarcities arose, new zones of competition between communities arose, and the competition was conducted in the manner of the nation state's armed authority. Sri Lanka's societal order has devolved into violence. 30,000 individuals were slaughtered in 1989, and the atrocities are still going on.

Human actions are putting biodiversity and other ecosystem services—the advantages humans get from ecosystems—in jeopardy. Growth in human populations and wealth results in more natural ecosystems being converted to agricultural, industrial, or residential use, as well as increasing demand for ecosystem inputs like fresh water, fiber, and soil fertility, as well as greater strain on natural ecosystems' ability to digest our waste, which includes both air and water pollution and solid waste. Ecosystems and biodiversity protection have been severely harmed as a result of economic growth.

Humans have transformed ecosystems at a faster and more comprehensive rate than ever before, mostly to fulfill rapidly increasing resource needs as well as economic growth. These needs have been identified as major contributors to ecological degradation and biodiversity loss.

Pathogen contamination and global environmental change connected to climate change have lately shown to be deadly to communities and ecosystems, adding to the list. Cattle ranching, fishing, agriculture, mining, and tourism are all important economic activities. Deforestation is expanding in order to turn natural areas into livestock pastures. The result is a loss of biodiversity, such as the destruction of forest, which deprives forest-dwelling creatures of food and shelter Unrestrained utilisation pesticides and herbicides, mercury contamination from unlicensed gold mining, urban liquid and solid waste, including untreated sewage, introduction of invasive exotic species, unsustainable tourism, illegal hunting, wildlife trafficking, and soil degradation are all examples of environmental pollutants.

Mining has caused environmental deterioration in the watershed region, leading to erosion with rotated soil as a result of mining processes. Furthermore, erosion is mostly caused by deforestation for agriculture and livestock grazing in the highlands' slope terrains and mountain hillsides. Livestock rearing and care is an important economic activity in some places. Plant production and survival are directly affected; in addition to the ongoing loss of biomass to herbivores, grazing frequently leads to the introduction of alien species. Considerable domestic herbivores have an impact on vegetation, both directly and indirectly, by devouring a large amount of its biomass, compacting the soil, feeding on woody plants, and disseminating seed-propagating species.

Some issues are global in scope, while others are more local in character. Climate change, ozone depletion, biodiversity loss, and extinction of endangered species are all global issues that require worldwide cooperation to solve. Land

degradation, water pollution, traffic and air pollution are all local issues that necessitate policy at the national and regional levels. Excessive exploitation of natural resources, which is essentially what is referred to as "developmental methods," is the primary cause of environmental deterioration. Environmental degradation is the deterioration of environmental quality caused by pollutants in the air, as well as other activities and processes including poor land use and natural disasters.

When natural resources are rapidly extracted without oversight, environmental deterioration is said to occur. Environmental degradation is a major worry as a result of the fast expanding trend of industrialization, population and economic expansion, and uncontrolled urbanization. Environmental deterioration can occur naturally, or as a result of human activity, or both. The environment is harmed and environmental degradation occurs when ecosystems are destroyed, biodiversity is lost, or natural resources are exhausted.

Environmental deterioration can take place on a local, regional, or global scale. Environmental deterioration is also influenced by social, economic, and institutional issues. Social factors include population, poverty, and urbanization.

Soil erosion, salinity/alkalinity of soil, micronutrient deficiencies, water logging, and other issues have occurred from rapid industrialization, green revolution, and intensive farming, as well as the discharge of untreated effluents into water bodies. The amount of land under cultivation is dwindling by the day.

The use of pesticides and fertilizers, as well as a reliance on a single crop, results in a loss of topsoil of 5400 million tons each year. As a result, it is concerned about the reduction in productivity, food security, and long-term cropping patterns. Following the green revolution, the introduction of high yield varieties and genetically modified crops has sparked debate over their long-term viability and compatibility for the Indian ecology. Due to excessive exploitation of water resources in particular parts of Punjab, Haryana, Andhra Pradesh, and Western Uttar Pradesh, subsurface water levels are dropping, affecting agricultural productivity both directly and indirectly.

Chemical pollution is on the rise. Excessive nitrate is leached into groundwater as a result of industrial water pollution, and this has an impact on waterborne illness. Water quality has been declining in practically all sources during the previous two decades. Water scarcity has been a concern in metro centers for the past two decades, and it is becoming worse.

Air pollution has risen dramatically in the previous 30 years, especially in the greater segments of urban and industrial areas. The primary causes are rapid industrialization and excessive exploitation of natural resources. Sulphur dioxide, black smoke, and lead were the first air pollutants, all of which were primarily caused by the burning of fossil fuels. Nitrogen monoxide, nitrogen dioxide, and ozone have all been found in air pollution in recent years.

Only a small percentage of big and medium-sized polluting plants have pollution control equipment. The problem is especially significant in the unorganized sector and tiny

enterprises. Respiratory and other associated disorders have increased dramatically in the last 15 years as a result of increased pollution levels. Vehicle pollution contributes to air pollution, which is on the rise due to an increase in the number of cars on the road. The dramatic growth in vehicle numbers has also resulted in a huge increase in the amount of pollutants emitted.

With the rise of consumerism and the advancement of human civilization, the trash produced will become more complicated by nature. With the increasing production of non-biodegradable solid waste, not only the air, but also the land, has become increasingly contaminated. The growing trend in solid waste is also entirely due to population expansion and urbanization.

Natural resource availability and utilization have an impact on the development process' result and pace. A considerable portion of the environment in an urbanized civilization is man-made. Even yet, manmade surroundings like buildings, roads and instruments rely on both labour and natural resources as inputs.

Modern urbanization, industrialization, overpopulation, deforestation, and other factors are important contributors to environmental deterioration. The degradation of the quality and quantity of natural resources is referred to as environmental pollution. The basic causes of environmental degradation are many forms of human activities.

Due to a lack of viable economic prospects in villages and environmental concerns, impoverished families are increasingly migrating to cities. The rapid and spontaneous expansion of urban areas has degraded the urban

environment. It has widened the gap between demand and supply of infrastructural administrations such as energy, housing, transportation, communications, instruction, water supply and sewerage, and recreational amenities, so depleting the city's precious ecological asset base.

As a result, there is a growing trend in the degradation of air and water quality, the age of squanders, the spread of ghettos, and vexing land use changes, all of which contribute to urban poor.

The kind of environmental concerns was also influenced by the amount and pattern of economic growth. The promotion of policies and programmes for economic growth and social welfare has been a persistent theme in India's development goals. The vast majority of ventures have received production innovation that has placed an enormous burden on the environment, particularly through concentrated asset and vitality use, as evidenced by common asset consumption like petroleum derivatives, minerals, timber, sulfation of water, air, and land, health risks, and degradation of characteristic eco-frameworks.

Mechanical sources have contributed to a generally high offer in air pollution, with a great extent petroleum derivative as the essential wellspring of modern vitality and real air contaminating ventures, such as iron and steel, composts, and bond development.

 Large volumes of industrial and hazardous wastes, resulting from the rise of chemical-based industry, have exacerbated the waste management problem, posing major health risks to the environment. Transportation activities have a broad range of environmental implications, including

air pollution, noise from street activity, and oil slicks from maritime delivery. In terms of system and administrations, India's transportation foundation is excellent. As a result, in metropolitan places such as Delhi, street transportation constitutes a significant source of air pollution. The port and harbour have a significant impact on sensitive waterfront eco frameworks.

Agricultural growth has direct environmental implications due to farming operations that lead to soil erosion and nutrient loss. The growth of the green revolution has been accompanied by widespread mismanagement of land and water resources, as well as increased usage of manures and pesticides. Land degradation has also been exacerbated by shifting crops. Leaching from the widespread use of pesticides and fertilizers is a major source of water pollution. "Intensive agriculture and irrigation, in particular salinization, alkalization, and water logging, lead to soil degradation."

Any modification or disruption to the land that is deemed undesirable is referred to as land degradation. Natural and man-made factors, such as floods and forest fires, can both contribute to land degradation. Up to 40% of the world's agricultural land is considered to be severely damaged. Climate change, land clearing and deforestation, depletion of soil nutrients due to bad agricultural techniques, overgrazing, and over grafting are the primary causes of land degradation. Water erosion is the most common cause of land deterioration in India.

Growing population trends, as well as the resulting need for food, energy, and housing, have significantly altered land-use patterns and badly harmed India's ecology. Because

food consumption could not keep pace with population growth, land intensification at the expense of forests and grazing fields became increasingly important. Thus, horizontal land expansion has fewer applications and is mostly dependent on vertical improvement, which is aided by technological advancements in agriculture, such as HYV seeds, fertilizers, pesticides, herbicides, and agricultural instruments. All of these actions contribute to environmental deterioration and depletion.

Biodiversity adds to the possibility and value of human life. Humans are the primary cause of biodiversity destruction. The impacts of human-induced climate change are posing a serious danger to biodiversity. Its extinction threatens humanity's ability to meet fundamental necessities and aspirations. Future generations will confront starvation, thirst, sickness, and calamity if we continue to lose biodiversity. Economic development and ecosystem/biodiversity conservation policies and implementations should be established and implemented in the context of humans' rising reliance on ecosystem services, as well as economic growth.

4.2 Ecology and culture – Gendered hierarchies, Gender and Environment Debate – Ecofeminism

Introduction

Many cultural traditions have been influenced by environmental concerns. Music, ceremonies, holidays, mythology, and décor from many civilizations throughout the world demonstrate this. Many of these cultural traditions can be preserved through preserving biodiversity.

Protecting cultural traditions contributes to the preservation of the land's natural biodiversity, which culture needs for life.

The environment in which people lived was suited to them. As a consequence, many languages, customs, knowledge, and beliefs have been passed down over the years. The local environment affected the formation of civilizations, and our cultures affected the local environment's makeup. Many cultures regard themselves as intrinsic parts of the natural environment, requiring them to treat other living things with respect.

Gendered hierarchies

"A Vindication of the Rights of Women" by Mary Wollstonecraft, published in 1792, advocated for the expansion of some restricted equal rights to women, such as the right to own property, money, and education. Her proposition for "women's rights" elicited a response that illustrates the prevalent attitude toward women at the time.

'While feminism has historically worked to explain and transcend women's relationship with nature, ecology is striving to re-embed humankind in its natural framework,' says Mellor. ``Feminists should not fear the double-edged metaphor of Mother = Nature,' says Salleh, because it is on this identification of women with nature that the entire superstructure of hierarchical dualisms within Western society and philosophy has been erected. This nexus reveals the wellspring of women's strength and integrity while also exposing the capitalist patriarchy's complex of unhealthy actions.

We may begin to comprehend the link between gender and the environment by identifying a set of gendered dualisms that exist within, and characterize, Western civilization as a patriarchal society, as suggested by eco-feminist social theorists such as Plumwood and Merchant. Patriarchy's roots and consequences are crucial to any feminist study, and Marylin French's characterization of it as "an ideology predicated on the premise that man is unique from and superior to the animal" is worth noting.

Western patriarchal society, according to this line of reasoning, is founded on a gendered division of 'culture' and 'nature,' with male qualities and values linked with culture and feminine traits and values connected with nature. But it's not only that there's a dualism in Western society; it's also that masculine characteristics have been viewed as not just distinct from, but also "superior" to feminine ones, both historically and philosophically. The establishment and preservation of these hierarchical gendered dualisms, according to certain ecofeminists like Plumwood and Merchant, has its roots in Judeo-Christianity in general.

Those 'male' qualities and attributes on the left-hand side came to be connected and linked with 'human' or the 'truly' human. Because they are too intimately linked to nature, the body, animality, sensuality, emotions, and so on, 'female' qualities on the right-hand side have historically been considered as not expressing what is 'truly' or distinctively human about human individuals. Most feminist criticisms of sexism and patriarchy start with this premise and historical analysis: Western society favours some qualities and traits like reason, abstract thought, intellect, culture, and production etc. Over others. 'Anthropologists have pointed

out that nature and women are both regarded to be on a lesser level than civilization, which has been connected metaphorically and historically with males,'. Women's social roles are considered as lower on the cultural scale than men's since their physiological duties of reproduction, nurturing, and child raising are considered as closer to nature.

Because social–environmental interaction, perspectives of the environment, and its relevance for society are not 'gender-free' zones, gender must be considered while researching environmental concerns in general. Gendered terminology abound in everyday discussions of the environment, ecological interactions, and society's connection with the nonhuman world. For example, we talk of 'virgin lands,' the 'rape of the wild,' the 'despoliation of nature,' 'Mother Earth,' and other gendered phrases. As a result, some feminist social theorists have made the gendered (i.e. socially constructed) link between women and nature explicit, kicking off the development of an ecofeminist approach.

Ecofeminism

Introduction

In the late 1970s and early 1980s, different social movements - feminist, peace, and ecological movements — spawned ecofeminism, which was dubbed "a new label for an ancient knowledge." Francoise D'Eaubonne coined the phrase in her book Feminism or Destruction. It only gained popularity as a result of countless protests and activities against environmental devastation, which were spurred by repeating ecological disasters at first. Some ecofeminists

believe that bringing the ecological and feminist movements together is a prerequisite for both movements' success. That is, feminists cannot achieve their goals without addressing environmental issues, and ecological goals will be thwarted without a feminist component.

Eco-feminism

The belief that, in order for feminism to adequately address the realities and specificities of women's oppression, we must pay explicit attention to how that oppression relies on and ignites the devaluation and exploitation of nonhuman, "natural" beings and entities is a foundational aspect of ecofeminism. While many ecofeminists identify their work as broader feminism, they also criticize ecological and environmental methods that ignore gender, racism, and class, as well as the links between damaging beliefs and actions. As Karen Warren has noted: The term eco-feminism is a position based on the following claims:

(i)   There are important connections between the oppression of women and the oppression of nature,

(ii)   Understanding the nature of these connections is necessary to any adequate understanding of the oppression of women and the oppression of nature

(iii)   Feminist theory and practice must include an ecological perspective

(iv)   Solutions to ecological problems must include a feminist perspective.

Eco-feminism and discourse on women and environment

In the 1970s, feminist authors and activists began clearly articulating abstract analyses and practical politics that focused on the parallels and links between patriarchal maltreatment of women and patriarchal maltreatment of nature. Ecofeminism is a term that distinguishes between primarily ecological feminisms and those concerned exclusively with women's concerns and human oppression. It was coined by these feminist philosophers and activists interested with ties between "women and nature." Rosemary Reuther makes a great argument for linking feminism and the environment. According to her, 'Women must see that there can be no liberation for them and no solution to the ecological crisis within a society whose fundamental model of relationships continues to be one of domination. They must unite the demands of the women's movement with those of the ecological movement to envision a radical reshaping of the basic socio-economic relations and the underlying values of this society'.

Ecofeminist literature began in the 1970s as a result of feminist movements, but the forms of feminism that underpin ecofeminist perspectives are as diverse as feminist thought itself. Francois d'Eubonne, Ynestra King, Mary Daly, Susan Griffin, Barbara Deming, and other European and American feminists involved in the Women's Peace Movement were among the first to discuss in print the deep conceptual connections between men's mistreatment of women and what some called "the rape of the Earth." Women's traditional responsibilities as housekeepers are rejected, citing links between exploitation of women and maltreatment of nonhuman nature.

The early feminists who noticed links between abuse of women, animals, and nature took these things at face value,

relying on common discursive understandings rather than interrogating the veracity and universality of terms like "woman" and "nature." Many current feminists believe that their reliance on these categories is naïve and romantic, and that it demonstrates a lack of critical awareness of the mobility of conceptions, identities, and meaning. Despite their use of Enlightenment vocabulary and spiritualistic imagery, early ecofeminists questioned established norms, descriptions, and restrictions around the terms "woman," "nature," and "human."

This happened within a feminist reclamation tradition and an emerging feminist literary style that drew compelling parallels between women, or females, and the natural environment. Poets, authors, and activists from many cultural backgrounds emphasized the 'naturalness' of women's bodies and viewpoints, women's proclivity for relational, 'private domain' activities, and the revolutionary possibilities of these proclivities.

Humanity's connection with nature has become unbalanced as a result of modern industrial civilization. The civilization is in the midst of a widespread and global ecological catastrophe. A slew of global environmental contamination events have occurred, causing widespread alarm. Because the current world system poses a general threat to life on Earth, it is critical to resurrect and nourish the instinct and drive to survive that all living creatures possess. Peasant women in South-West Germany were the most engaged in one of the country's earliest anti-nuclear power movements. They formed cross-border alliances with feminist groups in Switzerland and France, as well as other German groups, intellectuals, students, and city dwellers. They were aware of the patriarchal men-women connection as a result of this

process; for many women, this was the first step toward their own emancipation.

A closer look at the many local struggles against environmental destruction and deterioration, such as the Green Belt Movement in Kenya; Japanese women's fights against food pollution caused by chemically-stimulated commercial agriculture and for self-reliant producer-consumer networks; and poor women's efforts in Ecuador to save mangrove forests as fish breeding grounds. This shared concern drew women together, regardless of their racial, ethnic, cultural, or social backgrounds, to form bonds of solidarity with other women, people, and even nations. Similar analyses, thoughts, and visions occasionally arose during these action and contemplation processes.

Ecofeminism arose in response to the ecological problems brought on by modernity and industrial society. People's need for resources and energy in social production and life is growing as industrialization advances in modern civilization. In the meantime, the overall amount of industrial and living waste dumped in the environment is rising. Ecological crisis occurs when resource and energy use, as well as waste emissions, exceed the natural ecosystem's ecological capacity. The ecological crisis is a reflection and expression of humanity's strained and, in some cases, worsening connection with nature.

Modern agriculture not only depletes soil fertility, but it also harms the bodies and minds of the women who work in the fields. Women bear the social function of population reproduction as nurturers; as a result, bad harvests caused by environmental degradation and leftover toxins will impair women's bodies and minds, limiting population

production and restricting the natural process of social growth.

On the other hand, while the modernized major industry boosts women's job options, it also does significant harm to the bodies and minds of those who work in it. As nurturers, the harm produced by industrial pollution and the treatment women receive in industrial production is always greater and more severe, and it has a direct impact on population reproduction quantity and quality.

Biotechnology, genetic engineering, and reproductive technology have made women acutely aware of science and technology's gender bias, as well as the fact that science's entire paradigm is patriarchal, anti-nature, and colonial, aiming to deprive women of their generative capacity as it does nature's productive capacities. Following the establishment of the Feminist International Network of Resistance to Genetic and Reproductive Engineering in 1984, a series of key conferences were held in Sweden and Bonn in 1985, Bangladesh in 1988, and Brazil in 1991.

This movement was far broader than the strictly defined feminist or women's movement. Because reproductive technology breakthroughs help women socialize and improve their social position, they also raise the danger of female social deprivation, particularly in developing nations. The introduction of reproductive technologies in these nations has resulted in a significant imbalance in the sex ratio of births between boys and girls. Even a girl's right to be born is being revoked. This movement is also informed by the ecofeminist notion of finding for linkages where capitalism patriarchy and its warrior science are

involved in disconnecting and dissecting what makes up a living whole.

Ecofeminism in India

The ecofeminist thinker popularizes the ancient worshipping notion of Mother goddes in order to develop a bond between women and environment. Nature has a special place in the hearts of women. She understands everything there is to know about nature, so she makes efficient and cost-effective use of natural resources. Vandana Shiva, an Indian pioneer of ecofeminist views, believes that a strong contact between women and environment aids her understanding of nature's drive in its whole. According to Vandana Shiva ``Liberation is best to begin the colonized and end with the coloniser''. As part of a capitalistic mentality, the creation of Eurocentric musculature aims to exploit natural resources and marginalized groups, especially women's. As a liberation movement, ecofeminism has to stand up to all forms of exploitation. The following are some of the most important environmental movements:

Narmada BachaoAndolan: - The Narmada BachaoAndolan, which began in 1985, is the most significant popular campaign opposing the construction of a massive dam on the Narmada River. The Narmada River, India's longest west-flowing river, sustains a diverse population with distinct culture and heritage, ranging from indigenous (tribal) people living in the forests to a huge rural population. More than 250,000 people will be displaced by

the projected SardarSarovar Dam and Narmada Sagar. MedhaPatkar is the leader of this movement.

Chipko Movement: - Chipko is a Japanese term that means "to adhere to" or "to embrace," and it relates to a strategy of protecting Himalayan trees from professional wood cutters who have decimated the woods. The activists in the movement embrace the tree trunks in order to put themselves between the trees and the axe men. The Chipko movement is found within the mountainous northern segment of Uttar Pradesh, immediately west of Nepal. Uttarakhand has been the name of the region for a long time. Outside businesses exploiting the forest with official sanction has caused a rift between Uttarakhand villages and the state forest department. The British established the Tribal Forest Settlements in Kumaon in 1821, resulting in a dispute that included violent episodes. Villagers who rely on forest goods have been denied access to the forest as a result of the conflict.

Conclusion

Ecofeminism is a movement dedicated to the preservation of life. It is seen as a revolutionary movement for women's, men's, and environmental emancipation. It presents a new life equation, namely, Man/Women = Nature. The marginalized sections like Women, tribal groups, peasants, and other oppressed groups are always the actual victims of capitalistic exploitation and environmental degradation. Environmental challenges that affect the survival tactics of the great majority of women from various castes, classes, and races must be addressed by the women's movement. This would assist in broadening the movement's base. Overall, a fundamental transformation is required in terms

of development, redistribution, and institutional frameworks. Environmental and gender concerns must be addressed jointly, and India's emerging social movements appear to provide a ray of hope for future change.

4.3 Ecological Degradation and Migration, Disasters and Community Responses

Migration

Introduction

Out-migration from a region is a frequent response when environmental deterioration reaches the point where it causes a decline in people's standard of life. Such population shifts have a variety of social and environmental consequences. For starters, there are environmental consequences in the locations where people relocate. These ecosystems must adjust to a pace of human expansion that greatly surpasses the pace of natural expansion, whether they migrate to cities or to new ecological frontiers. Furthermore, in regions of in-migration, social organization must deal with the inflow of people: social structures may become unstable, with social rifts forming or violence escalating. Even if instability does not emerge, social structures in places with high in-migration must alter quickly, resulting in the loss of many traditions. Second, in locations where people are leaving, population migrations have social and environmental consequences.

Migration and environment

Migration from heavily populated rural regions can assist to relieve local environmental problems. Remittances from migrants may enable rural communities to engage in

constructive activities other than overexploitation of natural resources. Remittances can help migrant families satisfy their basic requirements by allowing them to buy basics. In places of out-migration, social institutions must adapt quickly once again. Because natural resource management practices and knowledge of local ecosystems are lost, the desertification of rural communities whose residents were previously managing their resources sustainably may hasten environmental degradation.

These arguments imply that the function of permanent and temporary migration in environmental dynamics deserves special study.

Three main factors for migratory migrations impacting deforestation processes were discovered by the scholars.

First, For starters, there were forced migrations as a result of war, political persecution, or eviction due to land alienation or job loss. In all of the places investigated, residents were evicted to make room for reservoirs and other large-scale development projects.

Second, there were so-called ecological refugees, who fled their homes in search of other lands or sources of income when their woods and soils were too deteriorated to support their traditional lifestyles.

Third, many people departed either temporarily or permanently in order to enhance their possibilities and earnings, or to alleviate poverty for themselves and their families.

Ecological degradation and Migration

The literature on forced migration has usually focused on issues such as famine, poverty, conflict, and human rights violations. More recently, the debate has emerged as to whether environmental deterioration, such as soil degradation, water scarcity, environmental risks, and other factors, may play a role in forced migration. Environmental refugees, environmental migrants, climate refugees, and other terms have been used to characterize the notion. In a report released by the UN Environment Program (UNEP), El-Hinnawi defined the environmental migrants as "those people who have been forced to leave their traditional habitat, temporarily or permanently, because of a marked environmental disruption….that jeopardized their existence and/or seriously affected the quality of their life".

As a result, people are increasingly relocating from villages to towns and cities. There isn't enough water, food, or land for the migrants, and there aren't enough roads or healthcare systems in the towns and cities to accommodate them. However, many individuals relocate to metropolitan regions because they are unable to withstand the poverty in our communities. As a result, poverty has spread throughout the world. If the wealthy in rural and urban regions waste resources simply because they can afford to do so, the poor are the ones who suffer.

There is no question that the Least Developed Countries (LDCs) are still developing since they have not been able to keep their population growth rates under control. Demand for everything increases as the population grows- water, food, firewood, coal, and petroleum - every form of natural resource. Many of them have a significant supply shortage. Some Least Developed Countries produce enough food and more, but they are sold to wealthier countries, leaving the

hungry poor in the dark. Deforestation, desertification, and pollution all increase as the population grows.

For populations confronting environmental changes such as unexpected calamities, creeping processes, or cyclical climate conditions, migration-whether permanent or temporary, national, regional, or international-has always been a viable coping mechanism. Human migration from one climatic zone to another has characterized prehistory and history, as people have sought out settings that would support both survival and ambitions for a more stable life. In the past, migration may have been accompanied by a sense of sorrow because familiar landscapes no longer supplied safe and supportive environments. Environmental change, especially climate change, poses a new danger to human security and creates a new migratory scenario today.

Three characteristics divide the present era from the foreseeable future, adding to the difficulty of studying population mobility as a result of environmental conditions. First, environmental change on a global scale and its possible consequences are relatively recent phenomena. Second, there will be no more episodic or regional effects. Finally, human agency is central to environmental change and our ability to adapt to it.

Environmentally driven migration has the potential to grow to unprecedented proportions and scope. Its impact on the global economy, international development, and national budgets might be considerable, with ramifications for practically every aspect of human security, including political and state security. Despite these difficulties, there is also potential. Economic migrants are now a significant force driving global growth.

Climate-related stresses, in combination with ecosystem change and rapid-onset catastrophes such as floods, have the potential to promote migration or force national governments to plan for the relocation and resettlement of displaced people. Furthermore, when certain areas become hostile, individuals are driven to shift to other locations, where their regionally specialized expertise may no longer be applicable. Displaced persons may not always obtain the assistance they require in their new locations. Overexploitation of natural resources can result in a shortage of drinkable water, soil degradation, deforestation, pollution, and possible diseases for people evacuated to areas where necessary infrastructure is not accessible and people are directly dependent on the environment for existence.

Slow-onset change will provide environmental push factors an increasingly prominent role in the migration "choice" over time. Current forecasts of temperature and sea level rise, as well as increasing intensity of droughts and storms, indicate that major population relocation will occur over the next 30-50 years, particularly for coastal populations.

Environmental refugees are words that are commonly used in the media and by activists to call attention to the plight and needs of persons who have been uprooted as a result of catastrophes, climate change, or environmental degradation. People moving for environmental reasons do not fall neatly into any one of the categories provided by the existing international legal framework. While their situations and needs may be similar to those of refugees, such as crossing a border after a disaster and needing protection and assistance, people moving for environmental reasons do not fall neatly into any one of the categories provided by the

existing international legal framework. As a result, "environmental refugees" have no legal standing under international refugee law. The Guiding Principles on Internal Displacement also address people who are relocated within their own nation as a result of disasters caused by natural or man-made dangers. The extent to which a government has accepted the Guiding Principles determines the scope of this coverage.

According to Jacobson, Environmental refugees are divided into three categories;

❖ Those who are displaced temporarily due to a local disruption such as an avalanche or earthquake

❖ Those who migrate because environmental degradation has harmed their livelihood or poses unacceptable health risks

❖ Those forced to relocate due to desertification or other permanent and unsustainable changes in their environment as a result of land degradation.

The international legal status of persons displaced by environmental circumstances is ambiguous; there is now no acknowledgement that those relocated for environmental reasons should be granted refugee status, which is unlikely to change in the near future.

Conclusion

Environmental changes and migration have a complicated relationship. Migration is typically the consequence of a complex set of factors, including economic, social, and political factors, which are exacerbated by changing

environmental circumstances, as well as developmental and demographic factors. Environmental migrants can relocate in a variety of ways: internally within a country or internationally; voluntarily or involuntarily; temporarily or permanently. A natural disaster, such as a tsunami or flood, or a government-ordered relocation might force people to migrate. Migration has always been fueled by environmental change and natural calamities.

Disasters and Community Responses

Introduction

Disasters can be defined as "a category of environmental events that periodically, and with varying degrees of intensity, subject human systems to a wide range of disruptions and stress" or "a category of environmental events that periodically, and with varying degrees of intensity, subject human systems to a wide range of disruptions and stress." The most successful component of attaining sustainability in dealing with natural and man-made catastrophe risks is community engagement. Sustainable development and catastrophe mitigation are mutually necessary preconditions.

Disasters and Community Responses

Natural catastrophes obstruct the progress and accomplishments of sustainable development, while the physical infrastructure that we are building may become a source of risk in the case of future disasters. This is especially true in earthquakes, where the bulk of victims are murdered by the collapse of their own homes. Disaster management is an urgent issue for all of us in terms of

environmental degradation, human involvement, and security concerns, and it should be approached holistically. Communities at risk are encouraged to participate in all phases of the approach: prevention, mitigation, readiness, response, and recovery. To establish disaster-resilient communities, community members must first be enabled to cope with the negative impact of natural disasters. This is the most successful method for establishing long-term sustainability in the face of natural disasters.

In the aftermath of a disaster, the community plays a critical role. This job may be loosely split into two categories: general social assistance and specialised service providing. The catastrophe reaction is the result of complex interactions between people and their surroundings. Individuals seek social assistance from social units with which they are familiar—which signify safety and security—when faced with a tragedy or other hazard. The availability or lack of such assistance is linked to better or worse outcomes following stressful situations, respectively.

Restoration and Maintenance of Essential Community Services

Following a disaster, restoring and sustaining critical services is also a mandated core task. Dynes, one of the scholars, states:

If the impact has affected utilities, transportation arteries, or communication infrastructure, getting them back up and running is a top concern. The most urgent focus is devoted to community-oriented amenities that are most directly relevant to the preservation of life. Hospitals, fire stations, and police agencies or command centers have priority over

private concerns when it comes to restoring power or telephone service.

All appropriate community resources, both public and private, are given priority in order to restore and facilitate care for the injured. Private property is frequently used in the restoration process to the point where, on the one hand, individual use of private property is considered inappropriate if such property is needed by the larger community, and, on the other hand, private property is seen as a possible resource to be used for the entire community, almost regardless of the wishes of the owner.

The preservation of public order as deemed necessary by community officials in order to complete the tasks involved in the preservation of life and the immediate restoration of essential tasks that facilitate the preservation of life and the restoration of services, such as guarding property, patrolling danger areas, and directing traffic. The focus of action appears to be not only on property preservation, but also on ensuring that community resources, both public and private, are used for collective rather than individual goals.

Another important set of actions focuses on maintaining public morale. Reuniting families separated by the disaster and giving information reassuring family members of the safety of other relatives is a vital effort sustaining public morale during the early phases of a catastrophe. This behaviour frequently goes beyond the immediate neighbourhood. Inquiries from other villages arrive in the village, and residents try to convey messages to reassure family and friends that they are safe.

The media has a significant role to play in describing and interpreting the calamity. Because many radio stations have backup power sources and transistor radios are widely distributed among many populations, radio stations frequently broadcast a continuous stream of information about the disaster's scope, ongoing countermeasures, and which activities the public should avoid or engage in during this period. The mainstream media, in general, fails to sustain popular morale. Members of the disaster-stricken community can get information and precise guidance through radio (in particular), television, and newspapers. In addition to information activities, collective pronouns such as "we," "us," and "our" are frequently employed in mass media discourse to reassure community members, offer a sense of togetherness, and convey a sense of future purpose for the community as a whole.

In a major disaster, these are some of the things that happen:

● Production-Distribution-Consumption is a three-step process.

Almost usually, major changes in communal functions occur. Units of production have been shut down. Because so much food, clothes, and other goods are donated for free, the regular volume of distribution and marketing is reduced. Other items, materials, and equipment are either donated or requisitioned without authorization or approval.

● Socialization

Socialization activities linked with organized groupings, such as schools, are curtailed, if not altogether eliminated.

Their funds go towards sheltering and feeding catastrophe victims and responders.

● Control of the social environment

Some formal standards are put aside during catastrophes, such as parking offences; nevertheless, other infractions, such as takeover of private property for private use, are harshly criticized. Cases in the courts have been postponed. Bureaucratic actions that would ordinarily need the approval of elected leaders are authorized after the fact. Elected political figures frequently give reassurance and interpretation to community members and play integrative roles that may or may not be related to their formal job tasks and obligations.

● Social Involvement

Many volunteer organizations take on disaster-related tasks; nevertheless, most clubs and social organizations cease operations, and many big cultural events are cancelled.

● Mutual Assistance and support

There has been a significant rise in engagement, the production of widely shared disaster-related jokes and comedy, and the emergence of a "we" lexicon that applies to everyone who has been affected by the situation.

At the community level, disaster response has its own set of components and interactions. At the community level, response components are the key parts whose action is motivated by their responsibilities or interests. Local

government institutions in charge of rescue and relief are referred to as "responsible." The primary and most significant component in damage mitigation is community reaction to disaster. A competent community is one that has the strength to initiate emergency actions and keep the emergency time to a minimum.

Conclusion

The term "community" refers to all individuals on a local level in any catastrophe-stricken region who play a key part in disaster response and recovery. Local governments for disaster management, such as firefighting or relief, community-based groups, such as disaster preventive communities, which serve as a conduit between authorities and the general public, and lastly inhabitants in any given region.

4.4 Constitutional Provisions and Environmental Laws with special reference to India

Introduction

Global warming, deforestation, air, water, and other types of pollution are all rapidly increasing, posing a serious danger to the ecosystem and its inhabitants. The health of all living organisms, including humans, plants, and animals, is jeopardized by the degradation of the environment caused by a variety of individual behaviours.

The notion of environmental protection has been accorded fundamental status because it is important for human health to have a healthy environment, and it grants everyone the

right to a healthy environment. Law is a tool for regulating human behaviour and ensuring the proper operation of society. Since the word "environment" does not appear in the Indian Constitution, it became necessary to include provisions in the constitution because it is the highest law of the nation, and such inclusion would be beneficial in protecting the environment from exploitation.

Environment and Indian constitution

The Indian Constitution is one of the few in the world to have specific environmental protection measures. The rights and obligations guaranteed by the constitution and the common law are supplemented by laws enacted by the national, provincial, and local governments. These laws, also known as legislations, must adhere to the constitution, but they have the power to alter and modify the common law. The Indian Constitution explicitly states that it is the state's responsibility to maintain and develop the environment, as well as the country's forests and animals. Every person has a responsibility to maintain and develop the natural environment, which includes forests, lakes, rivers, and animals.

Our constitution's preamble envisions a socialist society that prioritizes environmental conservation. The fundamental premise underpinning socialism is to promote a "good quality of living for all," which can only be achieved in a pollution-free environment. Pollution is regarded as one of the most serious societal issues. As a result, the state is obligated under the Constitution to address this social issue in order to build a just social order. Part IV of the Constitution, which deals with the directing principles of state action, reflects this preamble goal graphically and in

precise words. In addition, the preamble claims India to be a "Democratic Republic."

People have the right to know about and participate in governmental policies, as well as access information about environmental policies, in such a setting, which is critical to the effectiveness of governmental policies. Justice, liberty, and equality are further goals of the preamble, which are addressed in Part III of the Indian Constitution, which deals with basic rights. The basic obligations clearly state that all citizens have a responsibility to safeguard the environment.

The Directive Principles of State Policies (Art 48A-Directive Principles of State Policies) are also geared at achieving the goals of establishing a welfare state. Furthermore, Part IV of the Indian Constitution (Art 48A-Directive Principles of State Policies) states that the government must work to maintain and develop the environment, as well as the country's forests and animals.

One of the main principles of state policy is Article 47 of the Constitution, which states that the state's major responsibilities are to enhance people's nutrition and standard of life, as well as their health. Public health improvement also encompasses environmental conservation and improvement, without which public health cannot be guaranteed.

In 1976, the 42nd Amendment to the Constitution established a new directive principle, Article 48-A, dealing especially with environmental protection and enhancement. The state will work to maintain and develop the environment, as well as the country's forests and animals. As a result, the Indian Constitution became one of the few

in the world to have specific provisions in the SupremaLex imposing duties on both the state and citizens to conserve and develop the environment.

Part IVA (Art 51A-Fundamental Duties) of the Indian Constitution imposes a duty on every Indian citizen to safeguard and develop the natural environment, including forests, lakes, rivers, and animals, as well as to have compassion for living beings.

Article 51-A (g) addresses the fundamental obligation to protect the environment. It states that it is the responsibility of every Indian citizen to maintain and develop the natural environment, including forests, lakes, rivers, and animals, as well as to have compassion for all living things.

Article 51-A (j) adds, "It shall be the obligation of every citizen of India to strive for excellence in all sectors of individual and collective action, so that the nation advances to greater levels of endeavour and accomplishments on a continuous basis."

The primary goal of the fundamental duties is to instill a sense of responsibility in individuals and encourage their involvement in the restructuring and construction of a welfare society. Environmental conservation is a constitutional priority and a concern shared by all citizens.

Every person has a basic responsibility to maintain and develop the natural environment, as stated in Article 51-A (g). However, in today's world, pollution is created not just by exploitation of the natural environment, but also by other factors. Such a concept may appear to be a misnomer in current industrialized civilization. It is proposed that the term "natural" before the term "environment" be interpreted

broadly. Nature has provided us with a pollution-free environment. Every person has a basic responsibility to not only preserve the environment from all forms of pollution, but also to enhance the quality of the environment after it has been contaminated.

Every citizen has a basic right to free speech and expression under Article 19(1)(a). The majority of environmental jurisprudence in India has resulted through judicial activism. The majority of the cases have been brought before the court as Public Interest Litigation, or PIL, in which people have exercised their right to free speech and expression by writing letters to the court or filing petitions, highlighting violations of people's rights to live in a healthy environment in some way.

Article 21 ensures a fundamental right to life—a life of dignity, living in a healthy environment free of sickness and infection. We are all aware that there is a strong relationship between life and the environment. If there is no healthy environment, the right to life is useless. The right to live in a healthy environment has been declared the sanctum sanctorum of Human Rights by judicial interpretation.

The Indian courts have clearly utilized the powerful provisions of the constitutional law to build a new "environmental jurisprudence," as evidenced by a review of several judgements. The courts have not only raised public awareness about environmental concerns, but they have also made executive lethargy, if any, in any matter involving environmental matters more urgent.

Environmental laws

Even before India's independence, there were several environmental protection laws. The actual impetus for enacting a well-developed framework, however, came only after the United Nations Conference on the Human Environment. Following the Stockholm Conference, the Department of Science and Technology established the National Council for Environmental Policy and Planning in 1972 as a regulatory agency to oversee environmental concerns. This Council eventually became the Ministry of Environment and Forests (MoEF), which was founded in 1985 and is now the country's primary administrative agency for regulating and assuring environmental protection, as well as laying out the legislative and regulatory framework for it.

The following are some of the most notable environmental legislations:

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 Wildlife Protection Act, 1972

The Wild Life (Protection) Act of 1972 was enacted with the goal of efficiently conserving the country's wildlife and controlling poaching, smuggling, and illicit wildlife and derivatives trade. The Act was revised in January 2003, making the penalties and punishments for violations of the

Act more severe. The Ministry has suggested further changes to the legislation, including more stringent steps to reinforce it. The goal is to safeguard listed endangered flora and animals, as well as biologically significant protected areas.

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

The Water Pollution Prevention and Control Act of 1974 (the "Water Act") was designed to prevent and control water pollution and to preserve or restore the wholesomeness of water in the country. It also establishes Boards for the prevention and control of water contamination, with the goal of achieving the aforementioned objectives. The Water Act makes it illegal to dump pollutants into water bodies beyond a certain level and imposes fines for non-compliance.

● The Forest Conservation Act, 1980

The Forest Conservation Act of 1980 was passed in order to aid in the conservation of the country's forests. It prohibits the de-reservation of forests or the use of forest land for non-forest uses without prior authorization from the Central Government. To that aim, the Act establishes the conditions for diverting forest land for non-forest uses.

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

The Air (Prevention and Control of Pollution) Act, 1981 (the "Air Act") establishes boards at the national and state levels to prevent, control, and abate air pollution, as well as to carry out the aforementioned functions.

●   The Environment Protection Act, 1986

The Environment Protection Act of 1986 (the "Environmental Act") addresses environmental protection and enhancement. The Environment Protection Act creates a framework for investigating, planning, and executing long-term environmental safety regulations, as well as a mechanism for quick and sufficient response to environmental threats. It is a piece of law that establishes a framework for the cooperation of federal and state bodies created under the 1974 Water Act and the 1974 Air Act. Under section 2(a) of the Environment Act, the term "environment" has a fairly broad definition. It encompasses water, air, and land, as well as the interconnections between these elements and humans, other living animals, plants, microorganisms, and property.

The Central Government is empowered under the Environment Act to take measures to protect and improve the environment's quality by establishing standards for emissions and discharges of pollution into the atmosphere by any person carrying on an industry or activity; regulating the location of industries; managing hazardous wastes; and protecting public health and welfare. The Central Government provides notices under the Environment Act for the preservation of environmentally vulnerable regions from time to time, as well as guidelines for problems covered by the Act.

●   Hazardous Wastes Management Regulations

Hazardous waste is defined as any waste that poses a risk to human health or the environment due to one or more of its

physical, chemical, reactive, poisonous, combustible, explosive, or corrosive qualities, whether alone or in combination with other wastes or substances.

●   The Biological Diversity Act, 2002

India's endeavor to realize the objectives expressed in the United Nations Convention on Biological Diversity (CBD) of 1992, which recognizes nations' sovereign rights to exploit their own biological resources, resulted in the Biological Diversity Act of 2002. The Act strives to protect biological resources and associated knowledge while also making them more accessible in a sustainable way. The National Biodiversity Authority, headquartered in Chennai, was formed to carry out the Act's objectives.

●   The National Green Tribunal Act, 2010

The National Green Tribunal Act, 2010 (No. 19 of 2010) (NGT Act) was enacted with the goals of establishing a National Green Tribunal (NGT) for the effective and expeditious resolution of cases relating to environmental protection and conservation of forests and other natural resources, as well as the enforcement of any legal right relating to the environment and providing relief and compensation.

The National Environment Tribunal Act of 1995 and the National Environment Appellate Authority Act of 1997 have been abolished as a result of the National Green Tribunal Act of 2010. The National Environment Appellate Authority, established under section 3(1) of the National Environment Appellate Authority Act, 1997, has been

dissolved in light of the National Green Tribunal's establishment under the National Green Tribunal Act, 2010, as announced by Notification No. S.O. 2570(E) dated October 18, 2010.

Conclusion

In India, environmental protection has not only been elevated to the status of a fundamental law of the land, but it has also been linked to a human rights approach, and it is now widely accepted that it is every individual's basic human right to live in a pollution-free environment while maintaining full human dignity. It is past time for the general public, public bodies, state and federal governments to recognize the environmental damage caused by our growth process. It is critical to instill a feeling of civic awareness and public cleanliness in the usage of municipal services such as roads, public areas, and drainage in order for local government environmental regulations to succeed. Strict adherence to the law's terms is also required.

References:

●   Bas Wielenga, 1999. Towards an Eco-just Society, Bangalore: Centre for Social Action.

●   Christopher Schlottmann et. al., 2017. Environment and Society: A Reader. New York: New York, University Press. (CH.9)

●   Gardner, Assadourian, Sarin.2013. "The State of Consumption Today". In State of the World 2004: Progress towards a Sustainable Society. UK: Earth Scan

●   Gadgil.M. and R. Guha . 1995. Ecology and Equity: Use and Abuse of Nature, MiddlesexUK: Penguin Books

●   Henry Thoreau,1854; 2006. Walden, or Life in the Woods, The Pennsylvania State University: Penn State Electronic Classic Series

●   John Barry, 1999. Environment and Social Theory, London: Routledge

●   Karren J Warren, 1997. Ecological Feminism, London: Routledge

●   Lele, S. 1991. Sustainable Development: A Critique, World Development. 19 (6): 607-21

●   M. George and R. Yvonne. 2005. The Language of Environment. New York: Routledge

●   MadhavGadgil, 1997. This Fissured Land: An Ecological History of India, New Delhi: Oxford

●   Maria Mies and Vandana Shiva, 2010. Ecofeminism, Jaipur: Rawat

●   Marx, Karl. 1976.The Fetishism of the Commodity and its Secret. In Capital: A Critique of Political Economy, Vol. 1. Trans. Ben Fowkes. Harmondsworth: Penguin & New Left Review, pp. 163-177.

●   Michel Mayerfeld Bell, 1998. An Invitation to Environmental Sociology, California: Pine Forge Press

● Omvedt. G.1984: Ecology and Social Movements, Economic and Political Weekly. XIX

(44): 1865- 67.

● RamprasadSengupta. 2014. Ecological Limits and Economic Development, New Delhi:

Oxford University Press.

● Rachel Carson, 1962. Silent Spring, Goa: Other India Press

● RamachandraGuha, 2000 Environmentalism: A Global History, New Delhi: OUP

● Saberwal. S and Rangarajan. M. 2005. Battles Over Nature: Science and the Politics of Conservation. New Delhi: Permanent Black. (Ch.7)

● Vandana Shiva. 1991. Ecology and the Politics of Survival: Conflict over Natural Resources in India, New Delhi: SAGE.

● Vandana Shiva. 2014. Jeevantenilanilppu, Kozhikode: Mathrubhumi Books (2009. Staying Alive: Women Ecology and Development. Delhi: Kali for Women)

● Werner Wolfgang, 1993. Aspects of Ecological Problems and Environmental Awareness in South Asia, New Delhi: OUP.