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ENS 505

Environmental Ethics and Philosophy

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Department of Forestry and Environmental Science
School of Earth and Environmental Science

Uttarakhand Open University
Haldwani, Nainital (U.K.)

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Title	:	Environmental Ethics and Philosophy (ENS 505)
ISBN	:	XXXX-XXXX
Copyright	:	Uttarakhand Open University
Edition	:	2023 (Restricted Circulation) This is the first copy of the contents subjected to final editing later.
Published By	:	Uttarakhand Open University, Haldwani, Nainital – 263139
Printed at	:	

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BLOCK 1: ENVIRONMENTAL ETHICS AND PHILOSOPHY

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Unit 1: Environmental Ethics

Unit Structure

1.0 Learning objectives

After studying this unit you will be able to explain:

- What is Environmental ethics
- How environmental ethics is defined
- Why environmental ethics is important
- What are characteristics and environmental advantages of Rural society
- What are characteristics and environmental disadvantages of urban society
- How different religious societies interpret nature and its components.
- How environmental components are degrading
- How Air, Water and Soil being polluted due to unethical activities
- How biodiversity is depleting due to unethical activities
- How Society or individuals can play role in Environmental conservation

1.1 Introduction

As you know that meaning of Environment, is “total surrounding”. The word Environment has been taken from French word “*Environ*” which means “surroundings”. Environment may be defined as “the sum total of all surroundings of a living organism,

including natural forces and other living things, which provide conditions for development and growth. The term “ethics” has been taken from the ancient Greek word “ethos” which means habit or custom. Ethics in the broadest sense alludes to the worry that people have dependably had for making sense of how best to live. The logician Socrates (399 B.C.) is cited "the most essential thing is not life, but rather the great life”.

Environmental ethics consists of the study of normative issues and principles relating to human interactions with the environment and their consequences. As you know that every component of earth is being deteriorated, degraded and losing its quality due to manmade activities. Many environmentalists are searching some remedial measures to conserve the environment. The motivation for environmental ethics was the first Earth Day in 1970 when environmentalists started urging philosophers who were involved with environmental groups to do something about environmental ethics. Every year Earth Day is being celebrated on 22nd April. A growing trend has been to combine the study of both ecology and economics to help provide a basis for sustainable decisions on use of natural resources. Environmental issues require a consideration of ethics and morals because it is observed that developmental activities certainly lead in to different types of pollution, diseases, economic loss and biodiversity degradation.

Environmental ethics try to define the moral basis of environmental responsibility. There are so many examples related to environmental ethics and we can understand environmental ethics through following examples.

For example: There is currently enough food in the world to feed everyone sufficiently, it is unethical to allow some people to starve while others have more than enough. When you look the tree of Peepal (*Ficus religiosa*) what do you think? Is it related to our cultural, religious ethical values? Off course answer is yes. Our ethical values tell us we shouldn’t destroy the trees like Peepal, Tulsi, Bargad, Neem and other trees of religious importance. We can observe that ethics and morals are not always the same for different communities, societies and countries, thus it is often difficult to clearly define what is right and what is wrong. For example some individuals think that situation of energy at global level as serious and they have to reduce their consumption at the same time other people do not believe there is a problem and so do not modify their energy use and think they will use energy for log time. You can easily understand environmental ethics in another example: Some people think that a

fire cracker during different celebrations is not good for nature but views of other people are just opposite.

The earth is valuable for both the nature and society that occur on it. Evolutionary history has been going on for billions of years, while cultural history is only about a hundred thousand years old. It is believed that culture, tradition, religions, society, economy are determined by nature and environmental components. On the other hand activities performed as culturally, religiously, socially, economically and traditionally influence natural environment.

Morality refers to the human ethics which pertains to matters of good and bad, often referred to as "right or wrong", used in three contexts viz. individual conscience, systems of principles, and judgments; these three commonly called moral values. Morality is a collection of beliefs as to what constitutes a good life. Morals reflect a cultural predominant feeling on ethical issues. Most cultures have reverence for life and hold that all individuals have a right to live. Moral codes are often complex definitions of right and wrong that are based upon well-defined value systems and dictate proper personal conduct. The scope of Environmental ethics is broad covering area; the realm of actions, policies and lifestyles which impact on natural environment. The spatial or local extent of its scope is also extensive as the biosphere of earth, for space probes and their related debris result from human interaction with nature. This has extended the realm of environmental ethics to distinct zone of solar system. The temporal scope of environmental ethics extends for as long as human action can exercise any kind of impact as long as something of value remains on which significant impacts can be made. While this may sound like a purely theoretical point, nuclear energy generation and experimentation is already bringing in to being radioactive substances with half-lives of millions of years, with predictable harmful effects on human being. Environmental ethics also studies the past in order to discover the traditions which often underlie current values and which often turnout to supply limits to possible change in ethical attitudes or resources for such change. In this unit we will discuss about environmental ethics in different societies, environmental degradation due to unethical activities and remedial measures for environmental conservation.

1.2 Meaning and definitions of environmental ethics

Meaning of Environmental ethics is simply ethical relationship of human being with the natural environment. Environmental ethics came in to existence as subject in early

1960s when anthropogenic activities such as poor agricultural practices, industrialization, urbanization, excessive use of pesticides and insecticides was impacting environment badly. Rachel Carson published a book namely "Silent Spring" in the year 1962 to aware the people about the impacts of chemical pesticides on public health and leading to the destruction of wildlife. Paul Ehrlich published book entitled "The Population Bomb" in the year 1968 which warned of the devastating effects the increase human population on natural resources of the earth.

Definitions of Environmental Ethics: In very simple words Environmental ethics may define as "to set the moral values toward environment".

"Environmental ethics is a branch of applied philosophy that deals with the conceptual foundations of environmental values as well as more concrete issues surrounding societal attitudes, actions, and policies to protect and sustain biodiversity and ecological systems".

"Environmental ethics is the part of environmental philosophy which considers extending the traditional boundaries of ethics from solely including humans to including the non-human world. It exerts influence on a large range of disciplines including environmental law, environmental sociology, eco-theology, ecological economics, ecology and environmental geography".

"Environmental Ethics is the field of applied ethics that discusses, reflects and reasons on values, rules, norms, criteria for dealing with animate and inanimate entities in a responsible way".

"Environmental Ethics is the base of reasoning for, e.g., the following fields of action within society: environmental protection, animal protection, nature protection, animal rights, and sustainability issues".

1.3 Environmental ethics in society

As you know that ethical values correlates with successful life. In every part of society, ethics play very important role in development of personality, time spent by individuals on ethics, is the key in having a successful life and career. But when we talk about Environmental ethics in society meaning is totally different. It deals with the thoughts, moral responsibilities and holistic approach towards nature and environmental components viz. air, water, soil, earth, sun, plants, animals, microbes etc. Many

societal views correlate environmental ethics with integrity. Integrity is the single most important value a person can have, it is your most powerful weapon. In this chapter we will discuss the Environmental ethics in different societies.

1.3.1 Classification of society and environmental ethics in different societies

Classification of society on the basis of area: On the basis of area, facilities, population and infrastructure societies may be of following two types:

(A) Environmental ethics in Rural Society:

Man (Homo sapiens) started their life as other wild animals; they initially resided in forest and natural habitats. Rural societies are earliest human groups; gradually man acquired the skill and knowledge in agriculture. Agricultural development people began to lead a settled life and human communities became more stationary specially near the rivers and other water resources. India is a land of villages and majority of villages are small with around five hundred persons per village. The social life of rural society has its own special characteristics. Sociologists think that for defining an Indian village, its population, physical structure, and modes of production for livelihood are definitely important.

Generally, a village has less than five thousand individuals. It is rightly said 'India is a country of villages' because agriculture is the main occupation of the people of India and majority of people in India live in the villages. Rural societies help in strengthening our social bonds and bringing stability to our society in many ways. Rural societies also help our society by preserving our environment and culture.

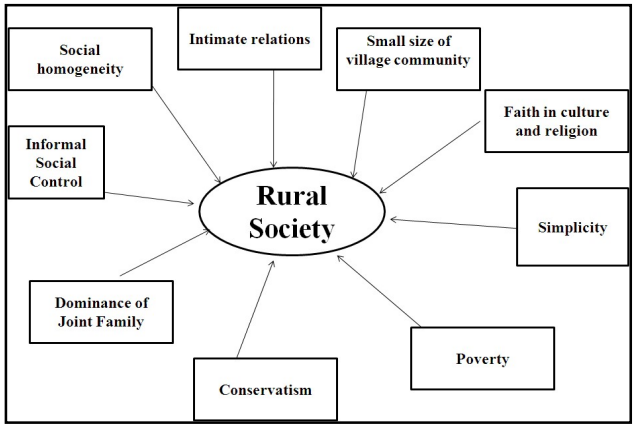

Fig. 1 Characteristics of Rural Society

The rural society has undergone considerable change in the recent past, particularly since the Independence as a result of a series of the land reform legislations that have accelerated the pace of this change. India has a rich cultural heritage and is a land of

diversity. The diversity in social life is reflected in multi-social, multi-lingual, multi-religious and multi-caste nature of the society. Presently, approximately 70-80% of Indian population belongs to rural society. The important features of the Indian social structure are predominant rural habitation in small villages, multi-religious and multi-caste social identities and important role of family in the social life.

The major characteristics of rural society are given below:

(i) **Small size of village community:** Rural society has small villages and small population size. They entirely depend on their domestic animals and natural resources for their survival. Small size villages help to increase social bond, helping nature which lead in providing basic needs to the villagers.

(ii) **Faith in culture and religion:** Rural societies generally believe on different types of cultures and religions. This type of approach helps conservation of nature and its components because it is true that all the cultures and religions directly associated with nature. Rural society also believes in traditional methods of food preparation and medicines, these types of methods are helpful in conservation of nature.

(iii) **Simplicity:** In the present time people realized that simple living standards are directly correlated with nature conservation. As you know that using of bicycle is far better than using of fuel cars/vehicles. Fuel cars/vehicle not only contribute to air and noise pollution but also responsible for extra pressure on energy resources. All the luxurious things such as Air conditioning homes, washing machine, mobile phone etc. put extra pressure on natural resources which are responsible for different types of pollution. It is well known that harmful CFCs gases are emitted from air conditioning equipments and refrigerators. These harmful gases are responsible for ozone layer depletion. Rural societies generally rely on natural based products and avoid such luxurious items.

Advantages of rural society with respect to environment:

(i) **Unpolluted Air, Water and Soil:** Due to less industrial activities and less number of vehicles in rural society, you will find pure water, air and soil in rural society as compared to urban society. Rural society use organic farming, green manuring, vermi- compost, cow manure instead of harmful chemical fertilizers and pesticides.

Now scientists of world also recommend these types of agricultural practices to minimize the health problem and pollution level.

(ii) Rich Biological Diversity: As you know that main occupation of rural society is agriculture. They cultivate different types of crops, fruits, medicinal plants in their territory therefore; you will find more natural resources and bio-diversity in rural society. Rural societies also preserve and conserve sacred groves which are great repositories of bio-diversity.

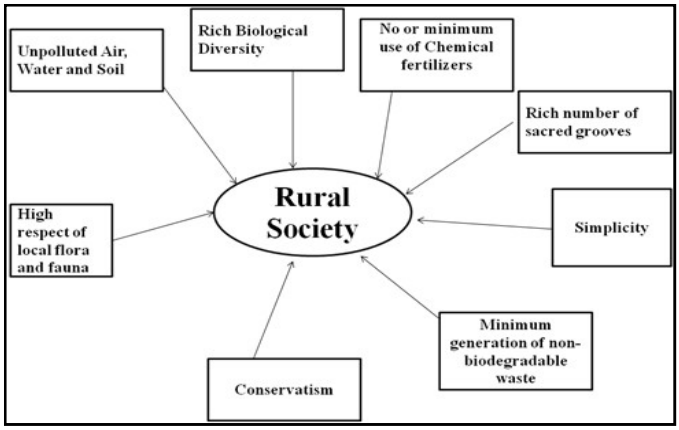

Fig. 2 Advantages of Rural Society with respect to Environment

(iii) No or minimum use of Chemical fertilizers: People of rural society cultivate crops with the help of cow manure, biofertilizers and green manures. These types of agricultural practices are certainly helpful to conserve biodiversity of terrestrial and aquatic ecosystem.

(iv) Rich number of sacred grooves: Rural society has rich number of sacred groves. Sacred groves are religiously important groves. In India about 13000 sacred groves are present in different states and most of the sacred groves are located in the rural areas.

(v) Minimum generation of non-biodegradable waste: People of rural society generally depend on their natural products and believe in traditional method of life style therefore they generate less non-biodegradable as compared to urban society. Due to minimum influence of urbanization and industrialization in rural society certainly lead to minimum generation of solid waste and non biodegradable waste.

(vi) High respect of local flora and fauna: As earlier mentioned that rural society mostly depends on natural products such as fruits, foods, medicines, agricultural equipments etc. therefore, they respect nature with high zeal. People of rural society respect medicinal plants, local crops, cow, buffalo, snakes, crow, pigeon

and almost all the creatures surrounding them. They know they cannot survive without natural resources.

Disadvantages:

(i) Lack of scientific knowledge about environment and local flora and fauna

(ii) No advanced remedial measures for natural disasters such as flood, earthquake etc.

(B) Environmental Ethics in Urban Society

As you know that urban area is where all the facilities such as schools, hospitals, malls, well developed roads are easily accessible. Urban area has its typical characteristic determined by variables as mix of power, space, market as a result of development in science and technology, and industrial development. Due to industrial development there is urbanization as a result of which urban societies are created. Urban areas are derived from rural areas. It is also noted that every village possesses some elements of the cities while every city possesses some feature of the villages. Different criteria are used to decide a society as urban, some of them are: population, legal limits, types of occupations, social organizations. The city in the words of Louis Wirth refers to "a relatively large, dense and permanent settlement of socially heterogeneous individuals."

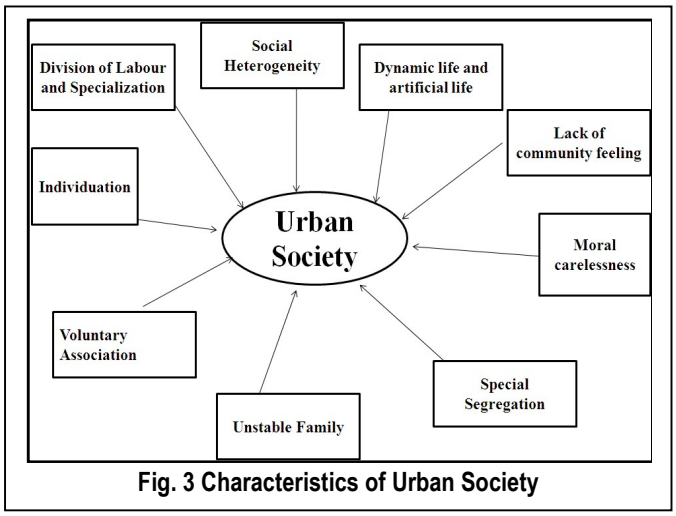

Fig. 3 Characteristics of Urban Society

Meaning of Urban Society:

An urban society is characterized by higher population density and vast human feature in comparison to rural society. Urban societies are created from rural societies and again developed by the process of urbanization.

Urban societies should fulfill the following criteria:

(i) A minimum population of five thousands persons/people.

(ii) Minimum 75% of working people should have non agricultural occupation.

(iii) A density of population of a least 400 persons/sq.km.

Urbanization (Formation of Urban area from rural area) refers to a process which envisages land settlement and complete transformation of economy from agricultural to industrial, commercial sectors dependent on institutions of modern living. The urban society is heterogeneous and known for its diversity and complexity. Urban society is far away from the biodiversity, natural resources and nature.

Advantages of Urban Society with respect to Environment:

(i) Sanitation and hygienic environment

(ii) Good literacy and well aware people

(iii) Remedial measures for epidemic diseases

(iv) Well developed infrastructure and accessibility

Disadvantages of Urban Society with respect to Environment:

(i) **Pollution:** The situation of urban society is going worse day by day. Excessive use of vehicles, industrial revolution, and lack of moral responsibilities certainly leads in to air, water and soil pollution in urban societies. Presently, city like Delhi facing lot of problems due to photochemical smog. Various rivers of India such as Ganga, Yamuna, Narmada, Hoogly etc. losing their water quality and biodiversity at tremendous rate due to urban domestic waste, industrial waste and dumping of solid waste. River Ganga flows in major cities like Haridwar, Kanpur, Allahabad, Varanasi, Patna, Sahibganj and receiving millions of liters untreated sewage from these cities. As you know that situation of Yamuna river in Delhi which is literally dead river due to urban waste and sewage.

(ii) **Low biological diversity:** Developmental activities such as road construction, industries development, urbanization, etc. are responsible for low biological diversity in urban society. Many species of plants, amphibians birds and mammals have been extinct due to habitat destruction, pollution and other manmade activities. You must know that population of sparrow declining very fast specially in urban area due to urbanization.

(iii) **Maximum use of chemical fertilizers:** Due to high population demand of food and basic needs are also high in urban area therefore, farmers are using excessive amount of chemical fertilizers to enhance the crop production. As you

know that these chemical fertilizers are harmful for human being and cause different types of diseases such as cardiovascular disorders, cancer and neurological disease.

(iv) **Very low traditional knowledge:** Traditional knowledge of environmental components can play very important role in conservation of environment. As you know that urban society lack the concept of joint families which consequently lack the traditional knowledge of environmental management. People of urban societies are far away from environmental ethics as compared to people of rural society.

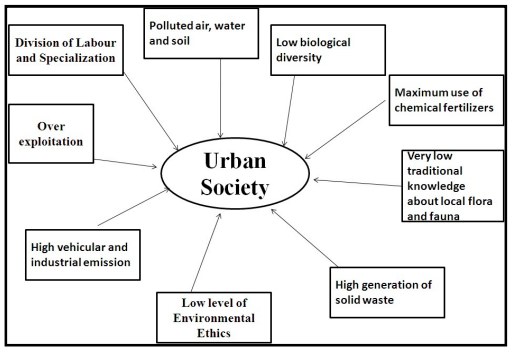

Fig. 4. Disadvantages of Urban Society with respect to Environment

(v) **High generation of solid waste:** Due to very dynamic and busy life style urban people generally relies on packaged and processed food; therefore they generate high solid waste compared to rural society. If you visit cities like Delhi, Kanpur you will find the mountains of solid waste near the road. After incineration (burning of solid waste) these wastes release very toxic gases in the atmosphere.

(vi) **High vehicular and industrial emission:** Rapid increase in population in urban society and use of personal vehicles ultimately lead in to high gaseous emission from vehicles. As you know that situation of Delhi the Capital of India where odd even formula of Government for vehicle is still not working perfectly. Demand of basic needs also raise with population explosion as a result industrialization also increases at the same rate. Toxic chemical from industries eventually mix with atmospheric air which is responsible for respiratory diseases, lung cancer, cardiovascular disorders, and neurological disease.

1.3.2 Classification of society on the basis of religion:

The causes of diversity in India may be traced through a variety of methods, the most obvious being the ethnic origins, religions, castes, tribes, languages, social customs, cultural and sub cultural beliefs, political philosophies and ideologies, geographical variations etc.

India is a land of diverse religious faiths. But the influence of Hinduism easily transcends that of any other religion like Christianity in Europe. Religious concepts like monotheism, immortality of the soul, re-incarnation, karma, nirvana, moksha etc. inspire people all over the country. Religious rites and rituals have uniformity throughout the country. All religions have a common ideal worship of the Lord, and all of them proclaim that there is only one God. Almost all the religions described or cited some nature based beliefs and theories. Some important religions of world and their interpretations about nature are described below:

(i) Environmental ethics in Hinduism: Hindu religion is one of the oldest religions and believes in Environmental ethics. We need to understand how attitude of Hindu to nature has been shaped by religious view of cosmos, creation the animate world, the plant kingdom and his relation to external world. The earliest Sanskrit text, Vedas and Upanisads have almost exclusively accepted and preached about the non-dualism of the supreme power that existed before the creation of earth. According to Mahabharata (Moksha 182.14-19) "God as the efficient cause the nature (*Prakriti*) as the material cause of the universe is unconditionally accepted, as is their harmonious relationship. Hindu believes that God is father of all creatures, he made sky, from sky he made water and from water he made fire (Agni) and air (Vayu) then earth came in to existence. Hindu also believes mountains are his (God) bones, earth is the flesh, sea is the blood, sky is his abdomen, air is his breath and agni and rivers are teja and nerves, respectively". Hundreds of references related to environmental ethics have been cited in Hindu religion. Hindu respects five components of environment such components are Air, (vayu), Water (Jal), Soil (Earth), sky (akash) and fire (agni) . We will discuss details about views of Hinduism on nature in unit-2 i.e. Cross cultural views on nature.

(ii) Environmental ethics in Islam: Islam is regarded as monotheistic religion, which is clear from the very first sentence of Holy Quran. Quran literally means Word of God. Holy Quran says that God reveals himself in cosmos. Muslim believes that the laws of nature, the work of God are the divine words recorded in the book of Nature. The law of God for man is divine words embodied in the Quran. Work and word of God correspond with each other. They believe that God (Allah) is the absolute creator, sustainer, ruler, destroyer, restorer and recorder; there is no

power or strength except him. He (God) is Exalter (al-rafi) and the honourer (al-muizz) and abaser (al-muhill). He is withholder (al-mani) and He is advantager (al-nafi). He is Compassionater (al-rahman, al-rahim). Further Quran says "man is born with nature made by Allah and he indeed prospers who purifies it and he is ruined who corrupt it. Muslims also believe that agriculture is best occupation and they tried to protect flora and fauna of globe. According to Hazrat Bin Malik, Holy Prophet "If Muslim plants a tree and cultivate a field of crop and men or animal eat of it is a charitable act for them". Many references have been cited in Muslim literatures about nature we will discuss in Unit-2 i.e. cross culture views on nature.

(iii) Sikhism: Environment is actually a bridge between man and super power. Gurunanak Founder of Sikh religion has assigned divine attributes to nature. Sikh religion and philosophy are deeply related to environment. Sikhism deals with natural phenomenon, animal and birds, seasons and flora and fauna and above all the creation of the world. According to Sikhism, man should have respect for all God is creation and man must know the internal truth of his place. If we take the sense of Sikhism then we can conclude man must maintain such a balance between both physical and spiritual relationship not only for his own well being but for his environment also.

(iv) Environmental ethics in Christianity: Christian people believe that the Lord took the man and put him the Garden of Eden to work it and take care of it. The concept of strict and generally valid laws of nature could hardly have arisen without the Christian concept of creation. According to Genesis1:26-28 the God Said "let us make man in our image, in our likeness, and let them rule over the fish of the sea and bird of the air, over the livestock, over all the earth, and over all creatures, that move along the ground. Therefore, God created man in his own image. God blessed them and said to them "be fruitful and increase in number, fill the earth and take care of earth. Many references have been cited in Christianity we will discuss some of them in Unite-2 i.e. cross culture views on nature.

(v) Environmental ethics in Buddhism: We are giving amidst ecological calamities and environmental crisis because we have agonized our mother earth, trodden dense forest, the realm of tranquillest, forbidden water the first and life giver to all living beings. We have become disinclined to pursue our peace-seeker's saying and the shown path. Buddh religion says that soma, varma, prajapati, moon and

sun may bestow bliss on you, and religion also believes that every component of environment is important and created by God. Pollution is prohibited in Buddhism. If we study the environmental ethics of Buddhism we will find Buddhist philosophy helps us to have a clearer understanding of present environmental issues. Metta Suttara says that Buddhist prayers that "As the mother protects her child even at the risk of her own life" on the same way earth protects us".

The lesson learned is an environmental ethic is a crucial part of society and we have to be aware how our actions affect people directly or indirectly. We should try to follow the rules and regulations (moral values) set by the different societies for conservation of nature and environmental.

1.4 Responsibility for environmental degradation

We must know that moral irresponsibility of people is responsible for Environmental degradation. Environmental pollution may define as "Any undesirable change in physical, chemical and biological properties of environmental components is called environmental pollution". In ancient time people were aware about the importance of every component of environment. But in last few decades almost every component of environment such as air, water, soil, flora and fauna being polluted and degrading due to unethical activities. For example millions of devotees take bath in Ganga River during special occasion such as: Makar Sankranti, Kanwar Mela, Vasant Panchmi, Maha Shivaratri etc. and generate some solid waste in Ganga River which pollutes the water quality of Ganga River. Over population, unethical activities, deforestation, mismanagement of natural components are responsible for environmental degradation. Unethical activities and total ignorance of environmental components certainly leads to different types of pollutions some of them are described below:

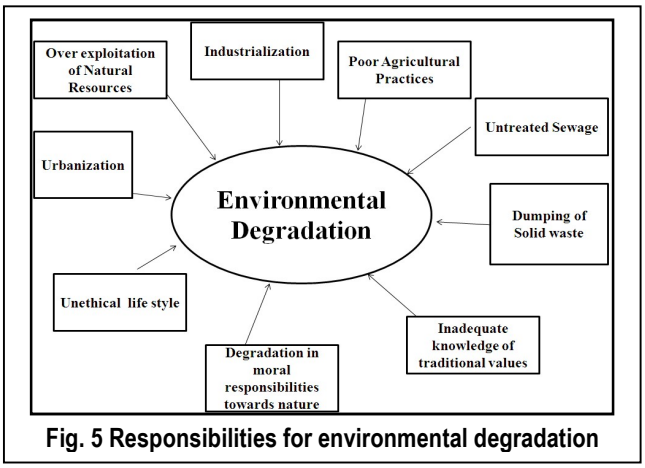

Fig. 5 Responsibilities for environmental degradation

1.4.1 Air Pollution

As you know that, air is one of the most important commodities to sustain life on this earth. Clean air is the primary requirement to sustain healthy lives of humankind and those of the supporting ecosystems. Without air we cannot imagine life on this earth. As you know that main source of air pollution is vehicular emission. If we think about the conditions of metropolitan cities of world we will find that level of RSPM, SPM, oxides of sulfur, and oxides of nitrates increasing day by day. We should think ethically about the use of public transportation instead of personal vehicle. As you know about the condition of Delhi where even odd even formula of Government did not work. The problem of air pollution has assumed serious proportions in Delhi, which is also reflected by an increase in the respiratory and cardiovascular mortality. According to World Health Organization (WHO) urban air pollution is responsible for approximately 8,00,000 deaths and 4.6 million lost life annually around the globe. Forest fire also contributes in air pollution and it is totally due to irresponsibility. Religious spots such as Badrinath, Kedarnath, Haridwar, Varanasi and Ayodhya, etc. receive number of vehicles and contribute in air pollution. It is totally due to pilgrimage concept has been changed in to tourism. People should know difference between pilgrimage and tourism. Pilgrimage as just a journey towards religious spots and tourism is temporary movement of people for different purposes such as adventure, sports, education, business etc. Shifting of spiritual pilgrimage in tourism industry certainly alarming us that our ethical values are degrading day by day.

1.4.2 Water Pollution

After air water is one of the precious gifts of nature to human being and other species of planet earth. The importance of water in our diet is apparent as it helps the body to perform specific metabolic tasks and regulates our body temperature, moreover water is unique solvent. There is no doubt that water is everywhere and it is very important to all the life inhabiting in this. Fortunately, India is blessed with full of natural resources viz. forest, water and land. India is home to various aquatic bodies such as Ganga, Yamuna, Rapti, Brahmaputra, Narmada, Krishna, Kaveri, Jhelum, Dal lake, Naini Lake, Bhimtal Lake etc. In Indian culture and tradition all the rivers regarded as mother. Unfortunately, in last few decades these rivers being polluted due to different types of manmade activities such as urbanization, industrialization, dumping of solid waste, poor agricultural practices etc. River encroachment is also sign of unethical vales of

human beings. You must know that the Kedarnath tragedy which happened on 16th June, 2013 in which 4200 villages and 1 lakh pilgrims were affected which is certainly due to the misbalance in nature.

1.4.3 Soil Pollution

Soil is upper part of earth and considered as a non-renewable resource because its formation from the parent rock material to soil takes more time. Indian Vedic scripture Atharveda says that *"Matah bhumih putroham prithivyah"* means this earth is my mother and I am the dutiful son of Her. But due to unethical activities such as dumping of solid waste soil quality going degrade. Excessive use of pesticides and insecticides, deforestation are sign of human's greed which over exploited the earth components at tremendous rate. Toxicants of soil may reach up to high trophic levels through bioaccumulation and bio-magnification and cause different types of diseases not only in human being but also other organisms of ecosystem. For the conservation of earth we should respect the earth. Swacch Bharat Abhiyan started by Honorable Prime Minister of India, Shri Narendra Modi on 2 October, 2014 that aims to clean up the streets, roads and infrastructure of the cities, smaller towns, and rural areas of India. You must know that if you want to clean whole country you should move towards moral values and moral responsibilities.

1.4.4 Noise Pollution

Noise word has been taken from Latin word "Nausea" which means unwanted sound. Noise pollution also leads in to different psychological effects, gastro-intestinal diseases, nausea, vomiting etc. Pressure horns of vehicles, sound of disc jockey and industrial noise are main sources of noise pollution. Noise level also find at higher level during different festivals such as Deepawali, Kanwar Mela, Mahashivratri, Ganesh Chatutrhi etc. If you observe the causes of noise pollution sources you will find that all the sources are due to moral irresponsibility. Fire crackers in marriage function and during festivals are totally needless. Researchers also observed that populations of many valuable birds declining due to fire crackers. Certain animals such as monkeys, wild pigs, baboon, fox etc change their behavior in noise affected areas.

1.4.5 Solid waste Generation

In the present time about 960 million tonnes of solid waste is being generated annually in India as industrial, mining, municipal, agricultural, biomedical wastes. This solid waste being dumped either in to dumping sites or in the periphery of aquatic ecosystems which is not only hazardous to aquatic life but also to the whole ecosystem. Domestic waste, industrial waste, medical waste and agricultural waste are the forms of solid waste. Unawareness and unscientific methods of its management are main problems of solid waste management.

1.4.6 Biodiversity Degradation

India is in 12th position in the list of mega biodiversity nations of world. Unfortunately, due to deforestation, habitat destruction, environmental pollution, and irrespective of plants and animals several species are facing the threat of extinction. If we think about ethical aspects of biodiversity we will find we generally respect biodiversity of earth. Srimad Bhagvatam 7.14.9 says that human should look upon deer, camel, monkeys, donkeys, rats, reptiles, birds and flies as though they were their own children what is that which distinguishes these from those (children). Yajurveda Bhasya 13.49 says that "O king! You should never kill animals like bullock useful for agriculture or like cows which give us milk and all other helpful animals and must punish those who kill or do harm for such animals". Poaching of animals is quite common in some places. Animals have been poached in certain places of India in which poaching of dolphin (National aquatic animal of India) Rhino, elephant (National Heritage of India), musk deer, and tiger are common.

Biodiversity used as food and medicines since prehistoric time. Ancient medical science such as Ayurveda and Unani medical system entirely depend on these rare medicinal plants. But due to commercialization and over exploitation many medicinal plants already extinct from the earth. In this context National father Mahatma Gandhi Said "Nature provides us enough to satisfy every man's need but not every man's greed.

1.5 Remedial measures and recommendations to save nature

- We should respect and honour the earth and its components.

- We should try to understand and cooperate with nature and with its every component.
- We should not hold themselves above other living creatures, and have no right to drive them to extinction.
- Hunting and poaching of animals should be banned.
- Human should be grateful to the plants and animals which provide food, medicines, employment to human being.
- We should keep each day sacred to earth and celebrate the turning of season
- Human should not run after gain at the cost of nature, rather should strive to restore its damaged majesty.
- We must aware future generations about the environmental ethics and moral responsibilities towards nature and environment.
- We must respect air, river, water bodies, trees, forests, all plants and animals.
- We have the right to defend ourselves against individuals of species that do harm and to use individuals of species to meet our vital needs but we should strive not to cause premature extinction of any wild species.
- We must protect the habitat of wild species.
- We must encourage religions and cultures to protect nature.
- We should use no more of the earth's resources than we need and should not waste such resources.
- We must increase the number of sacred groves in country.
- We must promote culture and traditions to conserve nature.

Thus, only by the change in attitude of man and by inculcating environmental ethics among one and all, we can protect, conserve and preserve natural resources and continue to live on the beautiful earth for generations to come.

Summary

In this unit we have discussed various aspects of environmental ethics. So far you have learnt that:

- Environmental ethics deals with the moral responsibilities of men towards nature and environmental components.

- Environmental ethics may be defined as "*Environmental ethics is a branch of applied philosophy that studies the conceptual foundations of environmental values as well as more concrete issues surrounding societal attitudes, actions, and policies to protect and sustain biodiversity and ecological systems.*
- Environmental ethics varies according to various societies.
- Society can be classified on the basis of area, infrastructure, facilities and religions. They may be Rural, Urban, Hindu, Islamic, Buddhist, Christianity, Sikh.
- Social homogeneity, simplicity, conservatism, faith in culture & religions are main characteristics features of rural society.
- Unpolluted air, water and soil, rich biodiversity, rich numbers of sacred grooves and traditional knowledge are main environmental advantages of rural society.
- Carelessness about traditional customs, dynamic life, social heterogeneity etc. are characteristics of urban society.
- Polluted air, water, soil, low biodiversity, use of chemical fertilizers, less knowledge about traditional knowledge of flora and fauna are the environmental disadvantages of urban society.
- Every religion follows the rules and regulations of nature and people of different religions have faith in nature and its components.
- Moral irresponsibility's of people certainly leading in to air, water, soil/land, and noise pollution. Unethical activities are responsible for bio-diversity degradation and solid waste generation.
- We can save the earth through promote environmental ethics, promote culture and tradition, change mindset of people and minimize the burden on ecosystems. We must know that earth is mother of all living creatures and we should protect every component of earth in very respectable ways.

Terminal Questions

1. (a) Fill in the blank spaces with appropriate words.

Meaning of environment is…….. The word Environment has been taken from……..word from …….language. The term ethics derives from the Greek word……..means …….. ". Morality refers to the concept of human ethics which pertains to matters of good and bad, often referred to as……used in three

contexts viz. individual conscience, systems of principles, and judgments; these three communally called ……

(b) Discuss the concept of Environmental ethics. Are you aware about various examples of Environmental ethics in different religions?

(c) What are the main characteristics of rural society?

2. (a) What are the environmental advantages of rural society?

(b) What are the main characteristics of urban society?

3. (a) What do you understand by urban area? What are the disadvantages of urban society with respect to environment?

4. (a) Give the environmental ethics in Hindu religion.

(b) Give the environmental ethics in Islam.

(c) Give the environmental ethics in Sikhism and Buddhism.

5. (**a) Fill the blank spaces with appropriate words.**

Environmental pollution may define as "Any undesirable change in……., ……. and …… properties of environmental components is called environmental pollution". In ancient time people were aware about the importance of every …….. But in last few decades almost every component of environment such as ……..being polluted and degrading due to ……...

(b) Illiteracy is character of urban society (Yes/No)

(c) You will find rich biodiversity in rural area (Yes/No)

(d) Explain water pollution due to unethical activities.

(e) What do you understand by environmental degradation?

6. (a) Define environmental ethics. How biodiversity depleting due to unethical ways.

(b) How you can minimize the environmental impacts through environmental ethics?

Answers

1. (a) Total surroundings, Environ, French, Ethos, habit or custom, right or wrong, moral values.

(b) Small size villages, Intimate relations, Faith in culture and religions, Dominance of Joint family, Social homogeneity, Conservatism, Poverty, and Illiteracy are characteristics of rural society.

2. (a) Unpolluted Air, water and soil, Rich Biological diversity, No or minimum use of chemical fertilizers, Rich number of sacred groves, Minimum generation of solid

waste, High respect of flora and fauna are advantages of rural society with respect to environment.

(b) Social heterogeneity, Division of labor, Individuation, Unstable family, Moral carelessness, High incident of crime, dynamic and artificial life are characteristics of urban society.

3. (a) Urban area is where all the facilities such as schools, hospitals, malls, well developed infrastructure easily accessible. Environmental disadvantages of urban society with respect to environment are polluted air, water and soil, low biodiversity, maximum use of chemical fertilizers, very less traditional knowledge about local flora an d fauna.

4. (a) See the classification of society on the basis of religions (1.3.1)

(b) See the classification of society on the basis of religions (1.3.1)

(c) See the classification of society on the basis of religions (1.3.1)

5. (a) Physical, Chemical, Biological, Component of Environment, Air, water and soil, manmade activities.

(b) No

(c) Yes

(d) See Responsibility of environmental degradation

(e) See Responsibility of environmental degradation

6. (a) Environmental ethics is a branch of applied philosophy that studies the conceptual foundations of environmental values as well as more concrete issues surrounding societal attitudes, actions, and policies to protect and sustain biodiversity and ecological systems.

"Environmental ethics is the part of environmental philosophy which considers extending the traditional boundaries of ethics from solely including humans to including the non-human world. It exerts influence on a large range of disciplines including environmental law, environmental sociology, eco-theology, ecological economics, ecology and environmental geography.

(b) See section 1.5.

Unit 2: Cross Cultural Views on Nature

Unit Structure

2.0 Learning objectives.

After studying this unit you will be able to understand:

- What is culture
- What are the views of Indian culture on nature
- What are the views of western culture on nature
- What are the views of Hinduism on Nature
- How Islamic interpret Nature
- What are the views of Buddhism on Nature
- What are the views s of Sikhism on Nature
- What are the views of Christianity on Nature
- What is the relationship of man and nature
- What is adaptation and how man adapted in nature
- How culture/nature divide
- What is cultural and social ecology

2.1 Introduction

As you know that, nature has always been very vivacious, giving and flexible to a very large extent. Culture and religion protect and nurture nature. Culture and nature are

closely associated; culture includes foods, festivals, religions, traditions, languages. If we observe the religions like Hinduism, Islam, Buddhism, Jainism, Sikhism you will find they respect sun, wind, land, trees, plants, and water which are the fundamentals of survival on this earth. Likewise, respect and conservation of wildlife (garuda, lion, peacock, and snake) are part of cultural ethos from time immemorial. Almost the entire living of God and Goddess was very close to nature and environment. In fact, whole civilizations have come into existence near sources of water like Indus Valley Civilization. In this sense, nature and culture become intertwined. Culture reflects our history, tradition and our beliefs. A country like India is a culturally rich and diverse country where people speak many different languages, with many communities, many religions which live in their particular social structures entirely depending on their environment to ensure their livelihood.

Culture and traditional knowledge had always contributed to medicine and health care. Further for centuries, indigenous knowledge was used to survive and adapt their in agriculture, fishing and hunting in the event of changes in climate. It is ironical that now when the threat of climate change is so important we are looking for solutions outside. Many cultures viewed nature differently and we will discuss some of them in this chapter.

Here are some examples which show cross cultural views on nature and attitude towards nature. In the first example Chipko (tree-hugging) movement is the most widely known example of Hindu attitude about environment, In Chipko movement women of Uttarakhand hugged on trees to protect the forests. Bishnoi is social group the from Rajasthan, Western Thar Desert of India, who follows the belief of conserving biodiversity of the area and ensuring eco -friendly social life for the society. In Rajasthan, a desert state of India, the Khejri tree *(Prosopis cineraria)* is valued for its moisture retaining properties, and these trees should not be destroyed even if it comes between the constructions. Another example is that of natural resource conservation at the village of Mendha in Maharashtra in which the villagers have made sincere efforts at biodiversity conservation. Another example is North-Eastern region of India which is home to diverse tribal and other ethnic groups. These communities meet a substantial proportion of their resource requirements from a relatively small catchment area in which they have been living for a long time and live in complete harmony with nature. The Meetei communities in the State of Manipur and Assam protect species of plants

in the sacred groves, which also protects species of birds and animals. Plant diversity of these areas are mainly teak, several fruit trees, lemon, ginger, eucalyptus and bamboo.

Different types of culture, traditions and religions have described their views on nature and its components. If you listens words like Lion, Peepal, Ganga, Sun, Moon, Camel etc. these words are directly related to culture, tradition and nature. In this unit we will discuss about the cross cultural views on nature, relationship of man with nature, adaptation of man with nature, culture-nature division and cultural and social ecology.

2.2 Views of Indian culture on nature

The Indian culture protects nature through various ways. According to the Greendex (National Geographic & research) "India is the most sustainability minded country in the world". Traditional Indian Lifestyle can give us hundreds of examples of living in harmony with nature. Living a life with nature and giving back to nature is not new to Indian culture. Here are some examples of Indian culture related to nature conservation:

Sacred Groves: Conservation of sacred species like peepal, tulsi, neem, ashhok, bel have been important aspect of Indian culture. The Sacred Groves/Forests are important repositories of floral and faunal diversity that have been conserved by local communities in a sustainable way. The sacred groves in Himachal Pradesh, Maharashtra, Kerala, Karnataka, and elsewhere not only highlight community managed conservation efforts but also offer potential for carbon sequestration.

Most important traditional use of sacred groves was that it acted as a repository for various Ayurvedic and Unani medicines. Besides this, these are source of replenishable resources like fruits and honey. The groves are often associated with ponds and streams, and meet water requirements of local communities. These sacred groves also serve as recharging the water of the concerned area. Various culture of India believes that trees and animals are important components of the nature and very useful for community and local people. Sacred groves generally contain plant and animal species that have become extinct in neighboring areas, therefore harbor great genetic diversity. These sacred groves are religiously important to local community and people believed that God and Goddess live in these sacred groves therefore, they do not destroy them. However, people of local area use the part of trees as medicines in

rare cases. They worship these sacred groves on special occasions such as Makar Sankranti, Basant Panchmi, Maha Shivratri etc.

Advantages of Sacred groves: There are various advantages of sacred groves some of them are given below:

(i) These sacred groves are important in conservation of biodiversity (both flora and fauna).
(ii) These sacred groves are religiously important.
(iii) These sacred groves are repository of various medicinal plants.
(iv) Theses sacred groves are helpful in recharging water of that area.

Table.1: List of sacred grooves in different states of India.

State	No.	Local name
Andhra Pradesh	689	*Pavitraskhetralu*
Arunachal Pradesh	64	*Gumpa forests*
Assam	41	*Madaico*
Chattishgarh	600	*Sarna*, *Devlas*, *Mandar*, *Budhadev*
Haryana	248	*Beed* Bani Bann Janglat Shamlat
Himachal Pradesh	5000	*Deo bhumi*
Jharkhand	21	*Sarna*
Karnataka	1424	*Devarakadu*, *Devkad*
Kerala	2000	*Kavu*, *Sarpa Kavu*
Maharashtra	1600	*Deorail/Devrai*
Manipur	365	*Gamkhap*, *Mauhak*
Meghalaya	79	*Law kyntang*, *Law Lyngdoh*
Orissa	322	*Jahera*, *Thakuramma*
Puducherry	108	*Kovil Kadu*
Rajasthan	9	*Oran Kenkri Vani*
Sikkim	56	*Gumpa forests*
Tamil Nadu	503	*Kovil Kadu*
Uttrakhand	18	*Devbhumi*, *Bugyal*
West Bengal	670	*Garamthan*, *Harithan*

(i) Food: The respect of food items has been a way of Indian culture. Local and seasonal foods locally grown and seasonally produced fruits are recommended for good heal which significantly reduces the need for preservation and transportation. As you know that every season has its specific fruits and crops, Indian culture applies these food as medicine and curing of certain types of diseases. Indian

culture also focus on food preservation techniques and it has also been done in a very environment friendly manner without using energy generated by fossil fuels instead simple method of pickling, sun drying etc. Women use picking methods for lemon, amla, mango pickle at their home which is easiest and eco-friendly technique to preserve these food items.

Children in Indian culture are taught about respect for food at a young age. Indian diet is primarily plant based and approximately 42% of the households in India are strict vegetarian.

(ii) Sustainability: In Indian culture sustainable consumption values, such as switching off unwanted electrical appliances are imbibed in homes as well as schools from a young age. During summers, people often prefer to sleep out in the open, in courtyards or on the terrace, thus leading to reduced usage of cooling appliances in homes.

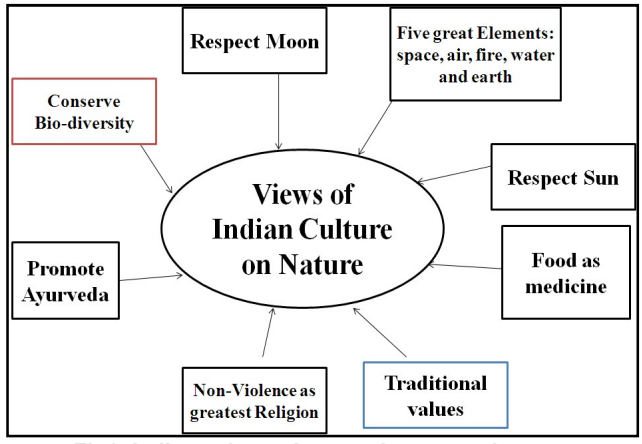

Fig1: Indian culture views and protects the nature.

For generations, earthen pots or "Matkas" have been used to store water and keep it cool during summer season. This helps reduce the refrigeration requirement during summers. In Indian culture the practice of sun drying of clothes and hand washing of dishes results in reduced water consumption and more energy conservation. Some people also prefer to bathe in cold water throughout the year.

(iii) Clothing: India is a home to unique types of hand woven fabrics or handlooms. Traditional practice of weaving textile with a weaving loom does not require any energy; it only requires the skill to weave. People of India generally women weave clothes for their children. Indian culture has a rich heritage of various hand embroidered fabrics. Examples like banarsi, kanjivaram, patola, zardozi, kalamkari, sujani, phulkari, kashida, kantha, Nagaland weaves etc. Khadi is made from cotton, silk or wool. Indian culture prefers cotton handkerchiefs & kitchen towels are used over a long period unlike the use & throw tissue papers. Paper products are harsh on the environment as over use of wood for the same can cause of

water & air pollution. Tradition of passing cloths and books to younger siblings: recycling of used cloths to make new products is still in some places in India. Indian culture of recycling is evident from the fact that most of the household have dusters made up of used cloths. Other examples of nature conservation in Indian culture through reusing and recycling of solid waste for making carpets from old blankets, foot mats from jute sacs, cushion covers and bags from used clothes is there.

All these above mentioned examples give sufficient evidence that sustainable lifestyle is rooted in Indian culture. The path for sustainable development for a country which already has a rich culture of sustainable lifestyle should not be the same as the path taken by other cultures. So there is a strong need to redefine the meaning of development for world which can become the alternate model of development for the rest of the developing nations. India has varieties of religions such as Hinduism, Islam, Buddhism, Sikhism, Christianity etc. which are integral part of Indian culture. Here are important views of different religions on nature are described below:

2.2.1 Views of Hinduism on nature

Views of Hinduism on nature have been mentioned in Vedas, Upanaishads, Puranas, Sutras, Mahabharat, Ramayan and other sacred scriptures. Many of Hindus chant mantras daily to respect their rivers, mountains, trees, animals and the earth. Hinduism believes in peace even they have mantra for peace as "Om Dyau Shanti antariksha gwam shanti prithvi shanti rapah shanti roshadhayah shanti vanas patayah shanti vishwed devah shanti brahma sarvag wam shanti shanti reva shanti sa ma shanti redhi om shanti shanti shanti" which means unto the heaven be Peace, unto the sky and the earth be Peace, Peace be unto the water, unto the herbs and trees be Peace, unto all the Gods be Peace, unto Brahma and unto all be Peace.

Earth can be seen as a manifestation of the goddess, and must be treated with respect. You can understand view of Hinduism by Atharvaveda verse which says that "माताः भूमिः पुत्रोहम् पृथिव्याः" which means "Earth is my mother and I am the dutiful son of her". The five elements space, air, fire, water and earth are the foundation of an interconnected web of life. According to Hinduism Dharma (Religion) as "duty" can be reinterpreted to include our responsibility to care for the earth. Important Hindu teachings on the nature and environment are described below:

The five great elements called as "*Pancha Mahabhutas"* create a web of life that is shown forth in the structure and interconnectedness of the cosmos and the human body. Hinduism teaches that the five great elements (space, air, fire, water and earth) that constitute the environment are all derived from Nature (*Prakriti*). Hindus says that the human nose is related to earth, tongue to water, eyes to fire, skin to air and ears to space. This bond between our senses and the elements is the foundation of our human relationship with the natural world. Hinduism says that nature and the environment are not outside us, not alien or hostile to us. They are an inseparable part of our existence, and they constitute our very bodies. I*shavasyam says that d*ivinity is omnipresent and takes infinite forms. Hindu scriptures such as the *Bhagavad Gita (7.19, 13.13)* and the *Bhagavad Purana* (2.2.41, 2.2.45), contain many references to the omnipresence of the supreme divinity, including its presence throughout and within nature. Hindus worship and accept the presence of God in nature. For example, Hindus believe in mighty rivers such as the Ganga, Yamuna, Narmada, and Krishna as goddesses and mother. Hindus believe that our environmental actions affect our karma (actions). Moral behavior creates good karma, and our behavior toward the environment has karmic consequences. Because we have free choice, even though we may have harmed the environment in the past, we can choose to protect the environment in the future, replacing environmentally destructive karmic patterns with good ones. Hindu believes that the earth is a goddess and our mother and deserves our devotion and protection. Many Hindus touch the floor before getting out of bed every morning and ask Earth (Devi) to forgive them for trampling on her body. Surya Namaskaar (Praying to Lord Sun) is common in Hinduism. Hindus scripture stated that Ahimsa (Non-Violence) is the greatest dharma (duty) and Ahimsa to the earth improves actions of individual. Holiest scripture of Hindu Srimad Bhagwatam 7.14.9 says that everyone should look upon deers, camels, monkeys, donkeys, rats, reptiles, birds and flies as their own children. The most important aspect of animal worship among the Hindus related to incarnations. Among various incarnation of God, He incarnated first himself in the form of Fish, then on to tortoise, boar and dwarf person. His fifth incarnation was man-lion. As Rama He was closely associated with monkeys and as Krishna He was always surrounded by the cows. Hindus say that our Lord Shiva and his family lives in harmony with nature, they live in Himalaya in which career *(Vahan)* of Lord Shiva is Bull, vehicle of Maa Durga (Wife of Shiva) is Lion, snakes are

jewelery of Lord Shiva, vehicle of Kartikeya (First son of Shiva) is Peacock, and vehicle of Lord Ganesh (Second son of Lord Shiva) is rat. They all are live in harmonic condition even they are natural enemies to each other. Narsimhapurana 13.44 says that "O wicked man! If you roasted a bird then you are bathing in sacred river, pilgrimage, worship and yajna are useless".

Hinduism says that "Tain tyakten bhunjitha" means "take what you need for your sustenance without a sense of entitlement or ownership". Hindu scripture very keen about pollution (Vikriti) Vishnu Puran (3.11.11-12) stated that people should not defecate in ploughed field, land having crop, dwelling place of cow, public paths, sacred places like rivers, water, graveyard and forests.

Table 2. Animals associated with God and Goddess in Hinduism

S.N.	Associated Animals/Birds	God and Goddess
1.	Lion	Durga
2.	Wildgoose	Brahma
3.	Fish	Vishnu, Kama
4.	Monkey	Rama
5.	Horse	Sun
6.	Owl	Lakshmi
7.	Peacock	Kartikkeys, Saraswati
8.	Crocodile	Ganga
9.	Tortoise	Yamuna, Vishnu
10.	Ass	Sitla
11.	Deer	Vayu
12.	Dog	Bhairav, Dattatrey
13.	Snake	Shiva, Sun
14.	Swan	Saraswati
15.	Eagle	Vishnu
16.	Rat	Ganesh
17.	Bull	Shiva
18.	Vulture	Shani
19.	Parrot	Kama
20.	Elephant	Indra and Ganesha
21.	Tiger	Katyayani
22.	Cow	Vishnu

According to Charaka Samhita, Vimansthana, 3.6 (1), the polluted air is mixed with bad elements. The air which is against the virtues of season, with full of moisture, speedy, hard ice cool, hot dry colliding from two or three sides, bad smelling oily, full of dirt, smoke sand and steam creates diseases in body and is polluted. Padampuran, Bhoomikhanda 96.7-8 says that a person who is engaged in killing creatures, polluting wells, ponds and tanks and destroying gardens certainly goes to hell. Hinduism in

ancient time provided a system of moral guidelines towards nature preservation and conservation. Ancient scriptures have stressed that man and nature need to live in close harmony and plants and animals should be objects of unlimited kindness since they make no demand for their sustenance. We have been warned in Charak Samhita which stated that when air, water and other element of nature will be polluted the seasons start working against their routines and cycle and vegetable gradually begins to damage, this is most dangerous to both earth and human being. Therefore, we must follow the rules and regulations set by Vedas, Upanisads, Purans and all Holy Scriptures.

Table 3. Plants associated with God and Goddess in Hinduism

S.N.	Associated Plants	God and Goddess
1.	Tulsi	Vishnu, Lakshmi, ancestor worship
2.	Bel/Bilwa	Shiva, Spirits
3.	Asoka	Indra, Buddha
4.	Kadamba	Krishna
5.	Pipal	Vishnu, Shani
6.	Soma	Moon
7.	Neem	Sitala, Manasa
8.	Palasa	Gandarvh, Brahma
9.	Amalaki	Lakshmi, Kartik
10.	Tamal	Krishna
11.	Sij	Sitala

2.2.2 Islamic views on Nature

Islam asserts that there is one God creator of the universe and that is the God of providence, mercy and justice. The universal order is mentioned in Quran as follows: Everything in the universe is coordinate and well adjusted and there is no disorder, discord and unbalanced. Nature is essentially constructive, not destructive bringing about order not disorder and making for improvement and progress not deterioration and retrogression. Quran says man is born with nature made by Allah (Q30:30) and he indeed prospers who purify it and he is ruined who corrupts it (Q91:9-10).

According to Islamic theory of creation there are three important factors.

(i) Allah had created everything in the universe and also given the rules and regulations.

(ii) He had created everything by appropriate measures and well planning.

(iii) Everything has to observe the balance with proportion.

Further Quran says your lord is Allah who created the nature and earth. He is the creator and its regulator. He doesn't love those who exceed the limits of nature. The lord has created plenty of things for the survival of all living creature on earth. The

Quran also says the sun and the moon move according to a fixed reckoning and the stars and tree submit to him. He has raised the heaven high and set up the measures. Important thing is Quran related to ecological balance mentioned as “al mizan” means Allah created the universe and human being and then subjected to him whatsoever exist in the heaven and in the earth all of it but he clearly says that “who follow the rule and regulations made by Me (Allah) definitely get the heaven (ultimate peace)”

Views of Islam allow us to successfully interact with environment and nature and guide us to follow divine regulations, right order and observe the ecological balance. Views of Islam are very clear about environmental pollution. Quran specifically says that “And of mankind there is he whose conservation on the present life will please you and he will call Allah to witness as to that which is in his heart, yet he is most rigid of opponents. And when he raises the power his effort in the land would be to create disturbance therein and to destroy crops and life. Allah does not approve of pollution and ecological disturbance”. Water has been considered as purifying agent in Islam. The air pollution cause by smoke and gases in present time has been predicted in Quran. Quran says “Watch for the day when the sky will bring forth visible smoke that will engulf this will be afflictive distress and this is really happening now in the atmosphere”. Islam interprets the indiscriminate use of fertilizers, pesticides, insecticides, preservatives, drugs and emission and discharge from industries and nuclear waste demonstrates that man has become instrumental in changing Allah creation. According to Islamic view of ideal environment “no such alteration of God creation is permissible” The Quran in a suggestive and meaningful verse says:

“A picture of garden which is promised to those who are safeguarded, therein are rivers of water and rivers of milk, river of wine, river of honey, all kind of fruits with protected from their sustainer and evolver”.

In Islam aestheticism is preceded by cleanliness, as the holy prophet says “Clean and purify yourself with all possible means, for Allah has founded on cleanliness and none will ever enter paradise except every clean one. Several actions which lead to pollution in society are prohibited in Islam. For example an exposition of things disapproved of in the matter of streets has been mentioned as “Loading pack animals beyond what they can bear casting out the sweepings in to the upper part of the roads, throwing out water melon peel and dirty water which may cause folk to a slip fall. Thus Islam cannot exit with pollution.

Protection of fauna is directly associated with moral values. The teaching of mercy is essential part of the faith of Islam. The Quran says that "God loves those who are kind to his creation. Besides, the wild animals even for animals which are used for assistance in agriculture, Islam recommended using them according to their capacity. The Quran not only discourages the killing of animals for mere fun and sport, but also kind treatment towards them. It says "There is no animal on earth nor being that flies on wings, they are community like you". It also says that the earth is meant for all living creatures that are driven and commended by Allah and they are ensured their feed. The Quran also says "the activities of destroying agricultural and bio-culture have clearly been defined in Islam as "Fasad", birds which are the flying beauty of the biosphere should not be touched merely for sport and fun. The Prophet says "A sparrow killed just for entertainment would on the day judgment complain against the person who did so just for fun and not for any material gain"

Islam is much aware for the conservation of life (both wild and domestic) on earth. It regards the killing of the single soul in terms of entire community and saving of the single soul as the saving of million's life. Water, plants and trees are often repeated as favorite themes of the Quran since they stand in vital relations to animals and human life. A tree in the Quran symbolizes eternity and never decaying ownership, as well as medium of life, light and inspiration. The attributes of sacredness blessedness and holiness are attributed to some trees. For example the Olive and Fig by which God swears. All this natural wealth is His creation and has been provided by Allah. He grows corns, olive, datepalm, grapes and all kind of fruits for you (Quran16:12). Quran mentioned Tuba tree in paradise. The glorification of trees, forests and water entail the idea of forest conservation. The Quran is sensitive to the cutting of trees which is sanctioned under extreme conditions. Quran says "no fruit bearing tree shall be cut down, no crop burned, no habitation devastated". The concept of nature in Quran is distinct enough. It has given the values of unity, balance, order and harmony. The balance not only governs the structuring of the universe, it has specified each component with its proper place and defines function. The ideals set by Quran may well acceptable as a basis of elaborating conservational strategies.

2.2.3 Views of Buddhism on nature

According to SS Tripathi (1989) Buddhism is a western term equivalent to Buddha Dharma in east. Various references related to nature and environment has been cited

in Buddhism. The home of Buddha is India Buddha himself obtained inspiration from the occult beauty of nature and expressed his keen appreciation. “I saw in the lap of forest, among the pleasing region of earth, a river flowing while pious and pleasant shore of the stream attached by heart. I decided to be most appropriate place of calmness, where I may indulge myself in spiritual meditation and obtained the realm of truth as the life is full of miseries, sorrows and agonies. Thus, I reached in the state of enlightment “Bodhi” this is because the bank of rivers, peaceful sea, a valley at the foot of mountain, green forest have had pleasant seat for the ancient mediators. The great Buddha has laid down religious sanction against the indiscriminate use of trees and plants. In a Jataka Akhyana a story is mentioned as “There was an old Bhaddasala tree and regarded as dwelling place of God. Once king wanted to cut it down to make use of its thick wood for new palace. Bhaddasala was struck with wonder to imagine his act and said I have passed 60,000 years at this place none of your ancestors ever injured even my branches, leaves and roots, they always worshipped me so you do also. Finally, the king gave up his idea of cutting the tree. It is explicitly mentioned is several scriptures that in the trees there live different God and Goddess. In fact, trees and plants have a very important place in the social life of India as well as in other countries where Buddhism practiced due to the fact where a tree is propagated usually there is mythical apprehension associated with a higher or folk God or defiled saint or any other socio-religious personality. Bhikkhu and Buddhist always required that their dwelling be near the mountains or in the forest under the shade of tree. Pollution is prohibited in Buddhism. Buddhism says “why vitiated you the cistern O! Gentle!” This is purified after long period-penance and meditation of Risis, who lived in forest”. The views of Buddhism on nature if rightly interpreted and propagated may show us the right path for the world welfare and beautiful nature.

2.2.4 Views of Christianity on nature

The Christian scriptures are contained in Bible. Christianity has a long historical custom of symbol on nature and human responsibility. Genesis1:26-28 (Old book of bible) says that God instructs humanity to manage the creation in particular ways. "And God blessed them, and God said unto them, be fruitful, and multiply, and replenish the earth, and subdue it: and have control over the fish of the sea, and over the fowl of the air, and over every living thing that live on earth. "And the God took the man, and put him into the Garden of Eden to dress it and to keep it." (Genesis 2:15). Genesis 1-11

contains several fundamental ideas about the natural world and our place in it. For example: Genesis clearly state that God is the source of all life on this planet. Furthermore, the formation of Adam (first man created by God) from "the dust of the ground" (Genesis 2:7) highlights the connection between human beings and the earth because Adam, the word for "human being," is a play on adamah, the word for "ground" or "earth."

2.2.5 Views of Sikhism on nature

Views of Sikhism on nature are vast and elaborated. Sikh theory of creation of earth is mentioned in the Moolmantra (Seminal formula) where Guru Nanak calls God as Karta purakh (Creating power of universe). Guru Granth Sahib (holy book of Sikh religion) states that God is only creator of nature without nature no animal and plant can survive on this earth. “Magnificent nature is the symbol of His creative vision”. The Creator gave the shape to nature from five important elements, which means a state in which the five basic element are in perfect equilibrium, coexistence and harmony. When these element misbalance in nature it leads to abnormalities in natural components of earth. Sikh Gurus says that Air is vital force, water is progenitor, the earth is mother of all living and non-living things, Day and night are nurses feeding all. These elements are essential for peace, happiness, tranquility, development of humanity and balance in nature. There is no moment when separation happened between man and nature and this balance is an integral part of universe. The life giving process in water which leads to the development of flora or vanaspati has been widely acclaimed by Sikhism. Sikhism says that water enters in to the womb of earth to produce vegetations which is used by animals and human being as food. Plants and trees are used in medicines and animals feed in plants and give milk, honey, silk, lac etc. to human beings. Sikh philosophy deals with garden, fields’ flowers, tress, manuring, and weeding. As Guru Granth Sahib says “The tiller tills the soil with his whole heart ploughing and making effort that his progeny may thereby find substance”. The natural environment and wildlife also very closely linked to Sikhism. Sikh Gurus says that “most of the animals survive in forests and they grow only in natural environment, even for domestic animals green plants are required”. In the present ecological crisis perhaps animals are the creature the most affected due to manmade activities. When forests are degraded how can animals increase? God himself has been depicted as a big tree which sheltering birds, insects, mammals. Sikh Gurus believed in universe love and respect for all

creatures. According to Guru Granth Sahib "Birds do not have God, Property or lands their demand is only water and trees, which gives them food and shelter, fish cannot live without water and Chatrik (bird) cannot survive without rain". Among Sikh scripture mentioned about Kamdhenu (wish cow) occurs at several places. She is known as Surabhi and she first appearance on earth during the churning of ocean. In legend she has described as a powerful animal that can fulfills all the needs of human being. Sikh Gurus say that Vand ke Chakko (eat after sharing). If we take care of all the animals, plants and human being then this nature will be in perfect balance. Sikhism teaches that so far as man and nature live in perfect harmony of the divine will ecology remains caring to man. But ecological imbalance is caused by ignorance, over exploitation of nature.

2.3 Views of western culture on nature and environment

Western religion has followed a similar path, western culture has mainly Christianity, Judaism and Islam- teach that the universe is creation of God who has given special place in that creation. Western culture says that "God said behold I have given you every plant yielding seeds which is upon the face of all earth and every tree with seeds in its fruit you shall have them for food. Genesis 9:1:3 states that "be fruitful and multiply and fill the earth". The dread of you and the bread of you will be upon every beast of the earth and upon every bird of the air, upon everything that creeps on the ground and all the fishes of the water in to your hand they are delivered. Every moving thing that lives shall be food for you and as I gave you the green plants, I gave you everything. Mother Nature never puts all of her eggs in one basket which is essential for survival.

2.4 Relationship of human and nature

As you know that nature refers to the physical world including **plants, land, soil, animals** and other elements of earth. There is profound relation between human and nature as man has long association of trees, dependent on each other, striking a balance in the eco-system. Both man and nature have been bound by a bond of association since ancient time.

As you know that every component provides by nature used by men in various ways. Trees supply food, furniture, and shelter to men while the latter manure trees, water them and transplant them from place to place. Water provides different cultures (Pisci-

culture, prawn culture, pearl culture etc.) and employment to human being. Man cannot live without air, water and biodiversity. This healthy ecological balance now rapid disturbed due to industrialization, urbanization, over exploitation and other man made activities. Virgin forests are being destroyed, rivers are being polluted due to industrial and domestic sewage, land pollution is common due to excessive use of fertilizers, pesticides and insecticides. Average temperature of earth has increased and leads in to global warming. Industrial pollution not only impacted the atmosphere but also made river-water unfit for drinking, bathing, agricultural and aquaculture purposes. Deforestation is also responsible for landslides, desertification, change of weather, and irregular rainfall. It has been recognized that nature has intrinsic value for people. For example "biophilia" concept was introduced by Edward. O. Wilson in his 1984 which is an evolutionarily conditioned need to bond with nature, to experience its proximity and maintain contact with it. Etymology of the word suggests "loving" attitude towards living nature.

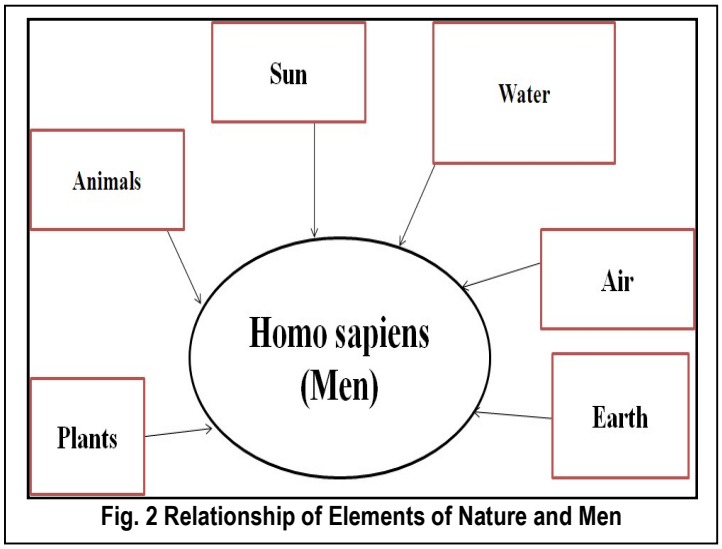

Fig. 2 Relationship of Elements of Nature and Men

In this chapter we will learned how human being is related to nature and vice versa. Main components of nature (Abiotic and Biotic factors) and their relationship with man are described below:

2.4.1 Relationship of men with abiotic factors

As you know that, the biotic factors include Air, water, Earth, Energy, light, temperature etc. All the plants and animals closely related to these abiotic factors and human being is not exceptional to this theory. Some abiotic factors and their relationship are given here:

(i) **Sun/Energy:** Without Sun we cannot imagine existence of earth in this universe. Sun is considered the creator of the universe and the primary source of energy for

all life. It is also believed that earth also originated from Sun. Sun is also known by many alternative names in different cultures such as: Savitr (the Nourisher), Bhaskara (Light-maker), Dinakara (Day-maker), Lokacaksuh (Eye of the World) etc. In Hindu literature it is said that O sun, the eye of the universe, origin of all things, acts of all religious men. Many people of world worshipped Sun in the form of Surya Namaskaar by offering water and flowers. As you know that sun bath is common in European countries. Rays emitted from sun cured various skin diseases. We all know that sun is primary source of energy to all life of this planet. Firstly, plants use this energy by the process of photosynthesis and then transfer to the animals. According to Lindeman law (1942) "only 10% of energy transfers from one trophic level to another trophic level and 90% energy loss as heat". As you know that, flora and fauna of the globe distributed according to light and temperature provided by Sun. Therefore, sun and energy are essential components of nature have very close relation to man.

(ii) **Air/Vayu:** As you know that air (mixture of gases) is most important component of nature to sustain life on this earth. Man has relationship with air since prehistoric time. Man can't survive without air for only a minute. Human take breathe about 22000 times per day and get about 15kg oxygen from atmosphere. Plants play important role in producing oxygen by the process of photosynthesis. Mainly five layers such as: troposphere, stratosphere, mesosphere, thermosphere and exosphere found in atmosphere. You must know that we live in troposphere and ozone layer is found in stratosphere, cloud formation takes place in troposphere and ozone layer protects us from harmful ultraviolet rays. Air is also medium for communication and transportation. Earth's atmosphere near the surface is composed of Nitrogen and Oxygen primarily as they together form 99% of the gases in the atmosphere. Vehicular emission, industrial emission, burning of solid waste etc. are main cause of Air pollution. Emission of Chloro-Floro Carbons is responsible for depletion of ozone layer. On the view of above account we can understand man is closely related to man.

(iii) **Water/Jal:** It is well known that life originated in the water and it is most important solvent on earth. About 75% of earth covered with water. Water present on earth in various forms such as: glaciers, water vapors, rivers, ponds, lakes, streams, oceans and estuaries. Many human civilizations are established near the water

bodies and have many occupations like agriculture, aquaculture, pearl culture, etc. only because of aquatic bodies. Rivers not only provide employment for millions but also provide electricity through hydro-power plants. Many water bodies are being used for navigation and transportations since prehistoric time. Water bodies provide different habitats to aquatic animals such as protozoa, porifera, coelenterates, annelids, some arthropods, mollusca, echinodermata, fishes, amphibians, some reptile, some birds and some mammals. You must know that we start our daily routine with water approximately a person used 150 liter of water per day. In addition to that our 60% of our body is made up of water. According to H.H. Mitchell, In human being brain and heart are composed of 73% of water, lungs are about 83% of water, skin contains 64% water, muscles and kidney are made up of 79% of water, and even our bones contain 31% of water. Rivers like Ganga regarded as mother in Indian culture. It is believed that water of Ganga never degrades and millions of pilgrims take bath in Ganga to wash their sins. On the basis of above account we can say that men is closely related to water for their survival. Rivers are pride of nation and these rivers are not only ecologically important also has socio-economically and mythological importance. Nature provides this precious gift to human being but unfortunately, most of the water is now being polluted.

(iv) Earth/Soil: Earth refereed as Bhumi or Prithvi Mata and also understood to be the solidification of all natural elements, the solidification of energy into matter. She has a collection of beautiful hymns dedicated to her in the *Atharvaveda* called Prithvi Suktam. Earth is the only planet which provides life and provide different types of habitats such as Aquatic (lentic & lotic), terrestrial (arboreal, desert, burrowing). Earth contains soil which consists of minerals and some organic matter which differ from their parent materials in texture, structure, & color, chemical, biological and other characteristics. "Earth" is also a word to define the solid element of the Panchmahabhutas (five elements) and is the solidification of all other elements in the material world. Earth is not only related to man but also to all plant, animals and microbes. Biodiversity of earth depends on structure and composition of earth. All the biogeochemical cycles such as nitrogen, sulphur, oxygen, carbon di oxide, calcium etc. depend on the earth. Therefore, earth

provides every element to man and man use every possible resource of earth in smart way that's why man is most dominant species of this earth.

2.4.2 Relationship of men with biotic factors

Biotic factors include flora (plants) and fauna (Animals). Human being is directly associated with plants and animals. The relationship of man with these biotic factors is summarized below:

2.4.3 Relationship of men with flora (Plants):

Journey of human being started with plants and still human being depends on plants for their survival. Man has closely associated with plant community for food (*Triticum aestivum, Oryza sativa, Pisum sativum, Cajanus cajanus, Mangifera indica*), medicines (*Emblica officinalis, Azadirachta indica, Ocimum tuniflorum, Curcuma longa, Saraca asoca, Aloe vera*), wood & timbers (*Terminalia arjuna, Acacia nilotica, Cedrus deodara, Tectona grandis, Shorea robusta, Pinus sp*. etc), honey, silk, lac etc. Besides these benefits, plants are essential for climatic change and rotation of biogeochemical cycles. On the basis of floral diversity the tribal groups of people and ethnic races throughout the world have developed their own culture, customs, folk song, foods, dresses, festivals, medicinal practices etc. There are 248 plant based medicines enlisted from ancient Indian literature Rigveda. Around 70% of India's medicinal plants are found in tropical areas. Although less than 30% of the medicinal plants are found in the temperate and alpine areas and higher altitudes they include species of high medicinal value. Around 70-80% population of India live in rural areas; utilize traditional medicinal system, which are based on largely Ayurvedic medicine. Plants are primary food for herbivores and then energy transfers from herbivores to higher trophic levels. Plants also release oxygen to all faunistic diversity by the process of photosynthesis. Plants are also essential components for the cycling of oxygen, nitrogen, carbon di oxide, phosphorus, calcium and sulphur cycles. Due to deforestation, over exploitation, irrespective of plants species lead in to population decline of many plants.

2.4.4 Relationship of men with fauna (animals)

Human being and animals have coexisted together from time immemorial. This relationship between these two different types of beings can be seen from different perspectives both positively or negatively. Human being started their journey with many domestic animals such as dog, goat, cow, horse, etc. Human being obtained their need such as food, milk, ghee, cheese from these animals. Some animals such

as dog and horse are being used for protection and transportation, respectively. Bulls, insects, birds are like friends of human being since agricultural progression. Many societies of man entirely depend on fishes, birds, silk moth, honey bee etc. for their survival. Human being also used different animals for entertainment. Besides the positive relationship man and animals also has negative relationship. Mosquitoes, flies, rats and cockroach spread many diseases in human being, some birds, rats, termites, elephants etc. are also responsible for great damage to crops and cultivated products of human being. Human-animal conflict also seen in many societies in which tiger attack, snake biting are common.

2.5 Adaptation of men in nature

Adaptation may be defined as "Fitness of body according to environmental conditions". All the organisms (plants and animals) of earth made the changes in their morphology, physiology and anatomy for their better survival in nature. Nature provides different types of habitats such as aquatic (lentic i.e. stagnant water, lotic i.e. running water), marine i.e. sea water, estuarine i.e. water where river meets with sea) and terrestrial (hills, plains, desert, volant i.e., adapted to flight and the arboreal i.e. lies on trees). As you know that the organisms live in their specific habitat, where they fulfill their fundamental needs for the survivorship. These needs include food, shelter and reproduction. For examples, monkey, squirrel, chameleon are adapted to the arboreal habitat, on the other hand if you notice birds and insects they are adapted to flying mode of life, in the same way yak adapted for very cold habitat and camel adapted for desert habitat. Humans are also adapted for all the possible terrestrial habitats. But humans are unique in having most of their adaptations transmitted culturally. Due to the cultural adaptations, people have adapted to almost all of the earth's terrestrial habitats. Other social animals have simple social adaptations, but only humans have spectacularly complex ones. Men developed three main special characteristics (imitativeness, sociability and inventiveness) for better surviving in nature which are given below:

(i) Imitativeness: Imitation is an advanced character of human being by which an individual observes and replicates behavior of others. Man adapted themselves in nature by imitation in which he develops the different characters of others and uses them during different situations. Imitativeness allows for the transfer of information behaviors, customs, habits etc. between individuals and generations. It does not

include genetic transfer of characters. Human being adapted for different types of habitat, culture, traditions by the help of imitativeness.

(ii) Sociability: As you know that human being is social animal and this special character make human being to adapt in nature. Many other animals, such as honey bee, termites, ants, monkeys are also social but human being more advance is superior to them. By this important character i.e. sociability man established themselves as most powerful and dominant species of earth. Man can exchange the ideas and utilize the system of communication. Aristotle stated that 'Man is essentially a social animal by nature'. He further added that human being cannot live without society, if he is living without society he is either beast or God.

(iii) MacIver: It describes three cases in which infants were isolated from all social relationships. In first case a new born was isolated and it was found that at the age of seventeen the boy could hardly walk, had the mind of an infant and could speak only few meaningless sentences and he could never make himself in normal man. In the second case two Hindu children who in 1929 were discovered in a wolf den, in which one was died immediately after discovery and other child could walk only on all four legs, possessed no language except wolf like growls. Another case of Anna, an illegal child who had placed in a room at the age of six months and discovered five years later, it was found that she could not walk and speak. On the view of above account it is clear that sociability is most important character of human being to survive in nature and human being cannot survive without sociability.

(iv) Inventiveness: Human being adapted themselves by this most important character i.e. inventiveness. Inventiveness is the skill to think original ideas. Invention of wheel, fire, agriculture, musical instruments, boat, equipments and weapons (both for attack and defence), paints and pigments during their evolution are examples of inventiveness. This character makes human being more advanced and superior to other animal species. Human being invented highly developed ships, airplane for adapted themselves in all kind of habitats without morphological, physiological and anatomical modifications. On the other hand he invented computers, mobile phones and satellites for communications from long distance. On the view of above account you can say that man is highly adapted to nature and most dominant species of earth.

2.6 The culture/nature divide

Many anthropologists sought theoretical insight from the perceived tensions between nature and culture. According to John Mohawk “nature is anything that supports life". As you know that nature includes all abiotic and biotic factors which are present in this earth. On the other hand culture consists of the beliefs, behaviors, objects, and other characteristics common to the members of a particular group or society. Edward B. Tylor (1871) who regarded as founder of cultural anthropology, defined culture as "culture includes knowledge, belief, art, morals, laws, customs, habits acquired by man as a member of society. According to Horton and Hunt “Culture is everything which is socially shared and learned by the members of a society” The main characteristics of culture that which is learnt and not inherited biologically but it is learnt socially by man in a society e.g. Eating, drinking, walking, praying, behaving, reading are all learnt by man. It is the product of society shared by members of society for example, customs, traditions, values; beliefs are all shared by man in a society. All the cultural aspects are inter-connected with each other. The development of culture is the integration of its various parts. For example, values system is interlinked with morality, customs, beliefs and religion. It remains changing but not static. In general nature and culture are often seen as opposite ideas because culture created by man and nature created by God. But if we observe the evolutionary development of humans we will find that culture is part of the nature and it evolved during the evolutionary changes of societies. But question is that how culture and nature divide.

Table 4. Some Bio-geographical regions of India and their related cultures and Nature

Bio-geographic Zone of India	Main state/area	Culture specific characteristics	Ecological Specialty
Trans Himalayan	Jammu and Kashmir, Ladak	Shikara boat, Phiran dress, Kahwah beverages as rice,	Dal lake, Jhelum river, Mughal gardens
Himalayan zone	Himachal Pradesh, Uttarakhand etc.	Carpets, leather works, shawls, paintings, metal ware, Shoolini Mela, Jwalamukhi fair	Chandrabhaga, Bias rivers
North East zone	Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, and Tripura	Hornbill festivals in Nagaland, Kharachi Pooja in Tripura, Brahmaputra Beach festivals, Autumn festival in Meghalaya	Brahmpura, Gumti, Kadan
Desert	Kutch, Thar (Rajasthan), Ladak	Bajre ki Roti, Daal baati, Lahsun ki chatnni, Seasonal Pachmel vegetable like cultural food.	Desert National park, Keoladeo National Park, Camel known as Ship of

		Cultural dresses are dhotis and kurta. Cultural festivals are Desert festivals of Jaisalmer, Pushkar fair, Summer and winter festivals	Desert
Semiarid	Central India, Gujarat	Daal baati, Lahsun ki chatnni, Seasonal Pachmel vegetable like cultural food. Cultural dresses are dhotis and kurta.	
Deccan plateau	Southern part of India		
Gangetic plain	Uttar Pradesh, Bihar, Jharkhand, West Bengal	Festivals like, Ganga Dussehra, Ganga Pooja etc are common.	Ganga river, common animals are Ghariyal, Dolphin, Neel gai etc
Islands	Andman, Nicobar and Lakshadweep	Cultural foods are including Cuttle fish food, Lobesters crab. Cultural festivals are Beach festivals, Klipooja, Durga Pooja, monsson festival and food festivals.	

How Culture nature divides? It is well understood that history of culture is very small as compare to history of nature. Cultures of world divide or evolved according to nature and natural components. Firstly, nature divides itself in to different ecological, bio-geographic zones. For examples ten main bio-geographic zones of India are: Trans Himalayan, Himalayan zone, desert, semiarid, Western ghat, Deccan plateau, Gangetic plain, North east zone, Coastal zone and Islands. If you look the rainfall, forests, temperature flora and fauna, people of area of these bio-geographic zones are totally different. As you know that communities and societies are depend on natural resources and these zones have specific diversity of natural resources.

These recognizably different places include cultural landscapes. It is important to note that people do not live just in buildings as solitary animals but they live in society. Culture divides due to the natural conditions, abundance of flora and fauna and weather. If you look the culture of all the biogeographic zones of India or world you will find different culture with some common characters.

2.7 Theoretical frameworks of cultural and social ecology

Ecology may be defined as “study of inter-relationship between organisms and their environment”. Ecology is the branch of biology which dealing with the relations of organisms to one another and to their physical environment. The word “Ecology” has been taken from two Greek words “oikos” which means house and logos which mean

"study". Ecology also defined as "study of the interaction of people with their environment". This definition suggests that the social ecology is the interaction of human beings with their physical environment. Cultural and social ecology is study of relationship between culture and society of people with natural environment. Description of cultural and social ecology given below:

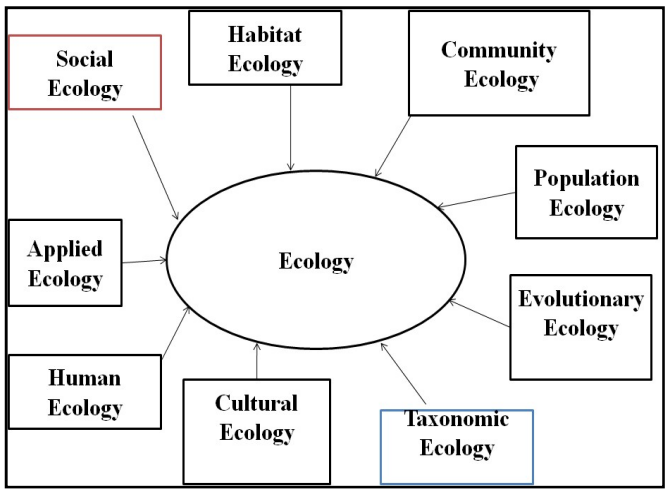

Fig. 3 The branches of Ecology

2.7.1 Cultural ecology

The term "Cultural ecology" was given by Julian Steward (1902-1972). Cultural ecology is based on interaction of culture, man and environment.

According to Steward Cultural Ecology is "a heuristic device for understanding the effect of environment upon culture" in his 1955 book entitled "The Theory of Cultural Change".

It is believed that the environmental conditions such as abundance or scarcity of food, shelters, and climatic conditions resulted in the fragmentation of the tribe into smaller family groups. Book *Theory of Culture Change* also contains Julian Steward's three fundamental procedures of cultural ecology, which are given as below:

(i) The first fundamental procedure of Steward states that the more composite a society, the better the presence of socially-derived basic needs rather than necessities.

(ii) It is observed that interaction between people based on the environment. The abundance or scarcity of resources determines whether people will make a collective work or work independently.

(iii) The third procedure as stated by Steward applies the other various aspects of a culture to its relationship with the environment.

Cultural ecology is the study of how humans adapt to physical and social environments. Nature influence the culture and culture influence the nature. If you look all the cultures of globe you will find culture divided according to nature. “Cultural ecology is that in which culture change is induced by adaptation to the environment." A key point is that any human adaptation is in part historically inherited and involves the technologies, practices, and knowledge that allow people to live in environment. This means that the environment influences the character of human adaptation, it does not determine it.

You can see the examples of cultural ecology in the relationship between the people of Tibet and yaks (*Bos grunniens*). The yak is perfectly adapted to living in mountainous areas like the Himalayas, and over many generations, the yak has become part an integral part of Tibetan society and culture. Yaks provide meat, milk, and transportation and even their dung is also used for fuel.

People of India revere their cows (*Bos taurus*) they believe eating such a sacred animal to the greatest sin, on other hand some people in other cultures it seems strange, but for the Indian population the cow is sacred. Cows in India provide milk; therefore relationship of cow and people of India is perfect example of cultural ecology. Camel is also interrelated to culture of Rajasthan. Camel is not only useful in transportation in desert area but also linked to culture and tourism. In western culture various animals such as scorpion, lion, fish, bull, crab and horses are interrelated. These animals represent zodiac sign.

2.7.2 Social ecology

The term “Social ecology” was given by Murray Bookchin (1964) in His book “Ecology & Evolutionary Thought” Social Ecology is study of reciprocal relationship between human society and Ecological infrastructure” Bookchin suggests that the roots of current ecological and social problems can be traced to hierarchical modes of social organization. Social ecology locates the roots of the ecological disturbance firmly in relations of hierarchy and domination between people. In the framework of social ecology, "the very notion of the domination of nature by man stems from the very real domination of human by human." while the domination of nature is seen as a product of domination within society, this domination only reaches crisis proportions under capitalism. Social ecology claims that the environmental crisis is a result of the hierarchical organization of power & the authoritarian mentality rooted in the structures

of our society. Human society and non-human nature are connected in one evolutionary flow. Humans building cities and towns to create a comfortable place to live just like any other species. The problem is that the environmental changes we produce are far greater that those of other species. Bookchin published his best known book on title "Ecology of freedom" in the year 1982 after almost twenty years of research work. Bookchin wrote about social, psychological and health consequences of urbanization, use of industrial chemicals in food production and variety of other anti-ecological consequences of modern industrial society.

There are several objectives of social ecology some of them are given below:

(i) **Conservation Biodiversity:** The main objective of social ecology is conserve biodiversity of area. Biodiversity means variety and variability among species. It is an interdisciplinary subject drawing on natural and social sciences, and the practice of natural resources. As you know that biodiversity serves products to human being in the form of timber, wood, food, medicines, honey, lac, fishes etc. Social ecology emphasis on conserve these biological components in the form of sacred groves, forests, aquatic bodies, urban forestry, social forestry, agro-forestry etc.

(ii) **Sustainable Development:** Social ecology also works for sustainable development. Sustain means to be continuing for future generations. Sustainable development is refers to development without causing harm to environment. As you know that, natural resources such as land, forest, water, and energy, mineral are going depleted at very fast rate due to over exploitation. These natural resources provide ecosystem services to human beings. Due to unsustainable development many rivers, lakes, forests and land have been decline, therefore there is urgent need of sustainable development. Many examples of sustainable developments are: solar energy and wind energy which are economically and environmentally effective as compared to hydro-power energy. Crop Rotation is also example of sustainable development in which farmers successively planting of different crops on the same land to improve soil fertility and help control insects and diseases. This type of agricultural practice is beneficial in several ways, most notably because it is chemical-free. You must see the agriculture fields where some trees of eucalyptus, mango etc are grown on the periphery of crop field which is economically and environmentally very effective.

(iii) **Reducing the dependency of society on ecosystem:** Social ecology also emphasizes on reduce dependency on natural ecosystems. Humans have already altered ecosystems rapidly and extensively, largely to meet rapidly growing demands for resources along with economic development. These demands have been considered important drivers of ecosystem degradation and biodiversity loss. Social ecology tries to obtained products from urban forestry, social forestry and agro-forestry etc.

(A) **Challenges in social ecology:** First major challenge to social ecology is over population. Over population required extra food, medicines, infrastructure and all other basic needs. India is second in position in the list of most populated countries of world but natural resources are limited on the earth and over population make extra burden on natural resources. One in every seven persons in this planet lives in India. India has 16% of world's population and with only 2.4 % of its land area. There is obviously heavy pressure on the natural resources including land Therefore; if we can spread the general awareness about population control then we can achieve the objectives of social ecology. Second challenge social ecology is poverty, approximately 40% of population of India still below the poverty line. So, environmental degradation adversely affected the poor who depend upon the resources of their immediate surroundings. another challenge in social ecology is development. Development is very important to any country but at the same time we have to compromise our environment. For example if we look positive impacts of a hydropower project we will find employment and energy are chief benefits but if we look negative impacts of this project we will find that there is loss of fishes, loss of other aquatic animals, prevent ecological flow of river, unemployment to local society, deforestation, water logging problems and land degradation. We must think that how these two impacts can be balanced. Unsustainable development is also main challenge to social ecology.

(B) **Social ecology in India:** There are many examples of social ecology in India some of them are described below:

(i) **Chipko movement:** The Chipko Movement was a forest conservation movement that began in 1973 and went on to become a rallying point for many future environmental movements all over the world it created a precedent for starting of non-violent protest in India, and its success meant that the world

immediately took notice of this non violent movement, which was to inspire in time many such eco-groups by helping to slow down the rapid deforestation, expose vested interests, increase ecological awareness, and demonstrate the viability of people power. Most salient feature of movement was the mass participation of female villagers, as women are backbone of agrarian economy of Uttrakhand; women were most directly affected by environmental degradation and deforestation, and thus related to the issues most easily. This movement was led by Sundarlal Bahuguna, Despite this, both female and male activists did play crucial roles in the movement including Gaura Devi, Sudesha Devi, Bachni Devi and C.P. Bhatt,

(ii) **Narmada movement:** This movement was started to save Narmada river and against the construction of Sardar Sarovar Dam in Gujarat which was one of the biggest dams on the river and Gujarat was one of the first focal points of the movement. It is one of the many dams under the Narmada Dam Project. The main aim of the project is to provide irrigation and electricity to people. This movement was headed by Medha Patekar and Baba Amte and both of them received Right Livelihood award in 1991.

(iii) **Appiko movement:** The Chipko movement in Uttrakhand inspired the villagers of the Karnataka in southern India to launch a similar movement to save their forests. This movement was led by **Paduranga hedge** and mainly for the protection of Kalase forest. Appiko movement gave birth to a new awareness all over southern part of India.

Summary

In this unit we have discussed various aspects of cross cultural views on nature, relationship between nature and man, culture and nature and theoretical framework of cultural and social ecology. So far you have learnt that:

- Indian culture is very keep about nature and many example have been found in Indian culture related to nature in which Hinduism, Islamic views, views of Sikhism, views of Buddhism have been interpreted the nature with magnificent examples.
- Man and nature are interrelated in which man associated with sun, water, rainfall, air, earth, plants and animals for their existence in nature. On the other hand due

to developmental activities performed by man over exploited nature in several ways.

- Culture divide according to nature in which cultures of Trans Himalaya, Himalaya, Northeast region, desert, coasts, semi arid zone and island are different according to nature and environmental condition.
- Man adapted themselves according to nature in which three characters imitativeness (advanced character of human being by which an individual observes and replicates behavior of others), sociability (living together as community or society) and inventiveness (skill to think original ideas) are very important.
- The term "Cultural ecology" was given by Julian Steward (1902-1972). Cultural ecology is based on interaction of culture, man and environment. Cultural ecology is the study of how humans adapt to physical and social environments. Nature influence the culture and culture influence the nature.
- The term "Social ecology" was given by Murray Bookchin (1964) in His book "Ecology & Evolutionary Thought" Social Ecology is study of reciprocal relationship between human society and Ecological infrastructure. Social ecology locates the roots of the ecological disturbance firmly in relations of hierarchy and domination between people.
- The main objectives of social ecology are biodiversity conservation, sustainable development and reduced dependency on natural ecosystem.
- The main challenges of social ecology are over population, poverty and developmental activities.
- The main movements related to social ecology in India are Chipko movement, Narmada movement and Appiko movement.

Terminal Questions

1. (a) Fill in the blank spaces with appropriate words.

Views of Hinduism on nature have been mentioned in ……and other sacred scriptures. Many of Hindus describe mantras daily to respect ……,……..,…….,……,. Earth can be seen as a manifestation of the ……., and must be treated with respect. You can understand view of Hinduism by ……..verse which says that माताः भूमिः पुत्रोहम् पृथिव्याः which means "Earth is my mother and I am the dutiful son of Her". The five elements

…..... are the foundation of an interconnected web of life in Indian culture.

2. (a) Discuss the concept of nature and culture divide.
(b) What are the five great elements in Hinduism?

3. (a) Give the names of animals and plants associated with Hinduism.
(b) Give the Islamic views on nature.

4. (a) What do you understand by sacred groves? Write the three advantages of sacred groves?

5. (a) Give the views on Sikhism on nature.
(b) Give the Buddhism views on nature.
(c) Give the views of western culture on nature.

6. (a) Fill the blank spaces with appropriate words.

The Chipko Movement was a……..movement that began in 1973 in Uttarakhand state (Previously Uttar Pradesh). Most salient feature of movement was the mass participation of ……. villagers, as women are backbone of agrarian economy of Uttarakhand, women were most directly affected by environmental degradation and deforestation, and thus related to this issue very easily. This movement was led by……., Narmada Movement was started to save Narmada river against construction of ……. Dam in Gujarat which was one of the biggest dams on the river and Gujarat was one of the first focal points of the movement. This movement was headed by ……..……,…….…. and both of them received Right Livelihood award in 1991. The Appiko movement was led by ……..and mainly for the protection of Kalase forest. Appiko movement gave birth to a new awareness all over southern part of India.

(b) Maximum numbers of sacred groves are found in Himachal Pradesh (Yes/No)

(c) The term “Social ecology” was given by Murray Bookchin (Yes/No)

(d) The term “Cultural ecology” was given by Julian Steward (Yes/No)

(e) What do you understand by cultural ecology?

7. (a) What is social ecology? Describe the objectives and challenges of social ecology.
(b) What is adaptation? How man adapted themselves in nature?

Answers

1. (a) Vedas, Upanaishads, Puranas, Sutras, Mahabharat, Ramayan, sun, rivers, mountains, trees, animals and the earth, goddess, Atharvaveda, space, air, fire, water and earth.
2. (a) see 2.6. The Culture/Nature Divide

(b) space, air, fire, water and earth

3. (a) See Table-2 and Table-3 in section 2.2.1.
   (b) See section 2.2.2
4. (a) See section 2.2. and Table-1
5. (a) See the 2.2.5.
   (b) see section 2.2.3
   (c) See section 2.3.
6. (a) Forest conservation, female, Sundar Lal Bahuguna, Sardar Sarovar, Medha Patekar and Baba Amte, Paduranga Hedge
   (b) Yes
   (c) Yes
   (d) Yes
   (e) See the section 2.7
7. (a) See the section 2.7.
   (b) See the section 2.5.

Unit 3: Theories of Environmental Ethics

Unit Structure

3.0 Learning objectives

After studying this unit you will be able to explain:

- What are different theories of Environmental ethics
- What is theory of population control
- What is life boat theory of Environmental ethics
- What is theory of Biocentric ethics
- What is theory of eco-centrism
- What is theory of deep ecology

3.1 Introduction

As you know that environmental ethics is 'set of moral principles towards environment'. In the late nineteenth century Charles Darwin gave theory of evolution by Natural Selection received an extensive acceptance and people started giving credit to the interdependence of living species and related side effects of the unplanned human action on nature. Environmental Ethics is a branch of philosophy concerned with the moral relation between human and the natural world.

Environmental ethics have to sharpen the judgment of a person not to put in danger the health and security of other species for the different purposes. Nature and

environment cannot be destroyed without anthropogenic activities, ultimately the emergence of environmental calamity driven the rise of green movements. It is observed that the natural resources are depleting very fast due to anthropogenic activities and human being now thinking about the remedial measures for the same. This was accompanied by the development of new environmental ethics, such as population control, eco-centric ethics and deep ecology. Ethics started appearing dealing with discussion on compatibility of economic, social, environmental and ethical issue such discussion sometimes becoming philosophical because ethics is about moral values which are very much related to philosophy. If we talk about Indian context we are not too strange about environmental ethics. It is observed that people of India do understand the necessity and importance of environmental ethics since prehistoric time. As you learned from Unit-1 and Unit-2 there are various references have been cited related to environmental ethics in Indian culture. Swami Vivekananda said that "build character first and then learn whatever trade is very much relevant". It is taken from our ancient distinction between Vidya which we get at the different educational institutions of world and Brhamavidya which we do not get there, which is knowledge of self consciousness, ethics, and will power. This type of Brhmavidya is essential to take care of other creatures of earth and live in harmonic condition.

People of entire world now have started showing awareness and few attempts towards observing ethical standards such as: we should preserve biodiversity, we should not waste water; we should avoid or reduce the use of artificial fertilizers or pesticides. In other words we have to go a step further to justify normative judgments in environmental matters like who decide the norms for environmental ethics and how ethical level of any person can be measured? However, in the present context population explosion, air, water and soil quality degradation, biodiversity depletions and poverty are major challenges to environmental ethics.

Population explosion is principal cause of environmental degradation and many environmentalists stated that the population of all the species specially human being should be under control. Environmental problems are more concentrated in the urban and industrial areas. And the average impacts on the environment are often higher in the industrial areas than populated areas. We should develop rules and regulations of environmental ethics for industrial area. It is also important to know that industrialization increases with the pollution explosion. But recent technology has

limitations; many technological solutions are not free from disagreement like the issues of hydropower projects, genetically modified foods, tourism industries etc.

Sometimes, it is also observed that scientific discoveries have resulted in a new set of problems. Scientists then fall back to basic issues of values and ethics and other philosophical matters for guidance and support. On the other hand ethical and philosophical theories also have limitations in so far as the solutions of environmental problems are concerned. Unfortunately, philosophical theories could not set the standards for environmental ethics.

Malthus proposed *Principle of Population and* he stated that human populations grow exponentially i.e. doubling with each cycle while food production grows at an arithmetic rate i.e. by the repeated addition of a uniform increment in each uniform interval of time. Thus natural resources grow at arithmetic progression as 1, 2, 3, 4, 5, 6, 7, 8, 9, and so on. On the other hand population grows at geometric progression as 1, 2, 4, 8, 16, 32, 64, 128, 256, and so on. This situation of arithmetic food growth with geometric human population growth predicted a future when humans would have no natural resources (water, land, forest, energy, food etc.) to survive on this planet.

Ethics will have a concern for what humans have at stake benefits, costs, and their just distribution, risks, pollution levels and rights, environmental sustainability and quality, the interests of future generations. The World Commission on Environment and Development claims: All human beings have the fundamental right to an environment adequate for their health and well-being'. This includes the basic natural resources: air, soil, water, functioning ecosystems, hydrologic cycles etc. In this unit we will discuss how scientists and philosophers described about the various theories of environmental ethics

3.2. Theories of Environmental Ethics

There are various theories of environmental ethics have been given by different scientists, philosophers. Five theories of environmental ethics have been described below:

3.2.1. Theory of Population Control

As we had mentioned above that population explosion is one of the biggest challenges to not only human beings but to the all species. Population explosion leads in to increases demand of foods, basic needs and all necessities. Due to the population explosion the entire world facing lot of problems such as: diseases, poverty, hunger,

unemployment etc. Paul R. Ehrlich (1968) published the book "The Population Bomb" in which he has warned that the exponentially increasing population of the world would cause in poverty, hunger and environmental deteriorations, as billions of people would devastate the remaining natural resources. It would be impossible for agriculture production to sustain rising population indefinitely. He compared the population explosion with very dangerous diseases i.e. cancer. *He stated that a cancer is an uncontrolled multiplication of cells and the population explosion is an uncontrolled multiplication of people.* Treating only the symptoms of cancer may make the victim more comfortable at initial stage, but ultimately patient dies. A similar fate awaits a world with a population explosion if only the symptoms are being treated.

Many symptoms (according to Ehrlich's theory) like air, water, soil, noise pollution, biodiversity degradation already seen in major cities of earth but it is well understood that the main cause of these problems is population explosion. All the governments of world working for biodiversity conservation (through in-situ and ex-situ methods) and diseases by modern medicines but these problems are only sign and symptoms of incurable disease; if we can control the population of human being obviously there will be low burden on natural resources.

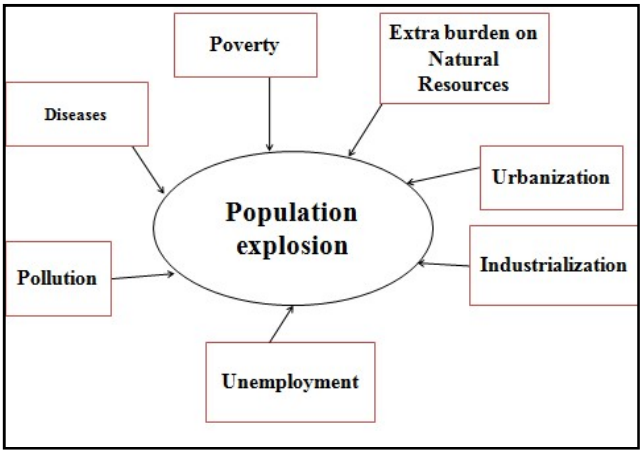

Fig.1. Disadvantages of population explosion

He suggested possible suggestion that a change in tax laws, that tax would increase instead of decrease with additional children, as well as national policy encouraging contraception, laws permitting abortion and distribution of information and birth control devices. In addition to that education can play major role in population control of world.

Exponential growth of population makes an exponential demand for foodstuff, land, water, vehicles, agro-chemicals etc. Therefore, factors of growth are interrelated such that exponential growth as a whole becomes a risk to the survival of this earth ecosystem. India has about 6% of the total population of world on just 2.45% of the total land area of world with mere 1.5% income of world. This status is getting further

deteriorated by still over increasing population. In India, present growth rate is 2.11% with adding 1.8 corer individuals per year and almost 35 individuals per minute.

3.2.2. Theory of Life Boat Ethics

Garrett Hardin (1974) gave the theory of Life boat ethics which refers to the ethics that would be adopted when lifeboat space was insufficient to accommodate all passengers from a sinking ship a situation such as occurred when the titanic sank in the north Atlantic. He compared the whole word with life boat and population of world with passengers.

Hardin Said that the rich nation of the world may be thought of as lifeboats with moderate numbers of rich persons on board, while the poor countries much more crowded lifeboats' the poor continuously fall out of their lifeboats.

The dilemma in environmental ethics is that what should the passengers on a rich lifeboat do? Whether the passengers on the less crowded boat should help the swimmer or allow for admission to bat; like the Land of every nation, each lifeboat has only a limited carrying capacity. If one follows Christian or Marxist ethics, we are bound to admit everyone to the boat since the needs of those inside and outside the boat are the same. Doing so, the boat is swamped and everyone drowns "complete justice complete catastrophe".

Hardin's proposed solution is to protect the survival of those onboard, preserve the "safety factor" and admits no more people to the boats. He justifies this solution by explaining that if developed nations gave resources to developing ones or admitted many of their people through generous immigration policies then disaster would eventually strike the countries.

Environmentalists use the metaphor of the earth as a "spaceship" in trying to persuade countries, industries and people to stop wasting and polluting our natural resources. Since we all share life on this earth. Hardin stated that individual, society, culture and traditions have no right to destroy, waste, or use more than a deserve share of its resources. Question is that, does everyone on earth have an equal right to an equal share of its resources? The spaceship metaphor may be dangerous when used by unethical people to justify inappropriate strategies for sharing our resources through uncontrolled colonization.

In their enthusiastic but unrealistic generosity, they confuse the ethics of a spaceship with those of a lifeboat. A true spaceship (earth in this case) would have to be under

the control of a captain, since no ship could possibly survive if its course were determined by unethical way. The spaceship (earth in this case) certainly has no captain; the United Nations has little power to enforce any policy and plan upon its other members. If we divide the world coarsely into developed nations and developing nations, two thirds of them are desperately poor or developing, and only one third population is comparatively rich.

Metaphorically each developed or rich country can be seen as a lifeboat full of rich person. In the sea outside each lifeboat swim the poor or people of developing countries of the world, who would like to get inside. What should the lifeboat passengers do? First, we must recognize the limited capacity of any lifeboat (earth in this theory). For example, land of nation has its limited capacity to support a people or population and as the current energy crisis has shown us, in some ways we have already exceeded the carrying capacity of this earth.

The cruel ethics of the lifeboat become even harsher when we thought about the reproductive differences between the developed and the developing countries. The people or persons inside the lifeboats (earth in this case) are twice in numbers every 87 years and which are swimming around outside are twice in every 35 years which is more than twice as fast as the people of developed nations. Therefore, developing countries has more population as compared to developed countries.

Initially the ratio of Americans to non-Americans in this model would be one-to-one. Each American would have to share the natural resources with more than eight people. But, one could discuss, assuming that current population trends will continue, or may not. Most likely the rate of population increase will decline much faster in the U.S. than it will in the other nations, and there does not seem to be much we can do about it. In distribution with “each according to the needs,” we must recognize that needs are determined by size of population of country or area, which is determined by the rate of reproduction rate, which at present is regarded as a sovereign right of every nation, poor or not.

For example if farmer will allow no more cattle in a grazing land than its carrying capacity justifies. If he overloads it, erosion sets in, weeds take over, and he loses the use of that grazing land. If a grazing land becomes a commons property open to all, the right of each of us to use it, may not be matched by a corresponding responsibility to protect it. In a crowded world, mutual ruin is inevitable if there is no control and this

is the tragedy of the commons. One of the major tasks of education today should be to create awareness about the dangers of the commons.

For example, the air, water and soil become polluted because they are treated as common. Further growth in the population or per-capita conversion of natural resources into pollutants will only make the problem worse. The same holds true for the fish of the oceans.

If each country is solely responsible for its own well-being, over populated and poorly managed countries will suffer. So the need is to survive the policies. For example, the weather and seasons varies from year to year, and periodic crop failures are certain. A wise and competent government saves out of the production of the good years in anticipation of bad years to come or bad season to come.

The overpopulated, poor and developing countries would decreases while the controlled populated rich and developed countries that had infrastructure for more people would increases. Because of the higher rate of population growth in the poor countries of the world, 88 % of today's children are born poor, and only 12 % rich. Day by day this situation becomes worse.

3.2.3. Theory of Bio Centric Ethics/Theory of reverence for life

Biocentric ethics means life-centered ethics. Schweitzer (1923) describes the theory of Bio Centric Ethics or theory of "reverence for life. According to this theory "that all of life is sacred and that we must live accordingly, treating each living being as an inherently valuable" will to Live". Every living thing in nature is endowed with something sacred or intrinsically important and should be respected as much. Taylor (1981) develops Schweitzer life centered system of environmental ethics in which he described that each living individual is a "technological center of life" which pursues its own good in its own and possesses equal inherent worth.

Homo sapiens (man) are no more intrinsically important than any other species but should see themselves as equal species of earth. According to Taylor all living being from amoeba (unicellular) to *Homo sapiens* (man) are of equal inherent value. Each living individual has a goal and aim and desire to attain it. One's goal is one's good, so all living things are inherently good.

Theory of biocentric ethics tells about appropriate respect toward all biotic communities, not only the wildlife and domestic animals, but the butterflies and the

sequoia (largest tree on earth). Otherwise, most of the biological world has yet to be taken into account: lower animals, insects, microbes, and plants.

Theory of Biocentrism refers to all environmental ethics that expand the status of moral object from human beings to all other living species in nature. It emphasizes the value and rights of individuals, believing that moral precedence should be given to the survival of individual living beings. Thus, it is a kind of ethics of individualism. Biocentrism ethics considers that all living things have their own good quality and therefore proposes increasing the status of morality to nonhuman living things such as animals and plants. It includes Schweitzer's ethic of reverence for life, Singer's ethics of animal liberation and Taylor's ethics of bioegalitarianism.

The main points of this theory are:

1. All living things have an instinct to resist the process of increasing entropy, for keeping their own organization, maintaining their own survival and the wholeness of life.
2. All living things maintain their own survival is a central aim for all living things that is an intrinsic value".
3. Although different living things have their own ways of organization and survival their values are intrinsically the same, and therefore they should have equal rights in morality and ethics which means they should be given moral protection.

3.2.4. Theory of Eco Centrism/ Theory of Land Ethic

The term "Land Ethic" was given by Aldo Leopold in his book A Sand County Almanac (1949) (A text of Environmental movement). According to this theory "we must begin to realize our symbiotic relationship with the earth and its components and we should regard Earth which provide everything to human being and all species.

We must come to see ourselves not as conqueror of the land but rather as plain members and citizens of the biotic community as other species. It implies respect for land and also respect for community as such Leopold advised a new standard for ethics in judging the very meaning of "right" and "wrong",. He also described that we should put the living land at the center a thing is right when it tends to preserve the integrity, stability and physical condition of biotic community.

In this regard, Leopold offered a holistic ecocentric ethic, in contrast to the mainly atomistic, anthropocentric, ethics familiar in all the western traditions. It is extremely important to develop an alternative view point because exclusive attention to what

seems to be good for humans in short term has proven ruinous even worse environment damage in the future to lead us out of anthropocentric morass; it might seem that a land ethics of holistic biocentrism could be an important guide to all human community.

The land ethics generally emphasize on earth which can be seen as a manifestation of the goddess, and must be treated with respect. As you learned in Unit-2 Hindu literature i.e. Atharvaveda verse which says that "माताः भूमिः पुत्रोहम् पृथिव्याः" which means "Earth is my mother and I am the dutiful son of Her". Earth is also one of the most important elements of Panchmahabhutas (Air, water, earth, space, fire).

3.2.5. Theory of Deep Ecology

Deep ecology pioneered by Norwegian philosopher Arne Naess and term "Deep Ecology" also was introduced by Arne Naess in 1973 his work was elaborated by Bill Delvalle and George Sessions in 1984. Deep ecology is similar to Asian traditions of thought such as Hinduism and Buddhism whose fundamental teaching is that humans are part of nature, not above it: humans have no right to kill other creatures, except as it become necessary to save a life. *Deep ecology is just deep thinking of human being towards earth and environment.*

"Deep ecology" was started in Scandinavia (Northern Europe) the result of discussions between Naess and his colleagues Sigmund Kvaloy and Nils Faarlund for a historical survey on the development of deep ecology. All three shared a passion for the great mountains. On a visit to the Himalayas, they became impressed with aspects of "Sherpa culture" particularly when they observed that Sherpa guides regarded certain mountains and hills as sacred and accordingly would not destroy them. Subsequently, Naess formulated a position which extended the reverence the three Norwegians and the Sherpas felt for mountains to other natural things in general.

Naess (1973) stated the "shallow ecology movement" as "fight against pollution and resource depletion", the central objective of which is "the health and affluence of people in the developed countries." Theory of "deep ecology also stated that respect this intrinsic value of species and taking care, for example, when walking or climbing on the mountain we should not cause unnecessary damage to the plants and animals.

Naess also stated that in his deep ecology, the position also came to focus on the possibility of the analysis of the ego of man with nature. Naess maintains that the deep

satisfaction that we receive from observing with nature and close partnership with other forms of life in nature contributes significantly to life quality.

The ethics of deep ecology hold that the survival of any part is dependent upon the well-being of the whole. Deep ecology offers eight-tier platform to explain their claim:

(i) The comfort and blooming of *Homo sapiens* (man) and life of other species on Earth have value in themselves. These values are independent of the utility of the other species of world for different purposes.

(ii) Abundance, richness and variety of all the species contribute to the realization of these values and are also values in themselves.

(iii) *Homo sapiens* (man) have no right to reduce the biodiversity and its abundance except to satisfy vital or very essential needs of humans.

(iv) The thriving of human life and cultures is compatible with a substantial decrease of the human population. The flourishing of nonhuman life requires such a decrease.

(v) Present human interference with the nonhuman world (Air, water, soil, plants, and microbes) is excessive, and the situation is rapidly worsening day by day.

(vi) New policies should be implemented because presently it is experienced that all the policies are business oriented. Therefore, policies must be changed. The resulting state of affairs will be deeply different from the present.

(vii) There will be a deep and thoughtful awareness of the difference between big and great.

(viii) Who subscribe to the foregoing points have an obligation in direct or indirect way to try to implement the necessary changes.

These principles can be reduced to three simple plans and these plans are: wilderness and biodiversity preservation, control Human population, and simple living standards.

3.3 Types of School of Thoughts

Major thoughts of environmental ethics are deontological, natural laws and virtue laws given by different philosophers are described below:

3.3.1 Deontological Ethics

Traditionally deontological ethics have been anthropocentric. But it has been effectively used in arguments that extend rights and equality beyond human, especially to plants and animals. It is possible, but more difficult, to discuss that plants, animals and

ecosystems also have rights. The use of a rights-based deontological approach has expanded the sense of morality beyond humans.

Deontology has been taken from two Greek letters *Deont* means "duty" and *logus* means "*study"* Deontology is an approach to ethics that determines goodness or rightness from examining actions and duties that the person doing the act. According to deontology, people have a *duty* to act in a way that does those things that are inherently good as acts (conservation of water, mercy & non-violence and truth-telling).

Immanuel Kant's theory of ethics is considered deontological for several different reasons. First, Kant described that to act in the morally right way; people must act from duty (*deon*). Second, Kant illustrated that it was not the consequences of actions that make them right or wrong but the motives of the person who carries out the action. Description of Kant is that to act in the morally right way, one must act from duty begins with an argument that the highest good must be both good in itself, and good without any certification.

3.3.2 Natural Law Ethics

Nature law ethics is one of the major approaches in ethical theory developed by Aristotle (384–323 BC) and by medieval theologians, and it is similar to views found in Chinese thought. In this theory, all life components are capable with certain natural characteristics. These characteristics are themselves good, and the goal of natural law ethics is to act in a way that fulfills them.

Natural view of thoughts has been criticized by pointing out that some things in nature are not "good": HIV, tornadoes, earthquakes, flood, cancer etc. David Hume's (1711-1776) notion of the "naturalistic fallacy" states that you cannot logically derive ought from is. Just because something exists or behaves in a particular way does not imply that it ought to exist in that way.

3.3.4 Virtue Ethics

Thought of virtue ethics describes the character of a moral agent as a driving force for ethical behavior, and is used to describe the ethics of Socrates (469–399 BC), Aristotle (384–323 BC) and other Greek philosophers. Socrates was one of the first Greek Philosophers to support general citizen to turn their concentration from the outside world to the condition of human race. In this view, knowledge bearing on human life was placed highest, while all other knowledge was secondary. Self-knowledge was considered necessary for success and inherently an essential good. A self-aware

person will act completely within his capabilities to his highest point, while an ignorant person will flounder and encounter difficulty. According to Socrates, a person must become aware of every fact relevant to his existence, if he wishes to attain self-knowledge. If a criminal was truly aware of the intellectual and spiritual consequences of his actions, he would neither commit nor even consider committing that types of actions. Now situation of our common environment is going worst day by day due to excessive greed of human beings. Therefore, thought of Socrates seems to boon for human being and environment both.

Aristotle stated that an ethical system may be termed "self-realization". In thoughts of Aristotle, when a person acts in accordance with his nature and realizes his full potential, he will do well and be content. Aristotle asserted that man had three natures: body i.e. physical and metabolism, animal i.e. emotional and appetite and rational i.e. mental and conceptual. In these natures emotional and mental is very important. According to Aristotle man is by nature social animal. If man wants to be live in nature without any discomfort he should live in harmony with all components of environment.

Conclusion: Our individual life, institutional activities, formal and informal education all need to be more environmental ethics based and environmental ethics oriented. The sacred quality of nature must be given back to it. Today there is a crisis of perception everywhere about nature and environment. We are living in a globally connected world and any action for future demands an ecological attitude, assuming evolutionary changes and continuous creative activity on the part of man. We have to evolve a more balanced way of thinking, feeling and performing towards the nature and environment.

Summary

In this unit we have discussed various theories of Environmental ethics. So far you have learnt that:

- Theory of Charles Darwin on evolution by Natural Selection received an extensive acceptance and people started giving credit to the interdependence of living species and related side effects of the unplanned human action on nature.
- Malthus proposed *Principle of Population and proposed that* natural resources grow at arithmetic progression and population grows at geometric progression.
- Due to the population explosion the entire world facing lot of problems such as: diseases, poverty, hunger, unemployment, pollution etc.

- Paul R. Ehrlich published the book “The Population Bomb” in which he has warned that the exponentially increasing population of the world would cause in poverty, hunger and environmental deterioration.
- He stated that a cancer is an uncontrolled multiplication of cells and the population explosion is an uncontrolled multiplication of people. Treating only the symptoms of cancer may make the victim more comfortable at initial stage, but ultimately patient dies. A similar fate awaits a nature with a population explosion if only the symptoms are being treated.
- Garrett Hardin (1974) gave the theory of Life boat ethics. Hardin Said that the rich nation of the world may be thought of as lifeboats with moderate numbers of rich persons on board, while the poor countries much more crowded lifeboats’ the poor continuously fall out of their lifeboats.
- Schweitzer (1923) describes the theory of biocentrism or "reverence for life”. According to this theory "All of life is sacred and that we must live accordingly, treating each living being as an inherently valuable" will to live".
- The term “Land Ethic” was given by Aldo Leopold in his book A Sand County Almanac (1949). Theory stated that “we must begin to realize our symbiotic relationship with the earth and its components and we should regard Earth.
- The term “Deep Ecology” was introduced by Arne Naess in 1973 his work was elaborated by Bill Delvalle and George Sessions in 1984.
- Deep ecology is similar to Asian traditions of thought such as Hinduism and Buddhism whose fundamental teaching is that humans are part of nature, not above it: humans have no right to kill other creatures, except as it become necessary to save a life.
- Deep ecology is just “deep thinking” and emotions of human being towards earth and environment.

TERMINAL QUESTIONS

1. (a) Fill in the blank spaces with appropriate words.

Paul R. Ehrlich (1968) published the book on **……** in which he has warned that the exponentially increasing population of the world would cause in ……, …….. and ……, as billions of people would devastate the remaining natural resources. It would be impossible for agriculture production to sustain rising population indefinitely. He compared the population explosion with very dangerous diseases i.e. ……... He stated that a …….. is an …….. and the population explosion is an ……... Treating only the symptoms of cancer may make the victim more

comfortable at initial stage, but ultimately patient dies. A similar fate awaits a world with a population explosion if only the symptoms are being treated.

2. (a) Discuss the theory of Life Boat Ethics.
(b) Give the theory of Population control.

3. (a) What do you understand by Biocentrism and theory of reverence for life?
(b) Give the theory of eco-centrism or theory of land ethics.

4. (a) What do you understand by Deep Ecology? Write the three basic plans of Deep Ecology.

5. (a) Describe the principle of population according to Malthus theory.
(b) What are disadvantages of population explosion?

6. (a) Fill the blank spaces with appropriate words.

Exponential growth of population makes an exponential demand for ……,……,……..,……,…… etc. Therefore, factors of growth are interrelated such that exponential growth as a whole becomes a risk to the survival of this earth ecosystem. India has about …….. of the total population of world on just ……of the total land area of world with mere …….income of world. This status is getting further deteriorated by still over increasing population. In India, present growth rate is 2.11% with adding ……individuals per year and almost ……. individuals per minute.

(b) Population Bomb book written by Paul Ehrlich (Yes/No)
(c) Hardin gave the lifeboat ethics (Yes/No)
(d) Biocentric ethics means "life centric ethics" (Yes/No)

Answers

1. (a) The population Bomb, poverty, hunger and environmental deterioration, cancer, cancer, uncontrolled multiplication of cell, uncontrolled multiplication of people
2. (a) Discuss the Life Boat Ethics. (see the section 3.2.2)
   (b) Give the theory of Population control. (See the section 3.2.1)
3. (a) What do you understand by Biocentrism and theory of reverence for life (see section 3.2.3)
   (b) Give the theory of eco-centrism or theory of land ethics (see section 3.2.4)
4. (a) What do you understand by Deep Ecology? Write the three basic plans of Deep Ecology (See section 3.2.5)
5. (a) describe the principle of population according to Malthus theory. (See section 3.1)
   (b) What are disadvantages of population explosion? (See section 3.2.1 Fig.1)
6. (a) Foodstuff, land, water, vehicles, agro-chemicals, 6%, 2.45%, 1.5%, 1.8 crore, 35
   (b) Yes
   (c) Yes
   (d) Yes

Unit 4: Values in Modernity and Anti Modernity

Unit Structure

4.0 Learning objectives.

After studying this unit you will be able to:

- Environmental values in modernity and antimodernity
- Positive and negative impacts of modernity on Environment
- Positive and negative impacts of antimodernity on Environment
- Origin and definitions of word “Nature”
- Origin and definitions of word “Religion”
- Interpretation of nature by different Religions.
- Environmental ethics in eastern and western culture.

4.1 Introduction

As you know that the meaning of “modernity”. It means recent, advanced and new, not old or traditional. Various processes such as industrialization and urbanization lead in to modernization. Modernization provides us various industrial products, large

infrastructural facilities, high living standards but on the other hand it has some negative impacts on environment and environmental values. As you know that the Hydro-power projects, agricultural practices, industries, tourism and development of infrastructure play very important role in development of any nation. But this also leads to different types of problems such as environmental pollution, flood, diseases etc. Therefore, development of human civilization can be possible in a healthy environment and we must recognize the values of the environment too. Our policies are generally based only on economical growth. Human Values are the soul of human activities. The environmental crisis is fundamentally a crisis of values. Therefore, the future of human sustainable development depends fundamentally on a change in our ethical values, especially on our attitude for recognizing and preserving environmental values. We must think about our ways of production and standards of livings that realize cultural values at the expense of environmental values. Man using the great intelligence and creative power to over exploitation of natural resources (water, land, forest, mineral etc.). Instead, we should achieve both ends one is production and another is preservation (preservation of natural resources for future generations) which is called sustainable development. Another important point in relation to environmental ethics is of our moral responsibility to preserve natural resources for our future generations. With the modernization we are depleting our natural resources at very fast rate. Question is that is it not our duty to provide or leave a good environment for future generations? Non-renewable energy resources are fast-depleting it isn't possible to replenish them and this means, these resources may not be available for the future generations. We have to develop balance between our daily needs and the availability of resources, so that the forthcoming generations are also able to benefit from their use. In this sense, Father of Nation Mahatma Gandhi said “Earth provides enough to satisfy every man’s need but not every man’s greed”.

Environmental ethics attempt to answer the question of whether human beings have any moral responsibility towards the other living entities in nature. We have certain duties towards the environment and its all components. Our approach towards other living entities should be based on ethical values. Even if the *Homo sapiens* (man) are considered as the main constituent of the environment, all species are not less important. They have a right to get a fair share of resources to lead a safe life. In this unit you will learn about environmental values, positive and negative impacts of

modernity & antimodernity, interpretation of nature by different religions and eastern and western culture.

4.1.1 Meaning and definitions of modernity and anti modernity

As it is earlier mentioned the meaning of modernity is recent, new, advanced and not traditional. Charles Baudelaire (1864) is credited with coining the term "modernity" in his famous essay "The Painter of Modern Life", to assign the brief experience of life in an urban city.

Definitions of Modernity:

- The modernity is the way in which prior valences of social life are reconstituted through a constructivist reframing of social practices.
- According to Heidegger (1938) modernity is typically defined as a post-traditional period
- Modernity is increased movement of products, people, and information among formerly distinct populations, and resulting influence beyond the local area.
- Modernity is increased level of excessive stratification in terms of social life of a modern man

According to Buzzle (2011) Environmental ethics is defined as the moral relationship between humans and environment. It is an area of environmental philosophy that faces a lot of conflict due to the various subdivisions in terms of ethical perceptions. For conventional and religious views, some people think that they were given authority over plants and animals to serve their requirements.

Humans evolved before two millions years ago when the natural resources (land, forest, water, minerals etc.) were over abundant as compared to human needs. As human population increased, food, energy, forest and other resources were required and these were drawn at an increasing rate from the environment. Even in present time natural resources are being exploited by humans to meet their needs.

Anti-modernity is movement against modernity. Due to high negative impacts of modernity on environmental components, the word “antimodernity” came in to existence.

Many environmental problems such as pollution, depletion of natural resources, loss of biodiversity, diseases due to modernity, excessive use of chemical fertilizers,

insecticides, construction of large hydro-power projects, etc. lead in to various environmental problems. Therefore, anti-modernity thought of traditional method of life style to reduce environmental impacts.

Ian McKay (1994), published book on The Quest of The Folk which contain Antimodernism and Cultural Selection in Twentieth-Century Nova Scotia another famous book was published by Thornton Weldon (1994) on The Antimodernism of Joyce's Portrait of The Artist as a Young Man.

Causes of Modernity and their impacts on environment: There are various causes which lead in to modernity some of them are given in following table:

Table 1: Causes of modernity, their uses and Environmental impacts

Cause	Human being benefited	Environmental impacts
Industrialization	Various products, employment	Air, water and soil pollution, global warming, acid rain, ozone depletion, green house effect and diseases
Urbanization	High living standards, schools/educational institutions, malls, well developed infrastructure, roads	Solid waste generation, air, water and soil pollution, reduced biodiversity
Hydrpower projects (Dams)	Energy, employment, economy, irrigation, aquaculture etc.	Water logging problems, flood, reduced aquatic biodiversity
Tourism	High economy, exchange of idea, development of area	Air, water, noise pollution, Solid waste generation.

4.2 Positive and Negative Impacts of Modernity on Environment

4.2.1 Positive impacts of Modernity on Environment:

(a) Genetically modified Crops: One of the most important positive impacts of modernity is genetically modified crops (GMCs, GM crops, or biotech crops) which are plants has been modified using genetic engineering. These food crops include resistance to certain pests, diseases, or environmental conditions, reduction of spoilage, or resistance to chemical treatments or improving the nutrient profile of the crop. These plants/crops certainly helpful specially in developing country where demand of food is high.

(b) Bioremediation: Modernity provides various environmental techniques to control environmental pollution (specifically heavy metal pollution) and bioremediation is one of them. It is a process used to treat contaminated media, including water, soil

and subsurface material, by altering environmental conditions to stimulate growth of microorganisms and degrade the target pollutants. Bioremediation may be of different types such as Phytoremediation (degrade pollutants with the help of plant species), mycoremediation (degrade pollutants with the help of fungal species), bacterial bioremediation (degrade pollutants with the help of bacteria). In many cases, bioremediation is less expensive and more sustainable than other remediation alternatives. Biological treatment is a similar approach used to treat wastes including wastewater, industrial waste and solid waste. Various microbes such as bacteria (*Pseudomonas putida*, *Dechloromonas aromatic, Methylibium petroleiphilum*), fungi (*Phanerochaete chrysosporium*) etc. are being used in bioremediation to clean the environment.

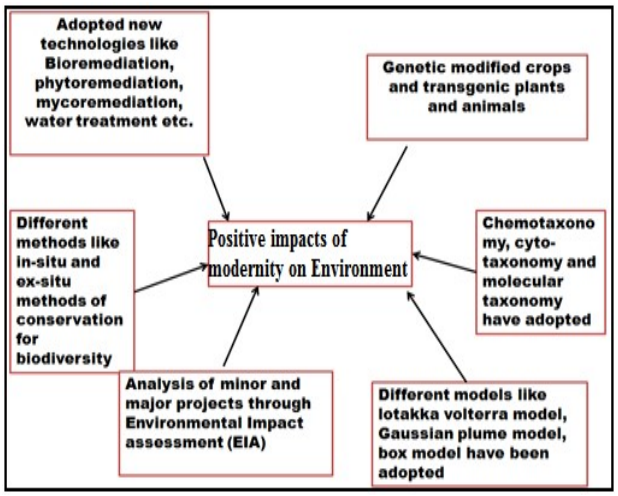

Fig-1. Advantages or positive impacts of modernity on Environment

(c) High Living standards: Modernity provides high living standard to people which include: the level of wealth, comfort, material goods etc. Due to industrialization, urbanization people easily find jobs in multinational companies, hydropower projects; educational institutions etc. which are certainly helpful for high living standards.

(d) Evolution of New Technologies: Various environmental technologies such as water treatment, bioremediation, phytoremediation, ozonation and UV irradiation of water, Environmental Impact Assessment (EIA) have been developed due to modernity.

(e) Scientific Knowledge of flora and fauna: Modernity provides various techniques such as molecular taxonomy (identification of plants and animals on the basis of molecules (DNA, RNA)), cyto-taxonomy (identification of plants and animals on the basis of chromosomes), and chemotaxonomy (identification of plants and animals on the basis of chemical composition) for better identification of plants and animals

species. Scientists have discovered various plants, animals and microbes through these modern techniques.

4.2.2 Negative impacts of Modernity on Environment:

Some of the negative impacts of modernity on environment are described below-

(a) Depletion of Natural Resources: One of the greatest negative impacts of modernity is that our natural resources such as land, water, forest, minerals etc. are depleting very fast. Human being converting forests in to cultivable field, river for construction of Hydro-power projects which certainly leading in to forest and water resources depletion.

(b) Pollution: Due to the industrialization (important aspect of modernity), various types of pollution such as air, water, soil, and noise pollution increased. Due to vehicular emission various toxic gases such as CO, NO2, and SO2 have been released in to atmosphere which leads in to various pulmonary, cardiovascular, neurological diseases in human being. Many industries release their effluent direct in to river and lakes which is not only dangerous for human being but for the all aquatic ecosystem. Uses of refrigerators, air conditioners is common in modern days these release harmful gases such as Chloro-fluorocarbons in atmosphere and responsible for ozone layer depletion.

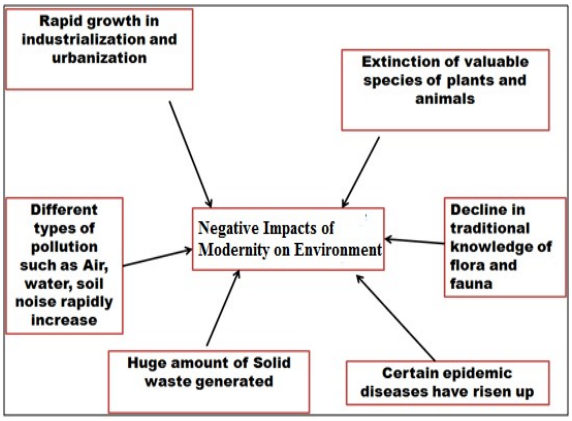

Fig-2. Disadvantages or negative impacts of modernity on Environment

(c) Extinction of Valuable species of plants and animals: Due to rapid construction of industries, dams and other infrastructure for development of schools, educational institutions, hospitals etc. many species of plants and animals have been extinct from the planet. Habitat loss is the main threats to biodiversity. In recent years man moving from rural area to urban area for better facilities and constructed more and more buildings in or on the habitats of animals and plants which leads in to extinction of valuable species. Due to excessive use of

insecticides and pesticides, population of many useful species of insects, birds and soil microbes is declining.

(d) Diseases: Modernity also responsible for various diseases and they may include: Arthritis, ashthma, cancer, heart diseases, metabolic syndrome, stroke. Due to rapid growth in industrialization leading in to discharge of heavy metals in to air, water and soil which consequently leads in to certain types of air borne, water borne and food borne diseases in human being. Air borne diseases such as Anthrax (inhalational), chickenpox, influenza, measles, smallpox, cryptococcosis, and tuberculosis, water borne diseases such as diarrhea, malaria, typhoid fever, diseases of circulatory, nervous and reproductive system due to heavy metals and food borne diseases have risen up due to modern way of life style. As you know that modernity provides packaged foot items which are easily prepared and most of the population of human being depends on these packaged foods. These packaged foods contain different flavors, preservatives and food additives which chemically prepared and leads in to various diseases in human being.

(e) Generation of Solid waste: As earlier it is mentioned that modernity provides packaged foods which consequently lead in to generation of solid waste specifically non-biodegradable waste. These non-biodegradable waste remain in soil for many years and reduced the productivity of soil.

4.3 Positive and Negative Impacts of Anti-Modernity on Environment

4.3.1 Positive impacts of anti-modernity

(a) Protection of flora and fauna: As you know that antimodernity means think backward. This is way of thinking towards our traditional methods. antimodernity certainly helpful in protecting flora and fauna at local and global levels. You know that traditional systems of world (antimodernity) emphasized on protection of sacred grooves, flora and fauna and harmony with nature. Various environmental movements such as Save Narmada movement, Chipko Movement, Appiko Movement etc. which were against the modernity and were conducted for the protection of flora and fauna of the local area. Therefore, antimodernism is certainly helpful in protection of biodiversity.

(b) Minimize the pollution level: It is well known that all the developmental activities lead in to environmental pollution. Antimodernity helps in protecting rivers, forests, land from the anthropogenic activities. Antimodernity also helps in reducing the atmospheric, aquatic and land pollution.

(c) Minimize use of insecticides/chemical fertilizers: Antimodernity generally believes in traditional way of life style. Due to excessive use of chemicals in agricultural practices many communities suffering from various diseases. Antimodernity provides traditional way of agriculture and use of bio-insecticides and bio-fertilizers instead of synthetic insecticides and chemical fertilizers.

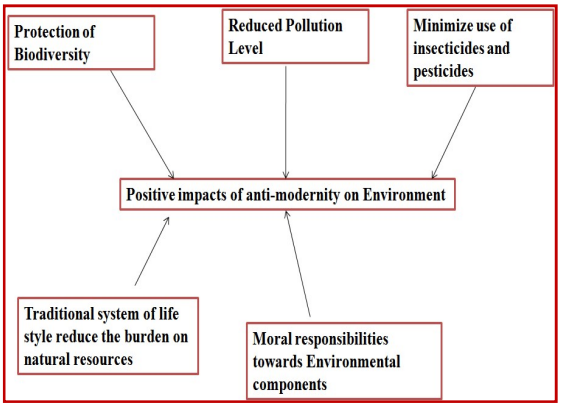

Fig-3. Positive impacts of antimodernity on Environment

(d) Promotion of traditional way of life style: Traditional way of life style certainly helpful in reducing pollution, natural resources protection, reducing epidemic disease etc.

(e) Adequate knowledge of environmental ethics: Antimodernity believes in environmental ethics and has more moral values towards environmental components as compared to modernity.

4.3.2 Negative impacts of antimodernity

Ignorance of new technology: Generally antimodernity does not adopt on new technologies as quick as possible.

(a) **Disagreement about some important projects:** As we know that Hydropower

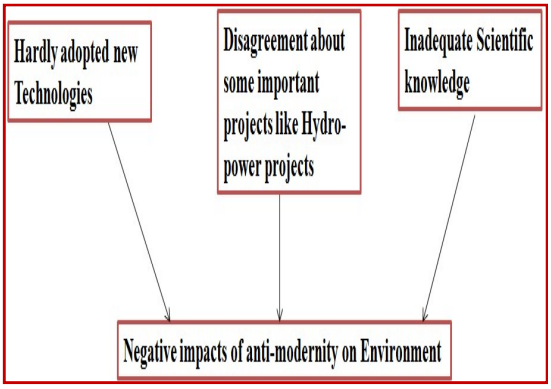

Fig:4. Negative impacts of antimodernity on Environment

projects, tourism industries, agricultural practices are certainly helpful in development of Nation and we also realize that without some projects we cannot compete with other Nations of the world.

(b) **Low scientific knowledge about natural ecosystems:** Modernity leads in to new technologies through scientific knowledge on the other hand antimodernity hardly favor the new technologies and have inadequate knowledge about science and technology.

4.4 Definition and Introduction of Nature

The phenomena of the physical world collectively including plants, animals, the landscape, and other features and products of the earth, as opposed to humans or human creations.

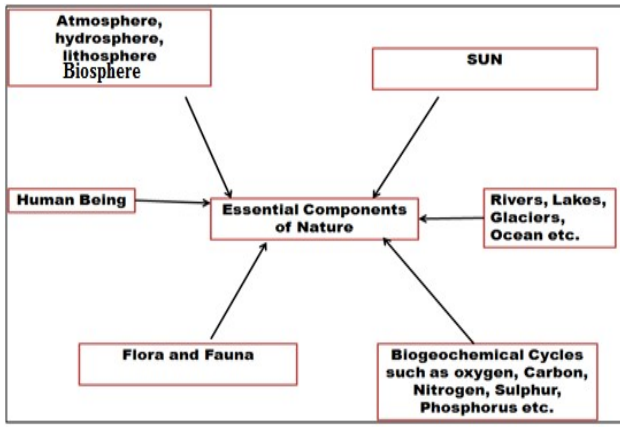

Fig5. Essential components of Nature

The word **nature**s have been taken from the Latin word natura which means “essential qualities, innate disposition”, and literally mean **"birth"**. "Nature" can refer to the phenomena of the physical world, and also to life in general. The study of nature is a large part of science. Humans are part of nature; human activity is often understood as a separate category from other natural phenomena.

Table 2. Essential components of nature and how human being uses these components

Component of Nature	Component used by Human being for different purposes
Sun	Energy
Air	Breath, wind Energy, communication, transportation
Water	Drinking, bathing, cleaning, irrigation, hydro-power energy, aquaculture, transportation etc.
Land	Agriculture, transportation, infrastructure
Plants (flora)	Purification of air, as Food, as fodder, as medicines, ornamental purpose and development of infrastructure
Animals (fauna)	Transportation, in agriculture, sericulture, aquaculture, apiculture, lac culture, poultry farms, etc.

4.5 Definition and Introduction of Religion

Modern scholars Tom Harpur and J. Campbell favor the derivation from *ligare* bind, connect, probably from a prefixed *re-ligare*, i.e. *re* (again) + *ligare* or to reconnect. The word "religion'' comes from the latin word *ligare*: to join, or link, classically understood to mean the linking of human and divine.

Definitions of Religion

According to Paul Tillich (1886-1965) in his famous book entitled "*Christianity and the Encounter of the World Religions"* "Religion is the state of being grasped by an ultimate concern (the holy, the sacred, the divine, the transcendent) a concern which qualifies all other concerns as preliminary and which itself contains the answer to the question of the meaning of our life.

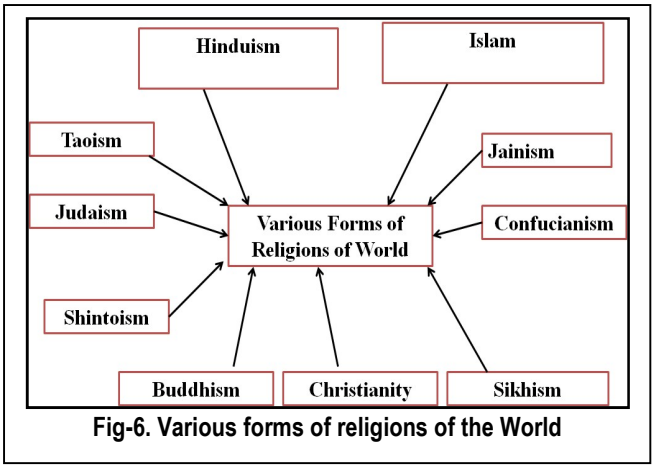

Fig-6. Various forms of religions of the World

According to Ian S. Markham, "Religion is a way of life that refuses to accept the secular view (non-religious views) that sees human life as nothing more than complex bundles of atoms in an ultimately meaningless universe."

According to Karl Rahner and Herbert Vorgrimler, "Religion in general can be described as "man's relations with the holy; subjective religion is respect, love and care, which becomes objective religion when embodied in creed, word, actions and law" .

James Martineau described religion as "The belief in an everlasting God, that is, in a Divine Mind and Will ruling the universe and holding moral relations with mankind."

According to Friedrich Schleiermacher, "Religion is "the feeling of dependence, the consciousness that the whole of our spontaneous activity comes from a source outside of us."

According to Anthony Wallace, "Religion is a set of rituals, rationalized by myth, which mobilizes supernatural powers for the purpose of achieving or preventing transformations of state in man or nature."

According to Karl Marx, "Religion is the sigh of the afflicted creature, the soul of a heartless world, as it is also the spirit of spiritless conditions.

Religions are ways of belief which have followings characteristics:

- The divine, the sacred and the supernatural.
- Purpose and aim of man on this planet in this life.
- Duties of man during their survivorship in this earth.
- Expectations of God from man.
- Relationships of human being with the sacred, spiritual, ancestors, other people, and plants and animals, that is, how to behave well in relation.

Population of the world is nearly 7.6 Billion. This population is distributed in several religions like christian, Islam, Hindu, Sikhism, Jainism, budhhism etc.

4.6 Interpretation of Nature by Different Religions

Various religions have their own theories and perception of how the world was formed and in their own ways, encourage the values of protecting the environment because of the relationship of natural elements with the Supreme Power that created them. In some religions, certain plants or animals are worshiped considering them as sacred or symbols of a particular God and Goddess. Worship of nature is a part of many religions. You have learned on environmental ethics in different religion in unit-2 i.e. cross cultural views on nature. Some of the important interpretation/perception about nature by different religions has given below:

4.6.1 Christianity

Christianity was founded about 2000 year ago by Jesus Christ and it is regarded as one of the best religions of the world. It is generally religion of Europe and North America. The Bible is the holy book of Christianity. This religion has nearly 2 billion followers all over the world and it is the most practiced religion of the world. Christian people believe that The Lord took the man and put him the Garden of Eden to work it and take care of it.

4.6.2 Islam

Islam religion was founded about 1400 year back in Saudi Arabia by Muhammad. The Quran is the holy scripture of Islam and this is the fasted growing religion as compared

to other religion. More than 1.6 billion people are following this religion all over the world. Islam is regarded as monotheistic religion (belief in the existence of only one God that created the world), is clear from the very first sentence of Holy Quran. Quran literally means Words of God. Islam believes that the laws of nature, the work of God are the divine words recorded in the book of Nature. The law of God for man is divine words embodied in the Quran. They believe that God (Allah) is the absolute creator, sustainer, ruler, destroyer, restorer and recorder. He is Exalter (al-rafi) and the honourer (al-muizz) and abaser (al-muhill), withholder (al-mani), adventager (al-nafi), Compassionater (al-rahman, al-rahim). Further Quran says "man is born with nature made by Allah and he indeed prospers who purifies it and he is ruined who pollute it. Muslims also believes that agriculture is best occupation and they tried to protect all the flora and fauna of globe. Islam believes that "If Muslim plants a tree and men or animal eat of it is a charitable act for them".

4.6.3 Hinduism

Hinduism is the oldest religion or dharma in the world and is also called sanatana dharma and there is no specific founder of this religion. Hinduism has no beginning and this is having many major scriptures like Bhagwat Geeta, Vedas, Mahabharat, Puranas, Upanishads and many more. This is mainly spread in India and nearly one billion people are following this religion. The earliest Sanskrit text, Vedas and Upanisads have almost exclusively accepted and preached about the non-dualism of the supreme power that existed before the creation of earth. According to Mahabharata (Moksha 182.14-19), "God as the efficient cause, the nature (Prakriti) as the material cause of the universe is unconditionally accepted, as is their harmonious relationship. Hindu believes that God is father of all creatures, he made sky, from sky he made water and from water he made fire (Agni) and air (Vayu) then earth came in to existence. Hindu also believes mountains are his (God) bones, earth is the flesh, sea is the blood, sky is his abdomen, air is his breath and agni and rivers are teja and nerves, respectively". Hundreds of references related to Environmental ethics have been cited in Hindu religion. Hindu respects almost all the components of Environment such components are Air, (Vayu), Water (Jal) and Soil (Earth), etc.

4.6.4 Buddhism

Buddhism was founded 2500 year back by Gautam Buddha in India.The Tripitaka, Sutta-Nipata, Samyutta-Nikaya, Anguttara-Nikaya and Fhammapada are the major scripture of this religion. More than 370 million people are following the Buddhism religion worldwide. Buddhism and Deep Ecology belong in the same title because at their core they are both talking about how to be at home in the universe. This state of oneness is called Nirvana or Enlightenment. The teachings of Buddha represent a total inter-connection with everything that is also part of Deep Ecology. Buddh religion says that soma, varma, prajapati, moon and sun may bestow bliss on you, and religion also believes that every component of environment is important and created by God. Pollution is strictly prohibited in Buddhism. In Metta Suttara Buddhist prayer that, “As the mother protects her child even at the risk of her own life, nature protects us in the same way”.

4.6.5 Sikhism

The Sikhism religion was founded nearly 500 year back by Guru Nanak and is mainly spread in Punjab state of India. Approximately 10 Million people are following this religion. The origins of Sikhism depend on the teachings of Guru Nanak and his successors. The essence of Sikh teaching is summarized by Guru Nanak in these words: “Realization of Truth is more than all else. Sikh training emphasizes the principle of equality of all humans and also turns down discrimination on the basis of caste, creed, and also gender. Environment is actually a bridge between man and permanent power. Gurunanak Founder of Sikh religion has assigned divine attributes to nature. Sikh religion and philosophy are deeply related to environment. Sikhism deals with natural phenomenon, animal and birds, seasons and flora and fauna and above all the creation of the world. According to Sikhism man should have respect all God creation and man must know the internal truth of his place. If we take the sense of Sikhism then we can conclude man must maintain such a balance between both physical and spiritual relationship that neither his own well being nor that of the environment is threatened.

4.7 Environmental Ethics in Eastern and Western Culture

Culture can be defined as “the language, customs, values, beliefs, religions, food etc. together, form a way of life of people. The word "culture" derives from a latin "colere,"

which means cultivation and nurture. "It includes religion, food, clothes, dressing senset, our language, wedding, music, believe is right or wrong, how we welcome guests, how we perform with loved ones and a million other things".

Main religions of eastern culture are Hinduism, Sikhism, Buddhism and Islam. The people of eastern culture believe in environmental ethics as compared to western culture. On the other hand main religions of western culture are Christianity, Judaism and Islam they generally focuse on practical and modern approaches. Some of the important characters of eastern and western culture are given below:

Table-3: Difference between Eastern and Western culture with special reference to environment

Characteristic	Eastern Culture	Western Culture
Location	Eastern culture refers to the nations in Asia and Middle East.	Western culture refers to Europe and North America.
Religion	Hinduism, Buddhism, Jainism, Shenism, Taoism, and Islam are some common religions of eastern culture.	Judaism, Christianity, and Islam are some common religions of Western culture.
Philosophy	Eastern culture more specifically based on the Chinese philosophy	Western culture more specifically based on the Greek Philosophy
Thoughts	The populations in eastern countries are more customary than people in the West when we consider their traditions, clothings, rituals etc. For example, Indians pay regard to their elders or parents by touching their feet.	The populations in western countries are more liberal than those in the east. The westerns are more open and blunt. For example, topics like sex, birth of a child are openly discussed in western culture, whereas in the east, these topics are still ban.
Beliefs	People of eastern culture are inflexible in their beliefs, they were unwilling to challenge and question the long practiced customs and traditions.	People in the west are more open to express their feelings.
Moral Responsibilities	People of eastern culture generally believe in moral responsibilities towards environment. They protect the environmental components through build up the ethical values.	People of western culture generally believe in strict rules and regulations. They protect the environmental components through strict rules, new technologies and modern equipments.
God and Goddess	In eastern culture many environmental components such as Sun, Moon, Rivers, plants and animals regarded as God and Goddess.	In western culture no or very few such components regarded as Lord.
Tradition	People of eastern culture are more traditional as compared to western culture	People of western culture are more advanced or modern as

		compared to eastern culture
Clothing	Clothing of eastern culture are much more eco-friendly as compared to western culture. Clothing that is considered appropriate for women according to Eastern culture, includes salwar-kameez, saris and clothes.	Clothing of western culture are generally synthetic.
Festivals	Festivals like : Makar sankranti based on Sun planet, Basant Panchami based on spring season, Ganga Dussehra based on Ganga river, Amavasya based on different planetary position, Eid ul Zuha based on Moon etc. you can say that festivals of eastern culture generally based on nature or environmental.	Festivals like Christmas (Jesus Christ was born), Easter (When Jesus resurrected) All Saints' Day, Valentine's Day and Thanksgiving Day. Therefore, you can say that festivals of western culture based on birthday of Saints.
Food	Eastern culture generally prefers homemade food.	People of western culture generally prefer packaged food or fast food.
Marriage	If you see the marriage style in eastern culture, they celebrate marriage 2-3 days and pray most of the components of environment. Arrange marriages still play a huge part in rural India, where families pick out a proper bride and groom for the children to marry with their children's permission.	No such components included during marriages in western culture. They prefer child before the marriage and they prefer live in relationship rather than marriage.
Gender Equality	Girls are most commonly taught about cooking, while boys are taught family business.	In Western cultures, there is no differentiation between men and women as both are considered equal in society.

Summary

In this unit we have discussed various aspects of modernity, antimodernity, positive and negative impacts of modernity and antimodernity on environment, interpretation of environment by different religions and eastern and western culture. So far you have learnt that:

- Meaning of Modernity is advanced and not-traditional. There are various positive impacts of modernity on environment such as pollution control (through bioremediation, phytoremediations) transgenic crops, development of many environmental projects etc. beside these positive impacts modernity also have some negative impacts such as air, water, soil pollution, irrespect of flora and fauna and other unethical activities.

- Antimodernity, which is just contradictory of modernity. There are various positive impacts of antimodernity on environment such as protections of natural resources, protection of biodiversity, minimize pollution, moral responsibilities towards environment etc. Beside these positive impacts antimodernity also have some negative impacts such as ignorance of some important projects which are necessary to development Nation.
- Nature word has been taken from the Latin word natura which means “essential qualities, innate disposition”, and literally means "birth. Nature has important components such as rivers, mountains; glaciers etc. are these components are directly related to human being.
- The word religion comes from the latin word ligare: to join, or link, classically understood to mean the linking of human and divine. Respect for what is sacred, reverence for the gods. Different religions of world are Hinduism, Islam, Christianity, Buddhism, Sikhism, Judaism etc.
- Characteristics of every religion of world may as believe in divine, sacred and the supernatural, purpose and aim of man on this planet in this life, duties of man during their survivorship in this earth, expectations of God from man, relationships of human being with the sacred, spiritual, ancestors, other people, and plants and animals.
- Every religion interpret environment in various ways. They all respect Air, Water, land, flora and fauna of the earth.
- There are various differences in eastern and western culture in which eastern culture emphasis on traditional, ethical and antimodernism way of life style on the other hand western culture emphasize on new techniques, practical approaches and modernity.

Terminal Questions

1. (a) Fill in the blank spaces with appropriate words.

As you are well aware about “modernity” which is ……,……,……,…… Various processes such as industrialization and urbanization leads in to……. Modernity provides us various industrial products, large infrastructural facilities, high living standards but on the other hand it has some negative impacts on …….. and ……. …….. As you know that Hydro-power projects, agricultural practices,

industries, tourism and development of infrastructure play very important role in development of any Nation. But these are also lead to different types of problems such as……., ……., ……. etc. Therefore, development of human civilization can be possible in a healthy environment and we must recognize the values of the environment. Our policies are generally based on only economical growth.

2. (a) Discuss the positive impacts of modernity on Environment.
   (b) What are the negative impacts of modernity on environment?
3. (a) What are the positive impacts of antimodernity on environment?
   (b) What are the negative impacts of antimodernity on environment?
4. (a) What do you understand by nature? Write the main components of Nature and how human being used these components?
5. (a) How Hinduism interprets nature?
   (b) How Christianity interprets nature?
   (c) How Sikhism interprets nature?
6. (a) Fill the blank spaces with appropriate words.

Hinduism is the ……. ……. in the world and is also called ……. ……. and there is no specific founder of this dharma or religion. Hinduism has no beginning and this is having many major scriptures like Bhagwat gita, vedas ,puranas and many more. This is mainly spread in India and nearly one billion people are following this religion. According to ……."God as the efficient cause, the nature (Prakriti) as the material cause of the universe is unconditionally accepted, as is their harmonious relationship. Hindu believes that God is father of all creatures, he made sky, from sky he made water and from water he made fire and air then earth came in to existence. Hindu also believes mountains are his (God)……, earth is the……., sea is the……, sky is his……., air is his breath and agni and rivers are teja and nerves, respectively".

(b) Term "modernity" was coined by Charles Baudelaire (Yes/No)

(c) "The Painter of Modern life" written by Charles Baudelaire (Yes/No)

(d) The Quest of the Folk written by Ian Mckay (Yes/No)

(e) The word "Nature" derived from which language (French/Latin)

(f) The oldest religion of the world is (Christian/Hindu)

7. (a) What is culture? Describe the features of eastern and western culture with special reference to environment.

Answers

1. (a) recent, advanced and new, not old or traditional. Modernization, environment and environmental values, environmental pollution, flood, diseases
2. (a) see 4.3.1. The Culture/Nature Divide

   (b) See 4.3.2
3. (a) See section 4.4.1.

   (b) See section 4.4.2.
4. (a) See section 4.5 including figure and table
5. (a) See the 4.7.3.

   (b) see section 4.7.1

   (c) See section 4.7.5
6. (a) Oldest religion, Sanatana Dharma/religion, Mahabharata (Moksha 182.14-19), bones, flesh, blood, abdomen

   (b) Yes

   (c) Yes

   (d) Yes

   (e) Latin

   (f) Hindu
7. (a) See the section 4.8

Unit 5: Introduction to Deep Ecology

Unit Structure

5.0 Learning objectives

After studying this unit you will be able to understand:

- Concept of Deep Ecology
- Definitions, meaning and Examples of Deep Ecology
- Evolution of Deep Ecology
- Four directions of deep ecology
- Eight conceptions of deep ecology
- Deep Ecology vs dominant worldview
- Merits and Demerits of Deep Ecology

5.1 Introduction

As you know that ecology is branch of science that deals with study of relationship between abiotic (temperature, pH, Transparency of water, humidity, rainfall turbidity etc.) and biotic factors (plants, animals and microbes). Term “Ecology” was coined by Ernst Haeckel in 1866. Some of the most important specialized branches of ecology are as habitat ecology, population ecology, community ecology, ethology, system ecology, deep ecology, applied ecology etc.

It is well known that all the ecological factors such as water, temperature, pH, humidity, rainfall etc. are being fluctuated and biotic factors such as plants, animals and microbes being threatened due to unethical activities and over exploitation by human being. As you are well aware about the condition of environment and you must be familiar now with the words like air, water soil and noise pollution. Different forms of pollution lead in to certain physical and psychological diseases. If you think, all the environmental problems are happening due to unethical activities. Deep ecology is all about deep thinking of human being about the environmental components.

Deep ecology provides basic platform to policy makers, scientists, researchers, Government agencies also common man to think ethically about nature and its all components. Deep ecology has had a broad general influence on the green movement by provided that an independent ethical platform for political ecologists and environmentalists. The attitude of deep ecology helped distinguish the modern ecology movement by pointing out the anthropocentric bias of the term "environment", and reject the idea of humans as owner of the environment. Deep ecology is a somewhat recent branch of ecological philosophy (ecosophy) that considers man as an integral part of the nature. In this unit you will learn about concept and evolution of deep ecology, four directions and eight important conceptions of deep ecology and merits and demerits of deep ecology.

5.2 Concept of Deep Ecology

Deep ecology is a comparatively new branch of study which combines different fields of awareness such as philosophy, religion, and sociology, with environmental studies. The basic principle of deep ecology is the interconnectedness of all life and consequently a concern for the ecological welfare of our earth, which is more and more threatened by different anthropogenic or manmade activities. In recent times, there has been a lot of attention given to deep ecology.

You must know that all the environmental problems in world happening due to unethical activities such as personal greediness and ignorance of environmental components for development activities and focus on maximum production. Deep ecology deals with interrelationship between human psychology and environmental components. In recent time science and technology developed at tremendous pace. Scientific ecology only deals with the scientific data of ecosystems for different

parameters such as air quality (RSPM, SPM, Sox, NOx) water quality (Dissolved oxygen, pH, temperature, and chlorides), Soil quality (moisture content, organic matter, pH,) and for biotic factors (bacteria, plants, animals). Unfortunately, scientific ecology does not include any ethical parameter which described about how we can respect water, air, plants, animals and other components of environment.

5.2.1 Difference between scientific ecology and deep ecology

(a) Scientific Ecology: The study of the inter-relationships between species and their environment. In this approach, the relationship is of a detached observer separate from the object of study. Scientific ecology is totally based on scientific data, research, interpretation and presentation. It tells about the pollution level, categories and scientific name of flora and fauna, diseases, biological diversity etc. besides this scientific ecology deals with interrelationship of abiotic factors with biotic factors. It is well known that scientific ecology only important for scientists, researchers, policy makers, professor and not for the common man.

(b) Deep Ecology: As you know that scientific data is less important to common man of earth. Nobody or very few unscientific persons known about the terms like DO, RSPM, air quality index, water quality index, biodiversity, endangered species etc. Deep ecology deals with deep sense of thinking, feelings towards environment. Deep ecology emphasized on role of human being in protecting environment with the help of four directions viz. Idea, feelings, spirituality and actions. Deep ecology is important for everyone including common man and not just to experts. Each individual encouraged by our values, experiences and feelings. Deep ecology believe that not only scientists, researchers, policy makers, professor and scientific persons are connected to nature but all human beings are connected to environmental components.

The term 'Deep Ecology' was first introduced by the Norwegian philosopher Arne Naess in 1973 in his article, ‘‘The Shallow and the Deep, Long-Range Ecology Movement: A Summary By ‘‘ecology movement’’. He proposed that we ask 'deeper questions', looking at the 'what, why and how' of the way we live, do the activities and seeing how these actions fits with our deeper beliefs, needs and ethical values. Deep ecology tells us ask deep questions to ourselves and these questions may be as followings:

(i) Why we pollute air, water and soil?

(ii) Why we generate unnecessary solid waste and dump in the streets, cities and surroundings?

(iii) Why we kill animals?

(iv) Why we over exploit natural resources?

(v) Why we use extra energy/electricity which put the extra burden on energy resources?

(vi) Why we focus on greediness

(vii) How can we live in a way that is good for our future generations, other people and our environment?

(viii) How environment is degrading due to our unethical activities?

(ix) How can we minimize the burden of natural resources?

Deep Ecology can also be seen as part of a much wider process of questioning of basic assumptions in our society that is leading to a new way of looking at science & technology, political issues, education, and health care. Deep Ecology relates this new worldview to our relationship with the nature and earth. This can influence our actions towards nature.

Deepness: Meaning of Deepness in deep ecology is deep questioning about our actions towards environment and its components. It may be arrogant to declare that thinking of one person is deeper than other. Arne Naess compared it favourably with shallow environmentalism in which he criticized for its utilitarian and anthropocentric attitude to nature and for its buyer leaning outlook. "Depth" of deep ecology resides in the persistence of its inquiring questioning, particularly in asking "Why?" .

Deep ecologists argue that environmental philosophy must recognize the values that inhere objectively in nature independently of human wants, needs or desires.

Authors have made connections between deep ecology and ecological science, religions from around the world, New Age spirituality, direct action/ecological damage, the poetry of Robinson Jeffers, the land ethic of Aldo Leopold, the monism of Baruch Spinoza and the phenomenology of Martin Heidegger. Such variety is stimulating, but it makes it difficult to find the common thread in all these diverse-manifestations of deep ecology.

5.3 Evolution of Deep Ecology

Deep ecology evolved from two fundaments first is axiology i.e. the study of the criteria of value systems in ethics all organisms and entities in the ecosphere which emphasis on ‘‘biocentric egalitarianism’’ (all biological components have equal intrinsic value; it denies differential valuation of organisms. According to Arne Naess, ‘‘the equal right to live is spontaneously clear and obvious value axiom’’) and another fundamental of deep ecology is an ontology i.e. the study of existence of metaphysical holism which asserts that the biosphere does not consist of discrete entities but rather internally related individuals that make up an ontologically unbroken whole. Both fundamentals are rooted in an instinctive epistemology.

Philosopher and mountaineer Arne Naess introduced the phrase “deep ecology” Rachel Carson published a book entitled *Silent Spring on 27 September, 1962.* This book documented the undesirable impacts on the environment of the random use of chemical pesticides. This book has drawn the attention of scientists, policy makers about the harmful impact of pesticides on environment.

Arne Naess was a mountaineer who had climbed all over the world; he got the opportunity to observe political and social activism in diverse cultures. Both historically and in the contemporary movement, Naess observed two different forms of environmentalism, not necessarily incompatible with each other; first form is “long-range deep ecology movement” and the other, the “shallow ecology movement.” The word “deep” in part referred to the level of questioning of our purposes and values when arguing in environmental conflicts. The “deep” movement is about deep questioning, right down to fundamental root causes. The short-term, shallow approach stops before the ultimate level of fundamental change, often promoting technological fixes based on the same consumption-oriented values and methods of the industrial economy.

The distinguishing and original characteristics of the deep ecology movement were its recognition of the inherent value (Animal’s own right) of all living beings and the use of this view in shaping environmental policies. People who work for better environmental changes based on this recognition are motivated by love of nature as well as for humans. They recognize that we cannot go on only with industrialism.” Without modification in basic values and practices, we will destroy the diversity and beauty of the world.

Initially, very few people appreciated/valued that Naess was characterizing an existing grassroots movement. People believed that Deep Ecology simply personal philosophy of Arne Naess. After that Naess proposed a set of eight principles to characterize the deep ecology movement as part of the ecology movement. The platform can be authorized by people from a diversity of religious and philosophical background. After that all deep ecologists, supporters of deep ecology, politicians were united by a long-range vision of what is necessary to protect the integrity of the ecological communities of earth and ecocentric values.

Unfortunately, some environmentalists who claim to support the movement have said and written Deep ecology is misanthropic (disliking other people) manner. However, conception/principle Number 1 of Arne Naess begins with recognizing the inherent value of all living beings, including humans. Gandhian nonviolence is a principle of deep ecology activism in word and deed.

5.4 The Four Directions of Deep Ecology

There are four directions of deep ecology and these directions are idea, feeling, spirituality and actions which are described below:

5.4.1 Ideas

The central idea of Deep Ecology is that Human being is part of the nature, rather than apart and separate from nature. This idea is in contrast to the dominant individualism of our culture, where seeing ourselves as separate from our world makes it easier not to be bothered by what's happening in nature. This century, two key ideas have emerged out of scientific thinking that support the view of us as part of the nature. The first idea comes from Systems Theory and the second idea is called Gaia Theory. Systems Theory stated that our world is in 'systems', where every system is a 'whole' that is more than the sum of its parts, but also itself a 'part' of larger systems. If you see a cell (fundamental unit of life) is more than just a mass of molecules and itself is a part of larger systems i.e. an

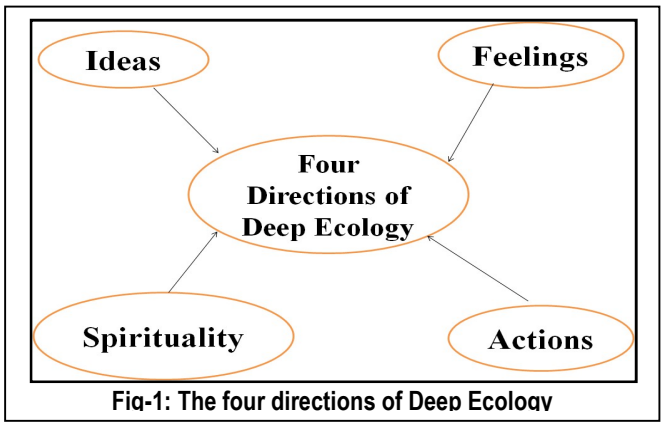

Fig-1: The four directions of Deep Ecology

organ and an organ is on one level a whole in itself, but on another, it is a part of a system at the level of an individual person. A family can both be seen as 'systems' where the people are part of it. Family makes population and population makes community which make entire ecosystem. All the ecosystems (Pond, lake, river, marine, forest, grassland etc.) are part of biosphere.

Gaia Theory takes this idea further and applies it to the whole planet. All of life on earth can be seen as whole that is more than the sum of its parts, this whole being like a huge super-organism that we call 'Gaia'. Living systems have a tendency to keep them in balance but also to adapt and evolve over time. Scientists have found that the earth also has these tendencies, with feedback mechanisms to 'keep in balance' the parameters like temperature and oxygen levels of the atmosphere are just as our bodies maintain the temperature and oxygen levels in our arteries. Gaia Theory is simply stating that the earth is alive and that we are part of it and "We are part of the earth and it is part of us".

5.4.2 Feelings

Feeling is important direction of deep ecology**.** We can experience that many environmental problems in the world which is due to lack of feeling and insensitiveness towards environmental components. If we see ourselves as part of the earth it becomes possible to feel about the environmental components. Unfortunately, no industrialist, manufacturer, producers feel the pain of other entities of nature. Allowing ourselves to feel for our environmental components also opens us to a source of energy and aliveness, and a strength that comes from connection to something more than just our narrow selves. We should feel the pain of other creatures of the world.

5.4.3 Spirituality

Spirituality is to do with our inner sense of connection with something larger than ourselves and with our connection with what we see as revered. This can give our lives wisdom of meaning and purpose beyond material success and those special moments where we feel that connection more deeply can provide an important source of strength in difficult times. If we see ourselves as part of the 'Tree of Life' the interconnected web of beings we call Gaia, then a Deep Ecological approach to spirituality might emphasize our relationship with this larger whole. We may look at life itself as being sacred, and see the possibility of the larger force of life acting through us

in our actions for recovery of earth. This 'life-centered spirituality' may be an important source of inspiration to face and respond to the environmental problems.

5.4.4 Action

If we think that we are separate from the world, it is easy to dismiss our actions as inappropriate to make any difference. Deep Ecology stated that our actions should be as environmental friendly. Deep ecologists believe that we are part of the world and every unfavorable actions lead in to environmental problems.

5.5 Eight Important Conceptions of Deep Ecology

Proponents of deep ecology believe that the world does not exist as a resource to be freely exploited by man. The ethics of deep ecology hold that a whole system is superior to any of its parts. According to George Sessions and Arne Naess, 1984 there are eight basic principles/conceptions of deep ecology. The conceptions are inherent value, diversity, vital needs, population, human interference, policy change, quality of life and obligation of action. All the eight important conceptions are described below:

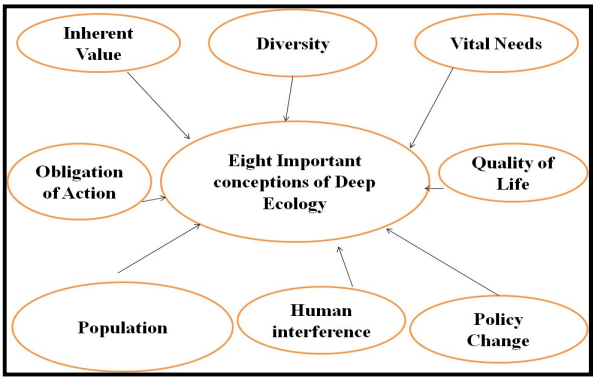

Fig. 2: The eight principles/conceptions of deep ecology

(i) The happiness and flourishing of human and nonhuman life on Earth have value in themselves: This conception refers to biosphere/ecosphere where all the abiotic and biotic components interrelated to each other. This includes individuals, species, population, community as well as human beings. This conception stated that we should care and respect all the entities of the ecosphere. According to Gary Snyder “the environment of world should remain natural”. The term “life” is used here is used here in more comprehensive non-technical way to refer also what biologists clarify as non-living rivers, landscapes, ecosystems etc. Slogan such as “Let the river live” is of Deep ecology which illustrates this broader usage so common. Inherent values as used in deep ecology.

(ii) Diversities of life forms contribute to the realization of these values and are also values in themselves: This conception usually for preservation of biological

diversity (both plants and animals) and complexities. You know that biodiversity is variety and variability among species. Deep ecology emphasizes on importance of every species of planet and deep ecology believes that if we eradicate the habitat of species there will be huge impacts not only on that species but also on human being. This conception also tells that every species of globe has its own characteristics and values. In this conception complexity, as referred to different from complication.

(iii) Humans have no right to reduce this richness and diversity except to satisfy vital human needs: The term "vital need" is left deliberately vague to allow for considerable latitude in judgment. Differences in climate and related factors, together with differences in the structures and framework of societies as they now exist, need to be considered. People in the materially richest countries cannot be expected to reduce their excessive interference. The stabilization and reduction of the human population will take time. Short term strategies need to be developed.

(iv) The flourishing of human life and cultures is well-suited with a significant decrease of the human population. You know that population is one of the major threats to environmental components. Deep ecology stated that we should control over population. State of World Population Report (1984) said that high human population growth rates (over 2.0 percent annum) in many developing countries "were diminishing the quality of life for many millions of people." You know that increasing in population leading in to depletion of natural resources, industrialization & urbanization, loss of biodiversity, pollution and diseases. If we can control the population of globe than we can achieve the objective of sustainable development.

(v) Present human interference (anthropogenic activities or manmade activities) with the environmental components is excessive, and the situation is rapidly deterioration: Human activities includes all the activities performed by human being such as set up of industries, construction of hydropower projects, development of urban area, agricultural practices, transportation etc. It is observed that these activities tremendously degrading the environmental components. Air, water and soil have been polluted, biodiversity have been declined, natural resources have been depleting due to these activities.

(vi) Strategies and policies must be changed. These policies affect basic economic, technological, and ideological structures. The resulting state of affairs will be deeply different from the present: There is only a faint similarity between ideal sustainable forms of economic growth and present policies of the industrial societies. Present ideology tends to value things because they are limited and because they have a product value. There is prestige in vast consumption and waste. Whereas "self-determination," "local community"and"think globally, act locally," will remain key terms in the ecology of human societies.

(vii) The ideological modification is mainly that of appreciating life quality rather than adhering to an increasingly higher standard of living. There will be a deep awareness of the difference among big and great: Some economists criticize the term "quality of life" because it is supposed to be indistinguishable. But on closer inspection, what they consider to be indistinguishable is actually the non-quantitative nature of the term. One cannot quantify adequately what is important for the quality of life as discussed here.

(viii) Those who subscribe to the foregoing points have an obligation directly or indirectly to try to implement the necessary changes: There is ample room for different opinions about priorities: what should be done first, what next? What is most urgent and vital? What is clearly necessary as opposed to what is highly desirable but not absolutely pressing?

5.6 Ecological Approaches

According to Allen-Meares and Lane (1987) the ecological approach to practice as follows:

(i) The environment is a complex environment-behavior-person whole, consisting of a continuous, interlocking process of relationships, not random, not by chance.

(ii) The mutual and shared interdependence among person, behavior, actions, deeds and environment is highlighted.

(iii) Systems thoughts are used to analyze the complex interrelationship with the ecology.

(iv) Behavior is recognized to be site specific.

(v) Monitoring, assessment and evaluation should be through the naturalistic, direct inspection of the intact, undisturbed, natural organism-environment system.

(vi) The relationship of the parts within the ecosystem is considered to be orderly, structured and lawful.

(vii) Behavior results from mediated transactions between the person and the environment.

(viii) The central task of behavioral science is to develop taxonomies of environments, behaviors, and behavior-environment linkages and to determine their distribution in the natural world.

According to Max Siporin (1980) concludes that the ecological approach appears to be an extremely appropriate strategy for practice given the current context of social work practice. He suggested that the ecological point of view contributes to social work practice through the following points:

(i) A vibrant and dynamic holistic approach is stressed out emphasizing the person and the socio-cultural systems surrounding the person.

(ii) A strategy is offered through allowing the social worker to think in terms of environment and its components including plants and animals.

(iii) It allows one to move to both micro and macro levels of evaluation and involvement when working with a customer system.

(iv) It stresses treatment planning and allows the practitioner to work at altering inter-systemic relationships.

The ecological approach provides a balance between the person and the environment. Obviously, this balance is serious to social work treatment and makes possible practice effectiveness and accountability.

Table-1. Differences between Dominant worldview and Deep ecology (Sessions and Devall, 1985)

Dominant Worldviews	Deep Ecology
Man is superior to all living species of earth	All the species have intrinsic value and regarded as similar.
Dominance over Nature and environmental components	Harmony with Nature and its components
It emphasize on more production of goods and supplies for high living standards.	It believes in simple living standards.
Natural environment as resources (land, water, mineral, forests, minerals etc) for humans.	All nature and environmental components such as air, water, land, plants and animals have biospecies equality.

Emphasized on economic growth for growing human population.	Pleasingly simple material needs
Belief in plenty resource reserves for this generations	It believes on "Earth supplies limited to everyone"
It focuses on high technological progress and solutions.	It focuses on Green technology and non-dominating science
Consumerism	Doing with enough/recycling
National/centralized community	Minority tradition/bioregion
Lack of moral values towards environment	Have more faith and believe in moral values towards environment
Believe in modernity	Believe in traditional ways
Don't ask deep questioning about the environmental degradation to themselves	Deep ecology stated that we should ask deep questioning about environmental components.

4.7 Merits of Deep Ecology

There are various merits of deep ecology some of them are given below:

(i) It provides platform to protect, preserve and conserve biological diversity of globe.

(ii) It also important to maintain the balance in ecosystems.

(iii) It also protects non-living components such as water, air, soil, land etc.

(iv) It also important to conserve natural resources.

(v) It also works for anti-consumerism and nature lover.

(vi) It believes in self realization towards environment and its components.

(vii) Deep ecology argues that there is fix limit to use natural resources by and for human (both present and upcoming generations).

(viii) It believes in equality for all the living components of earth.

(ix) Deep ecologists seek to preserve nature 'wild and free', based on the belief that nature, unspoilt by human intervention, is a repository of wisdom and morality.

(x) It discourages unchecked population, although ecologists from many traditions have shown a concern about the exponential rise in the human population, deep ecologists have placed a particular emphasis on the issue of population.

(xi) Deep ecology believes in simple living. Deep ecologists believe that humans have no right to reduce the richness and diversity of nature except, as Naess put it, to satisfy vital needs. This is a philosophy of 'walking lighter on the earth'.

5.8 Demerits of Deep Ecology

Besides the merits deep ecology has some demerits which are given below:

(i) Some scientists have found the disclaimer that Deep Ecology is not a normative system.

(ii) It is only based on moral responsibilities, deep questioning and philosophy; it is not based on the scientific data.

(iii) Some other scientists argue that If all organisms are of equal value, then there is no basis upon which to make prescriptions because the kind of value distinctions necessary for evaluating the moral situations of environmental ethics are deliberately disqualified. How all organisms of globe have equal values? How Dolphin and viruses have equal value? These are the questions where deep ecology is defenseless.

(iv) Murray Bookchin who coined the term social ecology stated that deep ecology as hateful and horrible towards human being.

(v) Bookchin mentioned that all population of all species is under the control of nature and nature seeks its own balance.

(vi) Second major criticism of Bookchin is that deep ecology fails to link environmental crises with resolving these crises.

Summary

In this unit we have discussed various aspects of deep ecology such as concept, definitions, eight main conceptions of deep ecology, merits and demerits of deep ecology. So far you have learnt that:

- The term “Ecology” was coined by Ernst Haeckel and it has different branches of Ecology are as Habitat ecology, population ecology, community ecology, ethology, system ecology, deep ecology, applied ecology etc.
- Deep ecology is all about deep thinking of human being about the environmental components. Deep ecology is a somewhat recent branch of ecological philosophy (ecosophy) that considers man as an integral part of the nature.
- Deep ecology is a comparatively new branch of study which combines different fields of awareness such as philosophy, religion, and sociology, with environmental studies.

- Scientific Ecology is the study of the inter-relationships between species and their environment. It is totally based on scientific data, research, interpretation and presentation and tells about the pollution level, categories and scientific name of flora and fauna, diseases, biological diversity etc. besides this scientific ecology deals with interrelationship of abiotic factors with biotic factors.
- Deep ecology is important for everyone including common man and not just to experts. Each individual encouraged by our values, experiences and feelings. Deep ecology believes that not only scientists, researchers, policy makers, professor and scientific persons are connected to nature but all human beings are connected to environmental components.
- The term 'Deep Ecology' was first introduced by Arne Naess and proposed that we ask 'deeper questions', looking at the 'what, why and how' of the way we live, do the activities and seeing how these actions fits with our deeper beliefs, needs and ethical values.
- Deepness: Meaning of Deepness in deep ecology is deep questioning about our actions towards environment and its components.
- There are four directions of deep ecology which are Ideas: The first idea comes from Systems Theory and the second idea is called Gaia Theory.
- Systems Theory stated that our world is in 'systems', Gaia Theory takes this idea further and applies it to the whole planet. Feelings: Feeling is important direction of deep ecology. Spirituality: Spirituality is to do with our inner sense of connection with something larger than ourselves and with our connection with what we see as revered.
- Deep ecology offers eight important ideas like as the flourishing of human and nonhuman life, diversities of life forms contribute to the realization of these values and are also values in themselves, we have no right to reduce this richness, human interference with the environmental components is excessive, strategies and policies must be changed, state of affairs will be deeply different from the present, ideological modification is mainly that of appreciating life quality rather than adhering to an increasingly higher standard of living, there should be difference among big and great etc.

- According to Allen-Meares and Lane (1987) and Max Siporin (1980) concludes that the ecological approach appears to be an extremely appropriate strategy for practice given the current context of social work practice.
- Main differences between Dominant worldview and Deep ecology is that dominant worldview believes that Man is superior to all living species of earth, It emphasize on more production of goods and supplies for high living standards. Natural environment as resources for humans on the other hand deep ecology believes that All the species have intrinsic value and regarded as similar, Harmony with Nature and its components, It believes in simple living standards.
- Merits of deep ecology are like it provides platform to protect, preserve and conserve bio-diversity, protection of non-living components, conserve natural resources, works for anti-consumerism, and believes in equality for all the living creatures.
- Deep ecology also has some demerits like : some have found the disclaimer that Deep Ecology is not a normative system, It is only based on moral responsibilities, it is not based on the scientific data etc.

Terminal Questions

1. (a) Fill in the blank spaces with appropriate words.

Ecology is branch of science that deals with study of relationship between ……(temperature, pH, Transparency of water, humidity, rainfall turbidity etc.) and …….factors (plants, animals and microbes). Term "Ecology" was coined by …….in……. Some of the most important Specialized Branches of Ecology are as Habitat ecology, population ecology, community ecology, ethology, system ecology, deep ecology, applied ecology etc. The term…….was first introduced by the Norwegian activist and philosopher Arne Naess in …….. English-language article, ''The Shallow and the Deep, Long-Range Ecology Movement: A Summary.'' By ''ecology movement'' he proposed that we ask 'deeper questions', looking at the 'what, why and how' of the way we live, do the activities and seeing how these actions fit with our……., …….and…….

2. (a) Define deep ecology.

(b) Differentiate scientific ecology and deep ecology

3. (a) Write about evolution of deep ecology.

(b) Give the four directions of deep ecology.

4. (a) What are eight important conceptions of deep ecology.

5. (a) Differentiate between dominant worldview and deep ecology.

(b) Give the ecological approaches according to Max Siporin.

(c) Give the ecological approaches according to Allen-Meares and Lane.

6. (a) Silent spring was written by.

(b) The term "Ecology" was coined by Arne Naess (Yes/No)

(c) The term "Deep Ecology" was coined by Arne Naess (Yes/No)

(d) Ideas, feeling, spirituality and action are four directions of deep ecology (Yes/No)

7. (a) Describe the merits of deep ecology.

(b) Describe the demerits of deep ecology.

Answers

1. (a) abiotic, biotic, Ernst Haeckel, 1866, Deep Ecology, deeper beliefs, needs and ethical values

2. (a) See Section 5.2.

(b) See the Section 5.2.1

3. (a) See section 5.3

(b) See section 5.4

4. (a) See section 5.5.

5. (a) See the table of section 5.5.

(b) See section 5.5

(c) See section 5.5.

6. (a) Rachel Carson

(b) Yes

(c) Yes

(d) Yes

7. (a) See the section 5.6.

(b) See the section 5.7

Unit 6: Environmental Racism and Environmental Rights

Unit Structure

6.0 Learning objectives

After studying this unit you will be able to understand:

- Concept of Environmental racism
- What are Environmental rights?
- Environmental Rights in India
- Human rights
- Human rights in India
- Animal Rights
- Animal rights in India
- Organizations working for animal welfare in India

6.1 Introduction

As you know that, human beings get all the essential components such as air, water, food, material for infrastructure, fuel, energy from environment. It is well known that human being exploited these components at very fast rate which may lead to different

types of problems such as pollution, loss of biological diversity, diseases etc. Many important rivers of globe such as Indus, Ganges, Yamuna, Buriganga, Marilao river, Sarno, Mississippi, Citarum river etc. loosing their water quality on the other hand many important animals such as Elephant, Tiger, Musk deer, Rhinoceros, Dolphins etc. have been poaching in different parts of the world. Therefore, it is now essential to implement Environmental laws and environmental rights at various levels for the protection of environmental components such as plants, animals and natural resources. An environmental law seeks to protect both the environment for itself, and for the benefit of humankind at a local and global level.

It is also noticed that some communities (specially poor communities or communities of developing countries) facing the environmental problems such as pollution, epidemic diseases, improper remedial measures, on the other hand some communities use excessive use of natural resources. This unequality of the natural resources and environmental components is called environmental racism. Environmental racism is phenomena in which environmental components are not equally distributed. In this unit you will learn about environmental rights, laws/acts, environmental racism, human, and animal rights and about many organizations which are presently working for the protection of animal at national level.

6.2. Environmental Racism and Environmental Rights

As you know that meaning of “Environment” that is “surroundings” and racism is the “belief in the superiority of one race over another”. Today, the use of the term "racism" does not easily fall under a single definition. In 1978 United Nations Educational, Scientific and Cultural Organization (UNESCO) declaration on Race and Racial Prejudice (Article 1), the UN states that "All human beings belong to a single species and are descended from a common stock”. They are born equal in dignity and rights and all form an integral part of humanity. You can understand the meaning of environmental racism by the following example.

A lot of people are pretty lucky to get clean air or unpolluted water. But not everyone is so lucky in this world for that situation. It seems that a disproportionate number of people who live in environmentally hazardous areas are either minority groups or people of low socio-economic status. Environmental racism is defined as “It's the placement of people into environmentally hazardous areas or the placement of

environmental hazards into areas with high numbers of minority individuals". Environmental racism refers to "intentional or unintentional targeting of minority communities or the exclusion of minority groups from public and private boards, commissions, and regulatory bodies and put them in to environmental hazardous area".

It is the racial discrimination in the enactment or enforcement of any policy, practice, or regulation that negatively affects the environment of low-income communities at a disparate rate than affluent communities.

Environmental racism is a very important concept that provided a label for some of the environmental activism occurring in minority and low-income groups. In particular, it associates racism with environmental actions, experiences, and outcomes. In the broadest sense, environmental racism is the process in which environmental decisions, actions, and policies result in racial discrimination or the creation of racial advantages.

According to Robert Kuehn in his article titled "A Taxonomy of Environmental Justice" "Environmental racism defined as "any environmental policy, practice, or directive that differentially affects or disadvantages individuals, groups, or communities based on race or colour". Most activists and many academics use the terms environmental racism and environmental injustice interchangeably.

The term environmental equity, a term coined by a U.S. Environmental Protection Agency (EPA) working group, because they believe it lends itself most readily to scientific risk analysis and avoids the more charged and controversial terms racism and justice.

Examples of Environmental racism:

(i) Native American land has been used as a place to dump radioactive nuclear waste. Latino individuals are more likely to live near large hazardous waste landfills.

(ii) African Americans are more likely to live near uncontrolled toxic waste sites.

(iii) Caucasians living in the mountains of Appalachia deal with contaminated drinking water from mountaintop mining.

(iv) Many people of Uttarakhand State of India also facing lot of problems due to heavy construction of hydropower projects specially in the hilly region of state.

(v) Some people of these communities have suffered from health problems such as cardiovascular diseases, neurological diseases, psychological disorders etc. and have shorter life spans. Due to the toxic air, water, soil, flood in these places, no one really wants to live or work in these areas. But because those who are living in these areas are typically of low socioeconomic status, they have neither the ability nor the resources to move to a better place. Since the people living in these areas have fewer economic resources, there is no need to build better buildings for them to live in or to maintain the old ones.

You can see example of environmental racism in the predominantly black city of Flint, Michigan where water was poisoned with dangerous levels of lead (Pb), a substance that can lead to serious health consequences, including brain damage. Instead of accepting the problem and coming up with solutions, local and federal government tried to cover it up at first. Compare this with a dangerous natural gas leakage found in the mainly white community of Porter Ranch, CA, where government officials have been far more responsive to the threat.

Environmental Rights are the protection of natural resources; the access to and use of natural resources; and how the access to and use of these resources affects surrounding populations, as well as the resources themselves. Environmental rights are an extension of the basic human rights that human beings require and deserve. In addition to having the right to food, clean water, suitable shelter, and education, having a safe and sustainable environment is paramount as all other rights are dependent upon it.

Beyond equal distribution and access to sustainable resources, environmental Rights also include an additional obligation from those in the industrialized nations. It requires us to act responsibly in our own use of natural resources, and to regulate our levels of consumption in a more equitable manner.

6.3 Environmental Rights and Human Rights

6.3.1 Human Rights

It is important to know that environmental rights are just extension of human rights. As you know that The United Nations (UN) is an organization of 193 Nations of the world, having its headquarters at New York city. It was established on October, 24, 1945. The two main goals of the United Nations are: Peace and human dignity.

Keeping in mind its main aim of human dignity, the United Nations set up the U.N. commission of human rights in 1946, as a part of the economic and social council. This commission wrote an important document, which came to be known as the Universal Declaration on Human Rights (UNDHR). This declaration was approved by all the member of the general Assembly of the U.N. on December 10, 1948. Therefore, 10 December celebrated as the World human Rights Day. The declaration expressed the hope that people would learn to respect the rights and dignity of others. The declaration has a preamble and 30 articles, which set a common standard of achievement for all people and all nations.

The universal Declaration of human rights of 1948 gives various rights to human beings, living in countries who are member of the U.N.O. These rights include important rights like The right to equality, right to life, liberty and security; prohibition against slavery and cruelty; equality before law; no discrimination; no arbitrary arrest or detention; freedom of movement; right to asylum i.e. protection from danger, in foreign countries to political criminals; etc.

The universal declaration of Human Rights of 1948 was reconsidered and revived in the world conference on Human Rights held on 25 June, 1993 in Vienna. In this conference 171 member countries of the U.N. General Assembly adopted by agreement called The Vienna declaration on Human Rights. This declaration proved the commitment of the states (countries) to fulfill their obligation to promote universal respect for and observance and protection of human rights and fundamental freedom for all. In this conference it was resolved that the U.N. should strengthen its mechanisms to ensure compliance of human rights and for poorer countries were also resolved to given financial aids for strengthening their infrastructure to strengthen compliance of human rights.

Although the human rights are now bestowed universally, but their exists over-whelming violations of human rights, particularly in developing and under developed countries. Population and poverty often ignores human dignity and without dignity or self-respect there is no meaning of human rights. When millions of people of the third world countries are fighting for their bread and butter, how can one expect them to fight court cases for securing their human rights? How can beggars claim for human rights? How can poor starving people give good education to their children as provided in the human rights of universal education? How can such poor people prevent child labour,

when their children can help them in earning some money for running the family's expenditure? Rich people always can buy and enjoy human rights, while poor illiterate people cannot avail even what lawfully belongs to them. Human rights violations are therefore, very common and do frequently occur.

6.3.2 Status of Human rights in India

In order to keep watch on frequent violation of the human rights, and to enforce the United Nation's Universal declaration of Human Rights, the Government of India, Under the Protection of Human Right Act, has established a National Human Rights Commission (NHRC) at the national level while State Human Rights Commissions (SHRCs) have been established at state level. NHRC constituted on 12th October,1993 which is responsible for protection and promotion of human rights. The Protection of Human Rights Act, 1993 amended in 2006 which contains 7 chapters and 43 sections.

All the states of India have, however not set up such commissions so far as they usually entail a huge expenditure. Only 16 states have set up such commission so far. The NHRC receives about 70,000 complaints of violations of human rights every year, but faster investigation become difficult, since all the states have not set up State Human Rights Commissions.

Government of India now going to table the "Protection of Human Rights (Amendment) 2006" in parliament, so as to allow single State Human Rights Commission to assume charge of more than one state. The NHRC would then be able to transfer cases to its state counterpart. This proposed Amendment bill also provides for compensation to be paid to a victim during the period of investigation, unlike the existing system. In addition the amendment bill will enable any retired justice of supreme court to become the chairperson of NHRC as against the present provision which allow only a retired Chief Justice of Supreme court to become such a chair person, Similarly for SHRCs, any retired Chief Justice of High Court can now become the chairperson, which will be changed as to enable appointment of any retired judge of the High court to this position.

In India the Human rights have generally centered around bonded labour, custodial deaths, fake police encounters, violence against women, dowry deaths, child abuse, mass killings of daliths etc. The constitution of India has also granted to its citizen seven Fundamental Human Rights (which can be legally enforced) such as:

The seven fundamental rights by the Indian constitution are:

(i) **Right to equality**: This right includes equality before law and is provided from Article 14 to Article 18 of Indian constitution.

(ii) **Right to freedom**: This right includes freedom of speech and expression, assembly, right to life and liberty and provided from Article 19 ,20 ,21, 21, 22 of constitution.

(iii) **Right against exploitation**: This right prohibits all forms of forced labour and child labour and is provided under Articles 23 and 24 of Indian constitution.

(iv) **Right to freedom of religion**: This right includes freedom of conscience and free profession, practice, and spread of religion, freedom to manage religious affairs, freedom from certain taxes and provided under Article 25 to 28 of Indian constitution.

(v) **Cultural and Educational rights**: Right of any section of citizens to conserve their culture, language or script. Article 29 and Article 30 of Indian constitution provides for cultural and educational rights.

(vi) **Right to constitutional remedies**: Right to constitutional remedies present for enforcement of Fundamental Rights. It is provided under Article 32 to 35 of Indian constitution.

(vii) **Right to Privacy**: It is an intrinsic part of Article 21 that protects life and liberty of the citizens

The Indian constitution also provides for a number of directive Principles of state policy, which though cannot be legally enforced, but shall remain the fundamental principles of the governance of country, and it shall be duty of state to apply these principles. The fundamental rights, thus already provide a lot of guaranteed freedom and liberty to Indian People, while the directive principles intend to provide several other human rights for the social and economical upliftment of its people in the time to come.

In spite of grant of so many rights and in spite of existence of Human Rights Commissions, there frequently occur violations of Human Rights in India. Social discriminations, untouchability, male dominance and women violence, child abuse, slavery, exploitations of labour, favoritism in services, police atrocities (cruel act) etc. are the order of the day, since the guilty are either not at all punished quickly and there is too much of corruption all around the country.

6.4 Human Rights and Environment

The first international efforts to seek the inclusion of the right to healthy environment under the human right was made in the 1972 U.N. conference on Human Environment held at Stockholm, Sweden. This conference concluded on 16 June, 1972 with adoption of declaration, consisting of a Preamble and 26 principles. These principles are given below:

(i) Human Rights must be asserted (confidently state that something is true) and condemned.

(ii) Natural Resources such as forests, mineral, water, energy, land etc. must be protected.

(iii) The capacity of earth to produce renewable resources must be maintained.

(iv) Wild life (flora and fauna both) must be safeguarded or protected.

(v) Non-renewable resources such as coal, petroleum, natural gases etc. must be shared and not exhausted.

(vi) Environmental Pollution must not exceed the limit of environment to clean itself.

(vii) Oceanic/marine pollution must be prevented.

(viii) Development is needed to improve the environmental conditions.

(ix) Developing countries therefore need financial assistance.

(x) Developing countries need reasonable prices.

(xi) Environmental policies must not slow down the developmental process.

(xii) Developing countries need money to develop environmental safeguards/environmental protection devices.

(xiii) Integrated development planning is needed.

(xiv) Rational planning should resolve conflicts between environment and development with appropriate solution.

(xv) Human settlements must be well planned and managed to mitigate environmental problems.

(xvi) Governments should plan their own population policies to control the population.

(xvii) National institutions must plan development of natural resources of Nations.

(xviii) Science and technology must be used to improve the environmental conditions.

(xix) Environmental education is essential to all people of world.

(xx) Environmental research must be promoted in general and in developing countries in particular.

(xxi) States (countries or Nations of UN) may exploit their resources as they wish but must not endanger others

(xxii) Compensation is due to states thus endangered

(xxiii) Each Nation must establish its own environmental standards (such as for air, water, noise, soil quality)

(xxiv) There must be cooperation on international environmental issues (such as global warming, green house emission, ozone layer depletion, acid rain etc.)

(xxv) International organizations should help to improve the environment

(xxvi) Weapon of mass destruction should be eliminated.

In the U.N. conference on Environment and Development (UNCED) held in Rio de Janeiro (Brazil) in 1992 popularly called Earth summit. This conference was an emphasis on sustainable development and environmental protection. Through principle 10 of this Rio-declaration, a link was formulated between human rights and environmental protection, largely on procedure terms.

Principle 10 of the Rio-Declaration proclaims as follows:

"Environmental issues are best holded with the contribution of all related citizens. Each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information about hazardous material and activities in their communities and the opportunities to participate in the decision making policies at National level. States (countries/nations) shall make possible and encourage public alertness and responsiveness and participation by making information widely available"

Right to information, participation and remedies in respect to environmental conditions, thus, formed the focus of the Rio Declaration. In addition to Principle 10, the declaration included provisions on the participation of different components of the population such as by women (Principle 20), by youth (Principle 21) and by indigenous people and local communities (principle 22). Public participation was also emphasized

in Agenda 21 drawn at the Earth Summit. The Agenda 21 also calls on governments and legislators to established judicial and administrative procedures for legal redress and remedy for actions affecting environment that may be unlawful or infringe under the law, and to provide access to individuals, groups and organizations with a recognized legal interest.

Agenda-21 also calls for public participation in Environmental Impact Assessment procedures and in decisions. It also encourages governments to create policies that facilitate a direct exchange of information between the government and the public on environmental issues, suggesting the EIA process as a potential mechanism for participation.

In order to promote and protect human rights to safety and healthy environment, as laid down in UNCED, the WHO has carried out a wide range of actions: from establishing a special department to deal with environmental concerns, to setting specific policies and strategies, carrying out and disseminating research, or providing technical advice on issues such as sanitation. The WHO, in the last decade, has formulated a new WHO Global Strategy for Health and Environment , which was endorsed by the forty-sixth World Health Assembly in May 1993. This strategy provides a unifying frame work for WHO's activities and has following three objectives:

(i) To achieve a sustainable basis for health for all people of world.

(ii) To provide an environment that promotes health

(iii) To make all individual and organizations aware of their responsibility for health and its environment.

Most international organizations and UN agencies with a mandate to address developmental related issues, and multilateral financial institutions in particular, have placed the issue of poverty high up on their agenda and programmes of action. Most of them establish an explicit link between poverty and the environment, explaining as how the poor suffer more harshly the consequences of environmental problems and frequently adopting approaches similar to those introduced in the 1987 report from the World Commission on Environment and Development (Brundtl land Report Our Common Future).

It could be stated that the right to information on all environmental issues; the right to participate in EIA debates on developmental projects; the right to challenge

environmental pollution activities in the court through individual writs or public interest litigations (PILs) etc. have infact, vested powerful human rights in the hands of the people, through no direct right to healthy or adequate environment as such, has been included in the policies or activities of any organizations, departments and agencies so far.

6.5 Environmental Rights in India

There are various environmental rights and acts related to environment in Indian contitution which are described below:

- The specific provisions on environment protection in the Indian constitution are in Article 51-A (g) which articulates that "It shall be duty of every citizen to protect and improve the natural environment including forests, lakes, rivers and wild life and to have sympathy for living creatures."
- Article 47 of Indian constitution provides that the State shall regard the raising of the level of nutrition and the standard of living of its people and the improvement of public health as among its primary duties. The improvement of public health also includes the protection and improvement of environment without which public health cannot be assured.
- Article 48 deals with organization of agriculture and animal husbandry. Article 48-A of the constitution states that "the state shall endeavor to protect, preserve and improve the environment and to safeguard the forests and wildlife of the country".
- The right to left, a fundamental right, given in article 21 of the Indian Constitution states that "No person shall be deprived of his life or personal liberty except according to the procedures established by law''.
- The supreme court of India has expanded this right to life, as to include in it the right to clean environment, on the basic of the fact that environmental deterioration could eventually endanger the life of the present as well as of the future generations.
- The protection of environment has, thus, become a fundamental duty of every Indian constitution do provide strong environmental rights to its citizens.
- The growing education, environmental responsiveness, and development of societies and NGOs have further strengthened the environmental protection movement in India.

- The union Govt. has also strengthened the human rights by legislating and implementing the "Rights to information Act, 2005'', under which any person is entitled to collect information on any issue, including the state of environment or the actions taken by the Governments to prevent environmental pollution being caused by any specific activity of any specific person or industry, etc.
- To enhance environmental awareness among one and all, the Hon'ble. Supreme Court of India, has vide its judgment dated 18-12-2003, (given in continuation of its initial order dated 22-11-1991, followed by several interim orders) has directed the U.G.C. and various colleges to introduce a compulsory subject on "Environmental studies" in all the undergraduate courses, at least from the year 2004-05.

In India there are various environmental Acts and laws such as: Air (Prevention and Control of Pollution) Act, 1981, Biological Diversity Act, 2002, The Environmental (Protection) Act, 1986, The Hazardous Waste (Management & Handling) Act, 1989, Water (Prevention and Control of Pollution) Act, 1974, Wildlife Protection Act, 1972 etc. have implemented and some of them are given below:

Table-1: List of Environmental Acts/ Laws in India

S. no.	Name of Act/Law	Sections and Appendix
1.	Air (Prevention and Control of Pollution) Act, 1981	It contains 7 chapters and amended in 1987. It extends to the whole of India Exclusively for the protection of Atmosphere
2.	Biological Diversity Act, 2002	It contains 12 chapters. It extends to the whole of India Exclusively for the protection of biodiversity of nation.
3.	The Environmental (Protection) Act, 1986	It contains 4 chapters and 26 Sections It Extends to the whole of India Exclusively for the protection of environmental components.
4.	Forest Conservation Act, 1980	It contains 5 chapters. It Extends to the whole of India except Jammu and Kashmir. Exclusively for the protection of Forests of India
5.	The Hazardous Waste (Management & Handling) Act, 1989	It contains 21 chapters. It amended in January 6, 2000 and May 21, 2003. Exclusively for the protection of Environmental components.
6.	Indian Forest Act, 1927	It contains 13 chapters, 38 Sections and 03 schedules. Exclusively for the protection of Forests in India
7.	National Green Tribunal Act, 2010	It contains 05 chapters and 86 Sections. It provides for the establishment of a National Green

		Tribunal for the effective and expeditious disposal of cases relating to environmental protection and conservation of forests and other natural resources including enforcement of any legal right relating to environment and giving relief and compensation for damages to persons and property and for matters connected therewith or incidental thereto.
8.	Protection of Plant Verities and Farmer's Right Act of 2001	It contains 11 chapters and 97 Sections It extends to the whole of India It is exclusively for the establishment of an effective system for protection of plant varieties, the rights of farmers and plant breeders and to encourage the development of new varieties of plants. It amended in the year 2003
9.	Public Liability Insurance Act, 1991	It contains 23 chapters. Exclusively for public liability insurance for the purpose of providing immediate relief to the persons affected by accident occurring while handling any hazardous substance and for matters connected therewith or incidental thereto.
10.	Water (Prevention and Control of Pollution) Act, 1974	It contains 08 chapters and 64 sections. Exclusively for the prevention and control of water pollution and the maintaining or restoring of wholesomeness of water, for the establishment, with a view to carrying out the purposes aforesaid, of Boards for the prevention and control of water pollution, for conferring on and assigning to such Boards powers and functions relating thereto and for matters connected therewith. The Act was amended in 1988
11.	Wildlife Protection Act, 1972	It contains 07 chapters and 66 sections. It extends to the whole of India except the State of Jammu and Kashmir Exclusively for the protection of wild flora and fauna

6.6 Animal Rights

According to Autralian philosopher Peter Singer (1975) in his famous book on Animal Liberation, "The basic principle of equality does not require identical treatment, it requires equal consideration" Animal rights are the belief that animal have right to be free of exploitation. Animal rights are not about put animals above human but put these animals free from human exploitation. You should know that animal rights are differ from animal welfare. Animal rights are belief that human do not have right to exploit animals on the other hand animal welfare means belief that human do have right to use animals are treated humanely.

Various renowned scientists quoted the animal rights. According to Thomas A. Edison, "Non-violence leads to peak of ethics, which is goal of all evolution. Until we stop harming all other living beings, we are still savages or goth".

According to Elbert Einstein, "If man aims towards righteous path his first act of self-discipline is from injury to animals".

6.6.1 Animal rights should have following important points.

(i) The right to live freely in natural habitats of their desire.

(ii) The right to express their normal behaviors (Searching of food, grooming and building of nests).

(iii) Right to life.

(iv) Right to reproduce.

(v) Right to choose their own life style.

(vi) Right to live free from man induced destruction.

6.6.2 Animal right issues:

There are various animal right issues and some of them are given below

(i) Human over population: This is major issue of animal rights as well as environmental issue. As population rise man made or anthropogenic activities such as transportation, pollution, habitat loss of wild animals increasing at tremendous rate. This leads in to harmful effects on animals.

(ii) Animal treated as property: Human believe that animals are like their property. Human beings nourish animals only for their use not as family members. This is also great animal right issue. Animal should consider as family member and human being should treat animal like guardian rather than owner.

(iii) Non-vegetarian: Non-vegetarian is another animal right issue. According to the sample registration system baseline survey 71 % population of India over the age of 15 are non-vegetarian. We should follow the vegan food which is plant based food. Many animals such as fishes, birds and mammals have been kill for the human consumption.

(iv) Factory Farming practices: Factory farming practices involve many harmful or cruel practices for maximize profit from the animals. Animal suffers from high

doses of antibiotics, hormones, battery cages, tail docking (cutting tail of animals) and debarking (cutting beaks of birds without anesthesia). Animals spent their whole life under these uncomfortable conditions.

(v) Animal Experimentations: Many species of animals have been used as subject for medication. It is estimated that annually, 10 million to 100 million animals used for different experiments. According to Baltimore survey every drug test requires at least 800 animals.

(vi) Hunting and Poaching: Population of many animals has declining due poaching. Many species such as Dolphin (poaching for oil), elephants (poaching for tusk, ivory), rhinoceros (poaching for medicines for cancer), tiger (poaching for claws, bones), musk deer (poaching for musk gland) have been poaching in different parts of country. This is also considered as important animal's rights issue.

Therefore, various animal rights have been implemented at various levels. Some of the important animal rights are described below:

6.6.3 List of Animal Rights in India

(i) According to central Government Act Article 51-A (g) "It is the fundamental and basic duty of every citizen to have compassion for all living creatures".

(ii) According The Penal Code (IPC) Sections 428 and 429 "To kill or injure any animal, including stray animals, is a punishable offence. According to this right "mischief by killing poisoning maiming or rendering useless any elephant, camel, horse, etc., whatever may be its value or any other animal of the value of 50 rupees or upwards.

(iii) According Section 11(1) (i) and Section 11(1) (j) of Prevention of Cruelty to Animals Act 1960 (PCA Act, 1960) "Abandoning any animal for any reason can land you in prison for up to three months".

(iv) As per Prevention of Cruelty to Animals, (Slaughterhouse) Rules, 2001 and Food Safety and Standards Regulations, 2011 "No animal can be slaughtered in any place other than a slaughterhouse and sick or pregnant animals shall not be slaughtered".

(v) According to Animal Birth Control Rules 2001 (ABC Rules, 2001) "Stray dogs that have been operated for birth control cannot be captured or relocated by anybody including any authority".

(vi) According to Section 11(1) (h) of Prevention of Cruelty to Animals Act 1960 (PCA Act, 1960) "Neglecting an animal by denying her sufficient food, water, shelter and exercise or by keeping him chained/confined for long hours is punishable by a fine or imprisonment of up to 3 months or both".

(vii) Under Wildlife (Protection) Act, 1972 "Monkeys are protected and cannot be displayed".

(viii) According to Section 22 (ii), PCA Act, 1960 Prevention of Cruelty to Animals Act 1960 "Bears, monkeys, tigers, panthers, lions and bulls are prohibited from being trained and used for entertainment purposes, either in circuses or streets".

(ix) As per Rule 3, Slaughterhouse Rules, 2001 "Animal sacrifice is illegal in every part of the country".

(x) As per Section 11(1) Prevention of Cruelty to Animals Act, 1960 "Organizing of or participating in or stirring any animal fight is a cognizable offence".

(xi) According to Rules 148-C and 135-B of Drugs & Cosmetics Rules, 1945 that "Cosmetics tested on animals and the import of cosmetics tested on animals is strictly prohibited".

(xii) According to Section 38-J of Wildlife (Protection) Act, 1972 "Teasing, feeding or disturbing the animals in a Zoological park and littering the Zoological park premises is an offence punishable by a fine of 25000 (In rupees) or imprisonment of three years or both".

(xiii) As per Section 9 of Wildlife (Protection) Act, 1972 "Capturing, trapping, poisoning or baiting of any wild animal or even attempting to do so is punishable by law, with a fine of up to 25000 (In rupees) or imprisonment of seven years or both".

(xiv) According to Section 9 of Wildlife (Protection) Act, 1972 "Disturbing or destroying eggs or nests of birds and reptiles or even attempting to do so constitutes to hunting and attracts a punishment of a fine of up to 25000 (In rupees) or imprisonment of seven years or both".

(xv) As per Section 11(1) (d) Prevention of Cruelty to Animals, (Transport of Animal) Rules, 2001 and Motor Vehicles Act 1978 "Conveying or carrying animals

whether in or upon any vehicle, in any manner or position which causes discomfort, pain or suffering is a punishable offence under two Central Acts".

6.7 Animal Welfare Organizations in India

(i) **Animal Welfare Board of India:** It was established in the year 1960, under Section 4 of the Prevention of Cruelty to Animals Act-1960, is a legal advisory body, formed for advising the Government of India, on animal welfare laws. It was originally formed under the Ministry of Food & Agriculture was brought under the Ministry of Environment & Forests (Now Ministry of Environment, Forest and Climate Change) in the year 1990. It has also been providing to the animal welfare organizations in India, various types of grants to including: Regular, Cattle Rescue and Shelter House grants for looking after the Animals.

(ii) **Blue Cross of India (BCI):** It is one of the largest animal welfare organizations in India, was founded in the year 1959 and recognized by the Animal Welfare Board of India in the year 1966. For the purpose of controlling and eradicating human deaths, due to dog-bites and rabies, the 'BCI' has been implementing an alternate method namely Animal Birth Control and Anti Rabies Program instead of the method of 'Catching and Killing'.

(iii) **The Blue Cross of Hyderabad**: It was founded in the year 1992 recognized by the Animal Welfare Board of India. It was founded by Telugu Actor Mr. Akkineni Nagarjuna and Tamil Actress Mrs. Amala Akkineni, focusing on 'Animal veterinary treatment', 're-homing and rehabilitation' of animals in the State of Telengana. It has been running 9 projects the welfare of animals with a total of 650 animals of various species.

(iv) **The Wildlife Rescue & Rehabilitation Centre:** It was set up by the trustees of the Compassion Unlimited Plus Action to provide relief to wild animals, birds and reptiles, including medical treatment and housing and to handle cases of cruelty to wild animals, which are injured, abused and illegally traded.

(v) **People for Ethical Treatment of Animals (PETA):** PETA was founded in 1980 and is dedicated to establishing and defending the rights of all animals. PETA operates under the simple principle that animals are not ours to eat, wear, experiment on, or use for entertainment. PETA educates policymakers and the public about animal abuse and promotes kind treatment of animals.

PETA is an international nonprofit charitable organization based in Norfolk, Virginia, with affiliates worldwide. PETA believes that animals have rights and deserve to have their best interests taken into consideration, regardless of whether they are useful to humans.

PETA India was launched in January 2000. PETA India works under the simple principle that animals are not ours to consume, wear, research/experiments on or use for leisure, while educating policymakers and the public about animal abuse and promoting an understanding of the right of all animals to be treated with respect.

PETA India focuses primarily on the areas in which the greatest numbers of animals suffer the most: in the food and leather industries, in laboratories and in the entertainment industry. PETA India's investigative work, public education efforts, research, animal rescues, legislative work, special events, celebrity involvement and national media coverage have resulted in countless improvements to the quality of life for animals and have saved countless animals' lives.

(vi) **Animal Aid Unlimited:** It is a Rescue Centre established in the year 2002 with a aim to rescue and treat and keep in sanctuary, the ill or injured, un-owned street animals of Udaipur, Rajasthan. The ultimate goal of 'Animal Aid Unlimited' is equality, protection and life in freedom of all animals and a complete end to the use and abuse of animals, such as: dog, donkey, cow, pig, fish and mouse.

(vii) **Buddha Society for Animal Welfare:** It was established by **'**Shiksha Rattan' Dr. S. P. Sharma to provide veterinary medical service for the less privileged animals which are deprived of minimum essential veterinary medical aid. 'It has been providing to animals all the essential veterinary medical care, including, medication, vaccinations, surgery, spaying or neutering and general treatment necessary to restore the animal to have a comfortable life.

(viii) **Group of Animal Lovers:** It was founded by a group of 4 young college friends (Mr. Bhavik Shah, Mr. Pulkit Panchal, Ms. Khyati Shah and Mr. Vishal Modi), with similar thoughts and feelings with desires to do something to make a difference in the society for the betterment of animals and birds. According to the founders of the 'GOAL', in Ahmedabad, Gujarat, during the 'Uttarayan'

Festivals'-celebrations, with the 'International Kite Festival', thousands of birds such as pigeons, peacocks,vultures, kites, egrets, parakeets and many migratory birds like flamingo and pelican get cut by the sharp threads flying thousands of kites, and bleed to death / become handicapped due to the wounds.

(ix) Help in Suffering (HIS): It is a registered Charitable Trust, founded in the year 1980 at South Jaipur, for working for the benefit of animals in India. It works on 6 different animal welfare projects with 35 staff members and 3 rescue ambulances and 2 mobile clinics. It has provided refuge shelter and veterinary hospital for many animals, inside its peaceful and garden-like grounds inside its compounds and works for're-homing' of un owned / disowned animals. It has built a new specialized 'Camel Rescue Centre' at Bassi Village on Agra Road to serve draught camels.

(x) Let's Live Together: It is an animal welfare organization especially for dogs, founded by Ms. Achala Paani, an animal welfare activist since 2005. The project- 'Life on the Street' of 'Let's Live Together' has been encouraging people who are interested in buying puppies for keeping as pet-dogs to adopt the homeless puppies and keep them as pets. 'Let's Live Together' has been helpful in motivating and assisting more than 1000 adoptions of homeless puppies and helping to reduce the stay dogs on the streets of Bangalore.

(xi) Wildlife SOS, India: It was established in the year 1995, by a small group of individuals inspired to start a movement and make lasting change to protect and conserve India's natural heritage, forest and wildlife wealth. It has been actively working for: protecting wildlife in India, conserving habitats and studying bio diversity by conducting research and creating alternative and sustainable livelihoods for communities dependent on wildlife for sustenance. It has been: initiating action against animal cruelty, rescuing wildlife in distress, working to resolve man-animal conflicts while promoting and educating the public about the need for habitat protection.

(xii) Federation of Indian Animal Protection Organization': It was established on 25th November 2010 in New Delhi, has been registered under the 'Indian Trust Act 1882'. It is a collective of animal protection organizations in India to help, represent, connect up, and inform animal protection organizations and

activists across India and to campaign on ongoing projects and to make research on rights of animals.

6.8 Important National Parks and Wildlife Sanctuaries of India

India is 12th mega-biodiversity nation and blessed with varieties of animals and plants. This includes 103 National Parks, 537 Wild Life Sanctuaries and 18 biosphere reserves. These (National Parks, Wild Life Sanctuaries and biosphere reserves) are collectively called protected areas. International Union for conservation of Nature (IUCN) has defined declares these areas. According to IUCN National Parks as its category II type of protected areas. According to IUCN Wildlife sanctuary as its category IV type of protected areas. Biosphere reserves are sites established by countries and recognized under UNESCO to promote sustainable development. The programme of Biosphere Reserve was initiated by UNESCO in 1971. The aim of the formation of the biosphere reserve is to conserve all types of biodiversity within ecosystems. Some important national parks, wildlife sanctuaries and biosphere reserves are given below:

Table-2: Some important protected areas of India and main protected fauna.

S.N.	Name of National Parks	Year of Establishment	Main protected Animal
1.	Corbett National Park, Uttarakhand (First National Park of India)	1936	Tiger, Elephant
2.	Mhadei Wildlife Sanctuary, Goa	1999	Tiger, Indian Krait, Russel's viper
3.	Kaziranga National Park, Assam	1968	Rhinoceros
4.	Gir forest National Park, Gujarat	1965	Lion
5.	Tadoba National Park, Maharashtra	1955	Bengal Tiger, Leopards, Nilgai
6.	Periyar Wildlife Sanctuary, Kerala	1982	Elephant, Gaur, Lion tailed Macaque
7.	Kedarnath Wildlife Sanctuary, Uttarakhand	1972	Himalayan Musk Deer
8.	Askot Wildlife Sanctuary, Uttarakhand	1986	Himalayan Musk Deer
9.	Rajaji National Park, Uttarakhand	1983	Elephant
10.	Ranthambore National Park, Rajasthan	1980	Bengal Tiger
11.	Nilgiri biosphere reserve, Tamil Nadu, Kerala, Karnataka (First biosphere reserve of India)	1986	Bengal Tiger, Indian leopard, Lion tailed Macaque, Nilgiri Tahr

12.	Nanda Devi Biosphere reserve, Uttarakhand	1988	Himalayan Musk Deer, Himalayan snow leopard, Himalayan black bear
13.	Sunder bans biosphere reserve, West Bengal	1989	Royal Bengal Tiger, fishing cats, black capped king fisher, Gangetic Dolphin, salt water crocodile
14.	Agasthyamalai biosphere reserve, Kerala	2001	Tiger, asian elephant, Nilgiri Tahr
15.	Gulf of Mannar, Tamilnadu	1989	Dugong or Sea Cow
17.	Nokrek, Meghalaya	1988	Red Panda
18.	Pachmarhi Biosphere Reserve, Madhya Pradesh	1999	Giant Squirrel, Flying Squirrel
19.	Similipal, Odisha	1994	Gaur, Royal Bengal Tiger, Wild Elephant
20.	Great Nicobar Island Biosphere Reserve, Andaman and Nicobar Islands	1989	Saltwater Crocodile
21.	Khangchendzonga, Asam	2000	Snow Leopard, Red Panda
22.	Cold Desert, Himachal Pradesh	2009	Snow leopard
23.	Great Rann of Kutch, Gujarat	2008	Indian Wild Ass

Summary

In this unit we have discussed various aspects of environmental rights, environmental racism, environmental rights and human rights at global and national level. Besides this we have also discussed about important animals rights in India and organization which are working for the protection of animals. So far you have learnt that:

- Environmental rights are just the extension of human rights. Environmental racism is phenomena in which environmental components are not equally distributed.
- Environmental racism refers to "intentional or unintentional targeting of minority communities or the exclusion of minority groups from public and private boards, commissions, and regulatory bodies".
- Various Laws such as Air (Prevention and Control of Pollution) Act, 1981, Biological Diversity Act, 2002, The Environmental (Protection) Act, 1986, Forest Conservation Act, 1980, The Hazardous Waste (Management & Handling) Act, 1989, Indian Forest Act, 1927, National Green Tribunal Act, 2010, Public Liability Insurance Act, 1991, Water (Prevention and Control of Pollution) Act, 1974, Wildlife Protection Act,

1972 have been implemented in India for protection of environmental components and animals and plants.

- The United Nations (UN) which is an organization of 193 Nations of the world, having its headquarters at New York city and established on October, 24, 1945 which has two important goals viz. Peace and human dignity.
- The United Nations set up the U.N. commission of human rights in 1946, as a part of the economic and social council. This commission wrote an important document, which came to be known as the Universal Declaration on Human Rights (UNDHR).
- 10 December celebrated as the World human Rights Day.
- The seven fundamental rights by the Indian constitution are: Right to equality, Right to freedom, Right against exploitation, Right to freedom of religion, Cultural and Educational rights, Right to constitutional remedies, Right to Privacy.
- U.N. conference on Environment and Development (UNCED) held in Rio de Janeiro (Brazil) in 1992 popularly called Earth summit which is emphased on sustainable development and environmental protection.
- Various Animal Rights have been included in central Government Act Article 51A(g), The Penal Code (IPC), Prevention of Cruelty to Animals Act 1960 (PCA Act, 1960), Prevention of Cruelty to Animals, (Slaughterhouse) Rules, 2001, Food Safety and Standards Regulations, 2011, Animal Birth Control Rules 2001 (ABC Rules, 2001), Wildlife (Protection) Act, 1972
- Various organization such as Animal Welfare Board of India, Blue Cross of India (BCI), 'The Wildlife Rescue & Rehabilitation Centre, People for Ethical Treatment of Animals, Animal Aid Unlimited, Buddha Society for Animal Welfare Trust, Group of Animal Lovers, Help In Suffering', Let's Live Together' 'Wildlife SOS'-India and Federation of Indian Animal Protection Organization are working for protection of animals in India.
- There are various protected areas of India such as National Parks, wildlife sanctuaries and biosphere reserves. First national park of India is Corbett National Park, Nainital and first biosphere reserve of India is Nilgiri biosphere reserve.

Terminal Questions

1. (a) Fill in the blank spaces with appropriate words.

It is important to know that environmental rights are just extension of human rights. As you know that The United Nations (UN) is an organization of ……of the world, having its headquarters at……. It was established on……... The two main goals of the United Nations are: ……..and……..Keeping in mind its main aim of human dignity, the United Nations set up the U.N. commission of human rights in 1946, as a part of the economic and social council. This commission wrote an important document, which came to be known as the Universal Declaration on Human Rights (UNDHR). This declaration was approved by all the member of the general Assembly of the U.N. on December 10, 1948. Therefore, ……. celebrated as the World human Rights Day.

2. (a) Discuss the Environmental racism with suitable examples.

(b) Write about animal right issues.

3. (a) What are seven fundamental human rights?

(b) Write about animal rights in India.

4. (a) What do you understand Environmental right? Describe different environmental acts of India.

5. (a) What is UNESCO?

(b) Write about important national parks and wildlife sanctuaries of India

6. (a) Fill the blank spaces with appropriate words.

(b) Wildlife Protection Act was passed in the year 1972 (Yes/No)

(c) Right to Information Act was passed in the year 2005 (Yes/No)

(d) 10 December celebrated as World Human Right Day (Yes/No)

(e) A Taxonomy of Justice was written by Robert Kuehn (Yes/No)

(f) Expanded form of PETA is

7. (a) Give an account on animal wefare organizations in India.

Answers

1. (a) 193 Nations, New York City, not old or traditional. October, 24, 1945, Peace and human dignity, 10 December, flood, diseases

2. (a) See Section 6.2.

   (b) See section 6.6.2

3. (a) See section 6.3.

   (b) See section 6.6.3.

4. (a) See section 6.5 including Table-1

5. (a) See Section-6.2

   (b) see section 6.8

6. (a) Oldest religion, Sanatana Dharma/religion, Mahabharata (Moksha 182.14-19), bones, flesh, blood, abdomen

   (b) Yes

   (c) Yes

   (d) Yes

   (e) Yes

   (f) People for Ethical Treatment of Animals

7. (a) See the section 6.7

Unit 7: National and International Governance

Unit Structure

7.0 Learning objectives

After studying this unit you will be able to explain:

- About the changing nature of environmental ethics
- A Concept of environmental ethics
- A Concept of intrinsic and instrumental value
- Changing nature of environment and effects of change in lifestyles
- Concept of sustainable development

7.1 Introduction

The environmental ethics or we can say the “dharma of ecology” teaches us how we should treat our nature with moral values. Where Ethics means “to set moral values”? It basically studies the moral relationship of human beings with the nature and also tells the values and moral standings of the human beings and their duties for the future generation. It is basically a discipline in philosophy that studies the moral relationship of human beings and also the value and moral status of, the environment and its non-human contents.

7.1.1Changing nature of environmental ethics

Generally, environmental ethics talks about the ethical relationship between humanity and non-human world. Environmental ethics extends the boundaries of ethics to include the nature and considers its sustainability to ensure human wellbeing.

7.1.2 Example of changing nature

Let's assume putting out natural fires, killing animals or destroying some individuals of indigenous species is necessary for the protection of the integrity of a certain ecosystem. Think, will these actions be morally allowed or even required? Is it morally acceptable or is it necessary for farmers in non-industrial countries to practice slash and burn techniques to clear areas for agriculture? Survey a mining company which has performed open pit mining in some previously unspoiled area. Does that company have a moral obligation to restore the land forms and surface ecology? Can you tell what will be the value of a humanly restored environment compared with the originally natural environment? It is frequently said to be morally wrong for human beings to pollute and destroy parts of the natural environment and also to consume a huge amount of the planet's natural resources. If that is wrong, so is it simply because a sustainable environment is essential to (present and future) human well-being? Or such behavior is also wrong because the natural environment and/or its various contents have certain values in their own way so that these values are bound to be respected and protected in any case?

These are among the questions explored by environmental ethics. Few of them are specific questions faced by individuals in particular conditions, while others are more worldwide questions faced by the groups and communities. Yet others are more theoretical questions regarding the value and moral standing of the natural environment and its non-human contents.

7.2 Concept of environmental ethics

Environmental ethics focuses on the chances of the recognition of human ego with nature, means the larger ecological self deserves respect, too. As you know, that presently main challenge of environmental ethics is anthropocentrism (i.e., human-centeredness). For example, Aristotle keeps up that "nature has made all things specifically for the sake of man" and that the value of nonhuman things in nature is purely instrumental.

The union of concerned scientist, a group of over two thousand scientists, has concluded that climate change is beyond discussions and already changing our environment. The academic field of environmental ethics evolved in response to the work of scientists such as Rachel Carson and events such as the first Earth Day in

1970, when environmentalists started encouraging the philosophers to consider the philosophical aspects of the environmental problems. As you know that the Earth Day is being celebrated every year on April 22, is a day planned to inspire awareness and appreciation for the Earth's environment.

7.3 A Concept of intrinsic and instrumental value

These environmental changes and extreme weather conditions have led to species divergence and also growth of diseases is impossible to hide and ignore. The health decline associated with various forms of these changes is continuing and it is raising crucial issues regarding environmental justice.

Environmental instability signals ill for public health and well-being and we know that these traditional western ethical views are human-centered or anthropocentric. As you already know that anthropocentrism simply places humans at the Centre of the universe; so, everything else in existence should be judged in terms of its utility for us. With this all environmental studies should include an assessment of the intrinsic value of non-human beings. In the literature on environmental ethics the difference between the instrumental value and intrinsic value has been of considerable importance. Where instrumental value means valuing something as means to an end whereas intrinsic value means valuing something as an end in itself or we can say intrinsic value is the value of things as ends in them regardless of whether they are also useful as means to other ends, a kind of value independent of its usefulness for others. These two values basically tell the distinction between what is good “as a means” and what is good “in itself”, respectively.

For example, we can observe a person who teaches others. It is usually said that a person, as a person, has intrinsic values, i.e., values in his or her own right independently of his or her expectations for serving the ends of others. In addition to such values, the teacher also has instrumental value for those who want to obtain knowledge. Let’s understand this with another example also; certain fruits have instrumental value for bats who feed on them, since feeding on the fruits is a means to survival for the bats. But, it is not widely agreed that fruits have value as ends in themselves. On the other hand, we can suppose the nature as the creation of God, which is itself intrinsically valuable (or sacred) in spite of the state of being beneficial for us and bound to be respected. All environmental studies should include an

evaluation of the intrinsic value of non-human beings because the intrinsically valuable is that which is good as an end in itself.

7.4 Changing nature of environment

National and international science academies and professional societies have evaluated the current scientific opinion on climate change (CC). These evaluations have largely followed or countersign the Intergovernmental Panel on Climate Change (IPCC) position that "An increasing body of observations gives a collective picture of a warming world and other changes in the climate system". There is new and stronger verifications that most of the changes observed over the last 50 years are credited to human activities. Scientific agreement is that the increase in environmental crises noticed since the start of the industrial era. As you know, Climate Change is the most serious problem we are facing in 21stcentury.

- Air pollutants, which had been at the safe baseline for 10,000 years, were today has been causing global temperatures to increase, sea levels to rise several centimeters, dry areas to become even drier and wet areas to get still wetter.
- Drought, changing weather patterns, the expected bundle of caring for environmental refugees, the effects of consumerism, and the health dropping associated with various forms of pollution are continuing and major problems for human beings themselves. These raise key issues about environmental justice.
- At the same time, the continuous destruction of natural environment and the extensive loss of both plant and animal species cause increasing problems for other forms of life on the planet.
- Climate Change surrounds temperature changes on global, regional and local levels, and changes in the rainfall, winds, and possibly ocean currents. The call for a fundamental change of values in connection to the environment (a call that could be explained in terms of either instrumental or intrinsic values)

Indicate a need for the development of Environmental Ethics as a new sub- discipline of philosophy, therefore, the field emerged in the early1970s, when the environmentalists and philosophers began to consider the philosophical aspects of the

environmental problems and thus, Environmental Ethics became a subject of experienced academic philosophic reflection. From the Environmental Ethics point of view, individual interests and well-being should be assisted to the holistic good of the earth's biotic community. Leopold said “A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise”. He also suggested that the land as a community is the basic concept of ecology, but that land is to be loved and respected as an extension of ethics. Precisely, new evidence of environment change suggests it could be serious, and the greatest danger that civilization has faced so far. It is actually a warning of worse situation to come. Resistance and resilience strategies to inevitable impacts can be built into developmental planning and policies.

As you know that, increases in catastrophes resulting from extreme weather change are mainly caused by increasing population densities, and expected future increase in population are similarly dominated by societal change rather than climate change. In this way, to protect our environment and so our well-being, the term Environmental Ethics came to focus on the probability of the identification of the human ego with nature. Leopold also suggested to respect and to care for myself is also to respect and to care for the natural environment, which is actually apart of mine and with which I should identify. “Self-realization”, in other words, it is the reconnection of the shrink human individual with the wider natural environment.

When environmental ethics appeared as a new sub-discipline of philosophy in the early 1970s, it did so by causing challenge to traditional anthropocentrism. In the first place, environmental ethics questioned the believed moral superiority of human beings to members of other species on earth. In the second place, environmental ethics explored the possibility of rational arguments for assigning intrinsic value to the natural environment and its non-human contents. It should be noted, however, that some theorists who are working in the field sees no need to develop new, non-anthropocentric theories. Instead, they advised what may be called enlightened anthropocentrism (or, perhaps more suitably called, prudential anthropocentrism). Briefly, this is the view that all the moral duties we have towards the environment are obtained from our direct duties to its human inhabitants. Suppose that a normal non-anthropocentric tends to act gentler towards the non-human environment on which human well-being depends. This would definitely provide reason for inspiring non-

anthropocentric thinking, even to those who find the idea of non- anthropocentric intrinsic value hard to consume. In order for such a strategy to be effective one may need to hide one's distrustful anthropocentrism from others and even from oneself.

Therefore, the critical theorists argue that the positivistic disappointment of natural things (and, likewise, of human beings—because they too can be studied and utilized by science) disturbs our relationship with them, motivating the undesirable attitude that they are nothing more than things to be examined, consumed and dominated. According to the critical theorists, the ill treatment of "outer nature" (i.e., the natural environment) through science and technology is bought at a very high cost: the project of dominance requires the restriction of our own "inner nature" (i.e., human nature)—e.g., human creativity, freedom, and the numerous needs, vulnerabilities and longings at the centre of human life.

On the other side, the new animists (school of thought that all natural objects and universe itself have souls) have been much inspired by the serious way in which some indigenous people pacify and interact with animals, plants and inanimate things through ritual, ceremony and other practices. According to the new animists, the substitution of traditional animism (the view that personalized souls are found in the animals, plants, and other material objects i.e. sacredness) by a form of disappointed positivism directly leads to an anthropocentric perspective, which is responsible for much human destructiveness towards nature. When a forest is no longer sacred, there are no spirits to be calmed and no strange risks associated with clear-felling it. A disappointed nature is no longer alive. It tells no respect, reverence or love. It is nothing but a massive machine, to be mastered to serve human purposes. Not only this, the new animists also argued for keen vision the boundary between persons and non-persons. According to them, "living nature" comprises not only humans, animals and plants, but also mountains, forests, rivers, deserts, and even planets too.

As you know, the focus on the value of wilderness and the importance of its protection has ignored another important problem—namely that lifestyles in which passion for nature roam, woodland meditations or mountaineering can give way to demand a standard of living that is far beyond the dreams of most of the world's population. Indeed, lovers of wilderness sometimes consider the high human populations in some developing countries as a key problem underlying the environmental crisis. For example, claims that some humans are a kind of planetary "cancer". He keep going

with that while "feeding people always seems humane, when we face up to what is really going on, by just feeding people, without attention to the larger social results, we could be feeding a kind of cancer (Rolston, 1996)."

This comment is meant to explain the view that saving nature should, in some conditions, have a higher priority than feeding people.

7.5 Effects of change in lifestyles

Moreover, the economic conditions which support the kind of enjoyment of wilderness by Stratton's "Natural aristocrats", and more generally the lifestyles of many people in the wealthy countries, seem intimating in the destruction and pollution which has given rise to the environmental turn in the first place. For those in the richer countries, for example, engaging in outdoor enjoyments usually involves the motor car. Dependency of cars, therefore, is at the heart of many environmental problems, a key factor in urban pollution, while at the same time central to the economic and military activities of many nations and corporations, for example securing and exploiting oil reserves. So, in an increasingly crowded industrialized world, the answers to such problems are serious.

Perhaps, connections between environmental devastation, random resource consumption, poverty and the worldwide economic order have been discussed by political scientists, development theorists, geographers and economists as well as by philosophers. Links between the economics and environmental ethics are particularly well accepted.

Sagoff (1988), has played a major role in bringing these two fields together. He states that "as citizens rather than consumers" people are concerned about values, which cannot apparently be reduced to mere ordered preferences or quantified in financial terms. Sagoff (1988), differentiate between people as consumers and people as citizens were calculated to direct the use of cost-benefit analysis as the final referee in discussions about nature's value. And yes of course, spouses take out insurance on each other lives now. We pay extra as our travel insurance to cover the cost of cancellation, illness, or lost baggage. Such actions are economically reasonable. And with this they provide us with some compensation in case of loss. No-one, therefore, would consider insurance payments as replacing lost limbs, a loved one or even the joys of a cancelled vacation. So it is for nature, according to Sagoff we put dollar

values on a stand of timber, a reef, a beach, a national park. We measure the travel costs, the money spent by the visitors, the real estate values, the park fees and all the rest. But honestly speaking these dollar measures do not tell us the value of nature any more than my insurance premiums tell you the value of a human life (also see Shrader-Frechette 1987, O'Neill 1993, and Brennan1995).

7.6 Concept of sustainable development

The Convention on Biological Diversity was the follow up of our common future, an earlier United Nations document on sustainability produced by the World Commission on Environment and Development (WCED) 1987. The commission which was chaired by Gro Harlem Brundtland , Prime Minister of Norway at that time, and the report is also known as the Brundtland Report. This report talks about the increasing tide of proof that planetary systems vital to supporting life on earth were under strain. The key question which it raised is whether it is equitable to sacrifice options for future well-being in favor of supporting the current lifestyles, especially the comfortable and sometimes lavish forms of life enjoyed in the rich countries presently.

Notably credentials to "the future" need not to be limited to the future of human beings only. In keeping with the non-anthropocentric focus of much environmental philosophy, a care for sustainability and biodiversity can hold a care for opportunities available to non-human living things.

However, when the concept "sustainable development" was first segmented in the Brundtland Report, the significance was clearly anthropocentric. Despite of increasing evidence that planetary systems vital to life-support were under strain, the concept of sustainable development is established in the report to encourage certain worldwide coordinated directions and types of economic and social development. The Brundtland Report defines "sustainable development" in the following way:

Sustainable development is defined as the development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains two key concepts:

- Firstly, the concept of "needs", specifically the essential needs of the world's poor, to which supreme priority should be given; and

- Secondly, the idea of limitations forced by the state of technology and social organization on the environment's ability to meet present and future needs.

So, the goals of economic and social development must be described in terms of sustainability in all countries, developed or developing, market-oriented or centrally planned. The report goes on the argument that "the industrial world has already used much of the planet's ecological capital and indeed this inequality is the planet's main 'environmental' problem and also its main 'development' problem". In the concept of sustainable development the report combines the resource economist's notion of 'sustainable yield' with acceptance that developing countries of the world are empowered to economic growth and prosperity. The idea of sustainable yield involves thoughts of forests, rivers, oceans and other ecosystems, including the natural species living in them, as a stock of "ecological capital" from which all kinds of goods and services flow. And you know providing the flow of such goods and services does not deduce the capacity of the capital itself to maintain its productivity, the use of the systems in question is regarded as sustainable. That's why, the report shows that the "maximum sustainable yield must be defined after taking into account system-wide effects of exploitation" of ecological capital.

These such warnings echoed with more recent negativity about increasing human population and its impact on the deprived people, as well as on loss of biodiversity, fresh water scarcity, over consumption of natural resources and climate change. Paul and Anne Ehrlich book The Population Bomb, argues that without restrictions on population growth, including the demand of mandatory birth control, the world faced "mass starvation" in the short term (Ehrlich1968).

In a successive defense of their early work, the Ehrlich declared that the most serious flaw in their original analysis was that it was too much positive about the future, and commented that "Since The Bomb was written, increases in greenhouse gas flows into the atmosphere, a result of the near repeat of the human population and the near tripling of worldwide consumption, indicate that the results will likely be catastrophic climate disturbance caused by greenhouse heating" (Ehrlich and Ehrlich, 2009).

Not only Ehrlich, Garrett Hardin in (1968) published his much quoted article on the "tragedy of the commons" showing that common resources are always subject to degradation and extinction in the face of the logical pursuit of self-interest. According to

Hardin, the increasing pressure on shared resources, and increasing pollution, are inevitable results of the fact that "there is no technical solution to the population problem" (Hardin,1968).

In chasing of intergenerational justice, it suggests that there should be new human rights added to the standard list, for instance, "All human beings have the fundamental right to an environment enough for their health and well-being" (WCED (1987), annexed 1, paragraph 1). The report also states that "The enjoyment of any right requires respect for the similar rights of others, and identification of reciprocal and even joint responsibilities.

The preservation discussion for nature and non-human species is addressed to some extent by making a difference between weaker and stronger conceptions of sustainability (Beckerman, 1995). The differentiation appeared from considering the question: what exactly does sustainable development seek to sustain? Is this the flow of goods and services from world markets which is to be maintained, or is the current—or some future—level of consumption? In answering such questions, supporter of weak sustainability argue that it is bearable to replace natural capital with human-made capital provided that the latter has equivalent functions. If, for example, plastic trees could produce oxygen, absorb carbon and support animal and insect communities, then they could definitely replace the real thing, and a world with functionally equivalent artificial trees which would seem just as good as one with real or natural trees in it. The Brundtland report can also be seen as advising a form of strong sustainability in so far as it suggested that a "first priority is to establish the problem of disappearing species and threatened ecosystems on political agendas as a major resource issue" (ibid., chapter 6, paragraph 57). Therefore, despite its instrumental and economic language, the report in fact witnesses a wider moral point of view on the status and our relation to nature and non-human species, revealed by its statement that "the case for the conservation of nature should not rest only with development goals.

In simpler ways we understand the changing nature of environmental ethics by taking an example of deforestation which is the major factor for environmental destruction i.e. cutting down of trees in large amount; it is a formidable threat to the quality of life, country's economy and future development. World's forest cover is shrinking very fast, especially in the developing countries located in parts of tropics. Not only is this

demand of wood for industries also becoming a big issue in developing countries as we have mentioned above about the changing lifestyles of people.

Mining operations also have a serious impact on forest areas. Large areas of forest are cleared for mining purposes which is turning forest into pastures. Mining is a process in which minerals are extracted out from their ores that are present inside the earth. Some minerals can be mined easily as few of them are found at the earth's surface, while some are lie deep under the earth surface and can only be obtained by digging the surface deeply.

As you know, about half of the worldwide population practices traditional agriculture. It involves small field's implements, naturally availability of water, organic fertilizers and a mix crops, and results in low production. For instance, shifting cultivation also known as slash and burn cultivation practiced in many tribal areas results in deforestation. This cultivation destroys the organic matter that is present in the soil and makes the nutrient poor within a period. World population is increasing every year so the need of food is also increasing continuously. However, world's food production has increased almost thrice in past 50years, but at the same time rapid population growth especially in low developing areas has outstripped the food production.

As you know, that these changes are a key element of climate, it has been shown that human migrations due to climate change are not unmatched in the earth's history. But are the changes that have been made by humans causing such speedy changes those humans cannot adapt? Will the depletion of the ozone layer cause death to many species and diseases for human beings? Will desertification leave large areas of arable land useless? The answers to these questions are the issues and as likely as not lie somewhere between the greatest positions. The intensity of the problems has not been measured. Some people think it otherwise to institute priceless changes when the problems and conditions are uncertain and because of the actions of humanity may have wide ranging effects, many environmental problems must be considered worldwide in scope. Solutions to these major problems (e.g., ozone-layer depletion) cannot be formulated without attention to global affects. People must have to work together on both a global and an individual level in order to solve many of the earth' infinite environmental problems. As we are aware, that human power to affect nature has dramatically increased, for consideration, with species loss or global warming. Industrialization, advanced technologies, global capitalism, consumerism,

and snowball populations raise the great question: do human beings are in a sustainable relationship with their environment? There is an ethic unstated in many of these worldviews, but it was hardly developed as an environmental ethics.

A naturalistic ethics is one in which human beings are worried about appropriate respect and duty towards those who are other than human. Environmental ethics does require that ethics to be applied to the environment, similar to business, medicine, engineering, law, and technology. People are bound to be good citizens, maintain good standard and moral, productive in their communities, leaders in business, professionals in government, church, education and other sectors. As you know that was the responsibility that went with one's rights. But the image of an educated person today, increasingly; is something more. It is not enough to be a good citizen, "honestly this is only half the truth about who we are; we are "residents" dwelling on landscapes. Our responsibilities towards earth, towards ecosystems, species, animals and plants, might be thought indefinite beside our physical responsibilities to our children or next door neighbors. We need to love "the land, "as in Leopold terms, "the natural processes by which the land and the living things upon it have gained their normal form and by which they maintain their existence," that is, evolution and ecology. One might first give a thought that there will be no conflict between these two types of naturalistic ethic: humane concern for animal welfare and ecological concern for biotic community.

A case from Atlantic coastal bays, fishermen toss beer bottles over board, to get rid of trash. Small crabs, attracted by the residual beer, make their way to the bottles and become trapped, not able to get enough foot hold on the slick glass neck to work their way out and they started starving slowly: and with this one dead crab becomes bait for the next victim, an indefinitely resetting trap! Are those bottle traps of ethical concern? Or is the whole thing out of sight, out of mind, with crabs too mindless to care about? Biocentrists argue that crabs count morally, because they are alive and put in jeopardy by human carelessness, regardless of whether they can suffer much. True, one crab may not count very much, but, according to the biocentrist, it is a mistake to say it does not count at all.

"Swarms" is the fore knowledge word for biodiversity: Earth biological evolution, teeming with life. The creation on earth is a series of divine essentials that empower earth with vitality:

As you know, educated persons in the West think that the "modern" view is the right one. This point of view is quite successful in enabling humans to be educated and free, and to follow their happiness, make advancement, learn more about nature and how to use it resourcefully; and gain higher standards of living. Nature is often considered as "Mother Nature" and the etymological root of "nature" is" giving birth. " When men think ethically they advise duties, claim rights, distribute justice, and enhance utility, and do these from a humanistic view point that leaves them unprepared to be suitably concerned for animals, much less plants, endangered species, or ecosystems.

Summary

The environmental ethics or we can say the “dharma of ecology” teaches us how we should treat our nature with moral values. Where Ethics means “to set moral values”? It basically studies the moral relationship of human beings with the nature and also tells the values and moral standings of the human beings and their duties for the future generation.

- Generally, environmental ethics talks about the ethical relationship between humanity and non-human world. Environmental ethics extends the boundaries of ethics to include the nature and considers its sustainability to ensure human wellbeing.
- Environmental ethics focuses on the chances of the recognition of human ego with nature, means the larger ecological self deserves respect, too. As you know, that presently main challenge of environmental ethics is anthropocentrism (i.e., human-centeredness). For example, Aristotle keeps up that “nature has made all things specifically for the sake of man” and that the value of nonhuman things in nature is purely instrumental.
- These environmental changes and extreme weather conditions have led to species divergence and also growth of diseases is impossible to hide and ignore. The health decline associated with various forms of these changes is continuing and it is raising crucial issues regarding environmental justice.
- Environmental instability signals ill for public health and well-being and we know that these traditional western ethical views are human-centered or anthropocentric.

- National and international science academies and professional societies have evaluated the current scientific opinion on climate change (CC). These evaluations have largely followed or countersign the Intergovernmental Panel on Climate Change (IPCC) position that "An increasing body of observations gives a collective picture of a warming world and other changes in the climate system".
- There is new and stronger verifications that most of the changes observed over the last 50 years are credited to human activities. Scientific agreement is that the increase in environmental crises noticed since the start of the industrial era. As you know, Climate Change is the most serious problem we are facing in 21stcentury.
- Air pollutants, which had been at the safe baseline for 10,000 years, were today has been causing global temperatures to increase, sea levels to rise several centimeters, dry areas to become even drier and wet areas to get still wetter.
- Drought, changing weather patterns, the expected bundle of caring for environmental refugees, the effects of consumerism, and the health dropping associated with various forms of pollution are continuing and major problems for human beings themselves. These raise key issues about environmental justice.
- At the same time, the continuous destruction of natural environment and the extensive loss of both plant and animal species cause increasing problems for other forms of life on the planet.
- Climate Change surrounds temperature changes on global, regional and local levels, and changes in the rainfall, winds, and possibly ocean currents. The call for a fundamental change of values in connection to the environment (a call that could be explained in terms of either instrumental or intrinsic values)
- The Convention on Biological Diversity was the follow up of our common future, an earlier United Nations document on sustainability produced by the World Commission on Environment and Development (WCED) 1987.
- The commission which was chaired by Gro Harlem Brundtland , Prime Minister of Norway at that time, and the report is also known as the Brundtland Report.

This report talks about the increasing tide of proof that planetary systems vital to supporting life on earth were under strain.

- The key question which it raised is whether it is equitable to sacrifice options for future well-being in favor of supporting the current lifestyles, especially the comfortable and sometimes lavish forms of life enjoyed in the rich countries presently.
- Notably credentials to "the future" need not to be limited to the future of human beings only. In keeping with the non-anthropocentric focus of much environmental philosophy, a care for sustainability and biodiversity can hold a care for opportunities available to non-human living things.
- Sustainable development is defined as the development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains two key concepts:
- As you know, educated persons in the West think that the "modern" view is the right one. This point of view is quite successful in enabling humans to be educated and free, and to follow their happiness, make advancement, learn more about nature and how to use it resourcefully; and gain higher standards of living. Nature is often considered as "Mother Nature" and the etymological root of nature is giving birth.

Terminal question

1. Tick the correct option

1. World food production has increased up to _____in past.
   (a) 2 times (b) 3 times (c) 4 times (d) 5 times
2. 'There is no technical solution to the population problem' is said by
   (a) Leopold (b) Hardin (c) Arnenaess (d) Paul Ehrlich
3. "Mass starvation" term is used by
   (a) Hardin (b) Leopold (c) Arnenaess d) none of them
4. Full form of CBD is

a) Convention on biological diversity
b) Convention on biodiversity
c) Control for biodiversity
d) Convention on bio-products demand

5. Brundtland report was named on
   a) Gro Harlem Brundtland
   b) Joe Kim Brundtland

c) D. K Bundtland
d) P. K Brundtland

6. Who claimed humans are a kind of planetary cancer?
   (a) Hardin (b) Rolston (c) Sengar (d) Rachel cason
7. School of thought that all natural objects and universe itself have souls is called
   (a) Feminist (b) Animists (c) Chauvinists (d) Humanists
8. When the environmental ethics did appeared as new sub-discipline of philosophy?
   (a) Early 1960's (b) Early 1970's (c) Early1980's (d) Early1990's
9. IPCC stands for
   a) Intergovernmental panel on climate change
   b) International panel on climate crisis
   c) Intergovernmental panel on climate crisis
   d) International panel on climate change
10. Intrinsic and instrumental value tells the distinction between what is good
    (a) "A same as"&"in itself" (c) "As inner peace"&"outer peace"
    (b) "As in itself" & "in outer self" (d) none of the above

2. Short answer type questions

1. What do you understand with the term intrinsic and instrumental values?
2. Write a short note on deforestation?
3. Give a note on environmental ethics?
4. What do you understand by the term sustainable development?
5. Explain the changes in nature.
6. What are the effects caused by the changes in nature?
7. What were the verifications carried out by IPCC over the last 50 years? Mention it.
8. Give few examples of change in nature.
9. How environmental ethics talks about the ethical relationship between humanity and non-human contents?
10. What do you understand by the term new animists?

3. Long answer type questions

1. What are the changes occurring in environment? Explain in brief. (see sect. 1.5)
2. Explain, how changing lifestyles of humans is becoming a big threat to wildlife?
3. Explain briefly the concept of sustainable development. (see sect.1.6)
4. What do you think this modern view towards nature is right? Comment.
5. How industrialization and urbanization is becoming a big problem for environment? Explain it with suitable examples.

Answers of Terminal question

1. Tick the correct answers

1(b), 2(b), 3(c), 4(a), 5(a), 6(b), 7(b), 8(b), 9(a), 10(a)

UNIT 8: Resource Consumption Patterns

Unit Structure

8.0 Learning objectives

After studying this unit you will be able to explain:

- Historical perspectives of Resource Consumption
- Equality for non-human contents
- Concept of deep ecology
- Concept of social ecology
- Patterns in developed and developing countries
- Technology and resource consumption

8.1 Introduction

As we can see from over the past years, the manufacturing sector has gone through a period of significant technological changes. Technological transformation may bring notable socio-economic benefits and improve the environmental possibilities, but it may also give rise to severe challenges to the economy, human well-being and the environment and with this ever increasing consumption is putting a burden on the environment, polluting the earth and destroying the ecosystem. These large-scale economic developments in the north happened in the first half of the last century has left deep mark on natural resources availability and quality. The changes in the lifestyles and consumption patterns have become a common feature of most developing Asian countries in recent period of 10 years. As we know that increasing

income provides their citizens with more choices in how they use it; and people's course of action will largely determine what impact their economic growth will have on the environment. With this the nations develop and their economies grow, so too does the consumption of resources. These developing Asian nations have shown measurable growth in both population and in economic activity. In addition with this, over-consumption may not be the only result of too many humans competing over a limited resources base but also economic establishments using that resource base unnecessarily and inhumanly leads to the harm of other sectors of the society, poorer nations, future generations and other species.

8.1.1 Historical perspectives

As you know, since people have been living together in communities, the moral requirement has been necessary for the group's well-being. Although morals were homogenized and they developed, sometimes irrationally, after religious taboos were violated; out of chance behavior that become habit and then custom. The perception of eco-centric ethics or environmental ethics has gained major concern recently among many environmentalists. Environmental ethics as a discipline evolved in west, but environmental values, and concern for protection and urge to live in harmony can be traced from eastern world also. Our one of the ancient religion of east, Hinduism provides an underpinnings with regard to the ecological situation based on the presumption that mankind is a vital part of nature itself linked to the rest of creation by an imperishable bounds As you know, prayers for peace in Yajurveda is the manifestation of environment ethics "Supreme Lord, let there be peace in the sky and in the atmosphere, peace in the plant world and in the forests; let the cosmic powers be peaceful, let Brahman be peaceful; let there be undiluted and fulfilling peace everywhere. These all eastern religions Hinduism, Jainism, Buddhism, Taoism, etc. are enshrined with environmental values, and promote harmony with nature world. St. Francis of Asisis (1181-1126) embraced a philosophy akin to the eco-centric ethic. He especially considered all animals as non-discriminatory components of divine creation. According to him, 'wildlife has a right to exist independently of any human purpose. However, such concepts of him were largely ignored or reprimanded.

Although nature was the focus of much 19th and 20th century philosophy, contemporary environmental ethics only emerged as an academic discipline in the

1970s. This emergence was no doubt due to the increasing awareness about environment in the 1960's of the effects that technology, industry, economic expansion and population growth are having on the environment. As you know, the interrogating and retracing of the relationship of human beings with the natural environment over the last thirty years reflected an already widespread discernment in the 1960s that the late twentieth century faced a human population explosion as well as a serious environmental crisis The development of such awareness was abet by the publication of two important books Rachel Cason's 'Silent Spring' first published in 1962, and as one of the 25 greatest science books of all time by the editors of Discover Magazine, has notified readers to know how the ubiquitous use of chemical pesticides was posing a serious threat to public health and leading to the destruction of wildlife. It was detailing how pesticides such as DDT, aldrin and deildrin are magnified through the food web.

Another book of similar significance was Paul Ehrlich's book 'The population Bomb' (1968), which warned about the devastating effects of twisting human population on planet's resources. In a most cited essay (White, 1967) on the historical roots of the environmental crisis, famous historian Lynn White argued that the main strands of Judeo-Christian thinking had encouraged the overexploitation of nature by maintaining the superiority of humans over all other forms of life on earth, and by depicting all of nature as created for the use of humans. After that comes a White's thesis that was widely discussed in theology, history, and has been subjected to some sociological testing as well as being regularly discussed by philosophers. Central to the rationale for his thesis were the works of the Church Father and the Bible itself, supports the anthropocentric perspective that humans are the only things that matter on earth. Therefore, they may utilize and consume everything else to their advantage without any injustice. White has also stated that some minority traditions within Christianity (e.g. the views of St. Francis) might provide a countermeasure to the arrogance of a mainstream tradition steeped into anthropocentrism.

About the same time the Stanford ecologists Paul Ehlrich 'Population Bomb', (Ehlrich, 1968) was published that the growth of human population threatened the viability of planetary life- support systems. In that he mentioned about the population of developing countries, he talked about the overpopulation problem of the developing countries rather than suffering from food shortages. These countries show symptoms

in the form of environmental deterioration and increased difficulty in obtaining resources to support their affluence. The sense of environmental crisis aroused by those and other popular works by NASA's production and wide circulation of a particularly powerful image of the earth from space taken at Christmas, (1968) and was featured in the Scientific American in September 1970. Here, plan to see, was a living, glowing planet traveling through space and shared by all of humanity, a valuable vessel at risk to pollution and to the overuse of its limited dimensions. Henry David Thoreau (1817-1862), the father of Limnology, the transcendentalist, also professed a variety of eco-centric ethics. What he did he build a cabin on the Walden Pond in Massachusetts and he lived a simple life for about two years. And there he observed nature as a single living organic body with all living organism related to each other. In his work 'Walden' he encouraged his readers to acknowledge and learn to live within environmental guidelines.

8.1.2 Land ethics

On the other hand Aldo Leopold had advised an appreciation and conservation of things "natural, wild and free". His concerns were inspired by a blend of ethical and aesthetic responses to nature as well as a rejection of artlessly economic approaches to the value of natural objects (a historical survey of the conflict between Muir's reverentialism and the human-centered conservationism of Gifford Pinchot (it is one of the major impact on the development of the US Forest Service) is provided in Norton 1991; also see Cohen 1984 and Nash (ed) 1990). Leopold's A Sand County Almanac (1949), in particular, advised the adoption of a "land ethic": as you know, that land is a community resources to be loved and respected with an addition of ethics. (Leopold 1949: vii–ix) He said "A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise. (Leopold,1949).

However, Leopold himself hasn't provided any systematic ethical theory or structure to support these ethical ideas regarding the environment. Therefore his view has given a challenge and opportunity for moral theorists: could some ethical theory come up to justify the directive to preserve the integrity, stability and beauty of the biosphere?

The land ethics portrayed by Leopold, seek to expand our moral concern to cover the natural environment and its non-human contents, was drawn on obvious by the

Australian philosopher Richard Routley (later Sylvan). According to Routley (1973 (cf. Routley and Routley 1980)), the anthropocentrism inserted in what he called the "dominant western view", or "the western superethic", is in effect "human chauvinism". This view, he argued, is just another form of class chauvinism, which was simply based on the blind class "loyalty" or prejudice, and unjustifiably distinguishes against those outside the advantage class. Echoing the plot of a popular movie some years back (see Lo and Brennan 2013), Routley theorized in his "last man" (and "last people") arguments about a hypothetical situation in which the last person, is surviving a world catastrophe, and acts to ensure the ejection of all other living things and the last people is set about destroying forests and ecosystems after his demise. For an explanation to this judgment, he argued, that those non-human objects in the environment, whose demolition is ensured by the last people, have an intrinsic value, which is a kind of value independent of their usefulness for humans. In 1972,a team of researcher at MIT led by Dennis Meadows published the 'Limits to Growth' study, a work that summarized in many ways about the emerging concerns of the previous decade and sense of vulnerability triggered by the view of the earth from space. In explanation of the study the researcher wrote-

"We affirming finally that any deliberate attempts to reach a rational and enduring state of equilibrium by planned measures, rather than by chance or catastrophe, must ultimately be founded on a basic change of value and goals at individual, national and world levels."

As you know, the call for a basic change of values in connections to the environment (a call that could be explained in terms of either instrumental or intrinsic value) reflected a need for the development of the environmental ethics as a new sub division of philosophy. Throughout most of the decade philosophers sat on the subsidiary trying to determine what a field called environmental ethics might look like.

8.1.3 Equality for non-human contents

With all this in 1972 a book called 'Is it too late? A Theology of Ecology' written by John B. Cobb was published and it was the first single authored book written by a philosopher. Meanwhile, the work of Christopher Stone (a professor of law at the University of Southern California) had been widely discussed. Stone (1972) stated that trees and other natural objects should have at least the same standing in laws as

corporations have. After his statement, his suggestion was inspired by a particular case in which the Sierra Club had produced a challenge against the permit granted by the U.S. Forest Service to Walt Disney Enterprises for surveys initial to the development of the Mineral King Valley, which was at that time a relatively remote game refuge, but was not designated as a national park or protected wilderness area. Stone reasoned that if trees, forests and mountains could be given equal standing in law then they could be represented by their own right in the courts by groups such as the Sierra Club. Moreover, like any other legal person, these natural things could become receiver of repayment if it could be shown that they had suffered paying injury through human activity. Reacting to Stone's proposal, Joel Feinberg (1974) raised a serious question and argued, only those items that have interests, can be regarded as having legal standing and, likewise, moral standing. Their interests are capable of being represented in legal activities and moral debates. This same point would also seem to apply on to the political debates. For instance, the movement for "animal liberation", which also emerged strongly in the 1970s, can be thought of as a political movement aimed at representing the previously neglected interests of some animals (see Regan and Singer (eds.) 1976, Clark, (1977), and also the entry on the moral status of animals). Ethics is for the people, but is ethics only about the people? Wild animals do not make man the measures of things at all. As you know that, there is no better evidence of non-human values and values than spontaneous wild life, born free and on its own. All animals including birds hint and haul, find shelter, seek out their habitats and mates, care for their young, and flee from threats. They suffer from injuries and lick their wounds. Animals maintain an esteemed self-identity as they cope through this world. They all defend their lives because they have a good of their own. Is there is somebody behind their fur or feathers.

As you know, an animal values its own life for what it is in itself, without further being responsible for reference, although of course it inhabits an eco- system in which its life-support depends. Animals are valuable, able to value things in their world, their own life naturally and their resource instrumentally. So there can and ought to be several philosophers agree that moral standing should be extended to include animals as an animal welfare ethic or some prefer to say an animal rights ethic.

According to Singer, the criterion to moral standing is sentience: it is the capacity to feel pleasure and pain. On the other hand, for Regan moral standing should be

acknowledged in all subjects-of-a- life: that is those beings with beliefs, desire, perception, memory, emotions, a sense of future, and the ability to initiate action. So, timely Regan and Singer gave strongly different criteria for moral standing, both places a premium on a form of consciousness.

According to Singer, if anybody possesses the relevant type of consciousness, then that body should be given equal consideration when we prepare our moral obligations. The point is not that every living being should be treated equally, but it is about that it should be considered equally. So, it can be concluded from the above perspective that animal welfare is applicable to environmental ethics because animals exist within the natural environment and thus, form part of environmental concerns. Nonetheless, extending moral standing to animals also leads to the formulation of particular types of environmental obligations. Basically, these ethics claims that when we consider how our action affects the environment, we should not just evaluate how these actions affect the humans (present or future), but also how they affects the interest and rights of animals.

In1973, an Australian philosopher Richard Routley (Now Sylvan), presented a paper at the 15th World Congress of Philosophy 'Is there a need for a new Environmental Ethics.' In 1975, environmental ethics came to the consideration of mainstream philosophy with the publication of Holmes Rolston III's, paper "Is here an Ecological Ethics?"

8.2 Concept of deep ecology

Arne Naess, Norwegian philosopher and the founding editor of the journal 'Inquiry', authored and published a paper in Inquiry, 'The shallow and the Deep, Long-Range Ecology Movement' in 1973, which was the starting of the deep ecology movement. The "shallow ecology movement", as Naess (1973) calls it, was the "fight against pollution and resource depletion", the central objective of which was "the health and affluence of people in the developed countries." As you know, the "deep ecology movement", in contrast countersign "biosphere egalitarianism", the view that all living things are equal in having value in their own right, and independent of their usefulness to others. The deep ecologist respects this intrinsic value, taking care, for example, when walking on the mountainside not to cause any unnecessary damage to the plants. It acknowledges the fundamental interdependence of all phenomena and the

fact that as individual and societies, we are all placed in (and ultimately dependents) the cyclical process of nature. Deep ecologists advised the development to new eco-philosophy or ecosophy to replace the destructive philosophy of modern industrial society. Arne Naess and George sessions have compiled a list of eight principles or statement that is basic to deep ecology:

- Well-being and prosperity of human and nonhuman life on Earth have value in themselves (synonyms: intrinsic value, inherent worth)
- These values are independent of the functionality of the nonhuman world for human purposes.
- Richness and diversity of life forms contribute to the understanding of these values and are also values in themselves.
- Humans have no right to deduce this richness and diversity except to satisfy essential needs.
- The prosperity of human life and cultures is compatible with a greatly smaller population. The growth of non-human life requires smaller human population.
- Present human interference with the non-human world is extreme and the situation is rapidly worsening.
- Therefore policies must be changed. These policies effect basic economies, technological and ideological structures. The resulting state of affairs will be deeply different from the present.
- The ideological changes will mainly that of appreciating life quality (dwelling in situations of inherent values) rather than sticking to an increasingly higher standard of living. There will be a keen awareness of the difference between bigness and greatness.

Basically, Naess's ecosophy involves just one fundamental ethical norm "Self-realization."For Naess, this norm involves giving up an arrow egoistic conception of the self in favour of a wider more extensive self (hence the deliberate Capital "S"). Moving to this wider 'Self' involves recognizing that as human beings were not removed from nature, but are interconnected with it. Accepting our wider self, thus, involves identifying ourselves with all other life forms on the planet. As developed by Naess and others, the position also came to centre on the possibility of the identification of the human ego with nature. The idea is, temporarily, that by identifying with nature I can enlarge the boundaries of the self beyond my skin. My larger—ecological—Self (the

capital "S" highlights that I am something larger than my body and consciousness), deserves respect as well. Truly said by him that to respect and to care for my Self is also to respect and to care for the natural environment, which is actually a part of mine and with which I should identify. "Self-realization", in other words, is the reconnection of the shrink human individual with the wider natural environment. Naess maintains that the deep satisfaction which we receive from identification with nature and close partnership with other forms of life in nature contributes remarkably to our life quality.

A radical ecological thinker, Mahatma Gandhi's ideas were quite similar to deep ecology. Nature to him was the outer expression of the all-penetrating living Reality, which means God. He said" God manifests Himself in innumerable forms in the universe and every such manifestation command my spontaneous reverence". He was quite sensitive to the charms of the nature. He observed that everything living and nonliving is vibrating with life. He advised a creative harmony between individual communities and natural world. He also advised that it is the task of human beings to realize that only a violent attitude towards life destroys the power of the earth. So, as a remedial measure, Gandhi told to follow a non-violent way of life, it is actually a unique and valuable concept which needs to be expanded to all living and nonliving beings. Hence, his vision was one of a non-violent eco- friendly world order'.

Here is a note on his principle of deep ecology, when he said that nature has given enough to satisfy everyone's need, but not greed. Unsatisfied desire, resulting into increasing imbalance, environmental degradation, fast disappearing flora and fauna, explosion of population- all are the outcome of the greed of the modern homo sapiens. He himself practiced nonviolence throughout his life and told that it is not possible for a human being to create life, so he is no one to destroy any life.

8.3 Concept of social ecology

Social Ecology shares with deep ecology the view that the basis of environmental crisis lies in the dominant ideology of modern western society. Thus, just as deep ecology, social ecology clears that in order to settle the crisis, a radical overtake of this ideology is necessary. In fact, domination is the key theme in the writing of Murray Bookchin, the most prominent social ecologist. According to him, environmental problems are directly related to social problems. In particular, Bookchin claims that, the ranking of power prevalent within modern societies have fostered a ladder relationship between human beings and natural world. Infact, it is the ideology of free market that has

facilitated such hierarchies, reducing both human beings and natural world to mere commodities. Bookchin argues that the freeing of both human and nature are actually depending on one another. This argument was quite different from Marxist thought which recognizes men's freedom dependent on the complete control of humans from nature that is common in capitalist ideology. Ideally, social ecology argues that human must recognize that they are part of nature, not different or separate from it. It has suggested that human societies and human relations with nature can be informed by the non- hierarchical relations found within the natural world. Like in ecosystem, there is no species more important than other; rather relationships are mutualistic and interrelated. As you know, this interdependence and lack of hierarchy in nature provides a blueprint for a non-hierarchical human's society. Bookchin also explains that such transformation must take place within the smaller local communities. Such smaller local communities will be based on sustainable agriculture, participation through democracy, and of course freedom through non-domination. Not only then does nature help fix richer and more equal human communities, but a transformed society promotes a more benign relationship with nature. These latter points also display Bookchin's optimistic view of humanity's potential. After all Bookchin does not criticize all of humanity for causing the ecological crisis, for in fact it is the relationship with societies that are to blame. He also suggests that we can choose to put ourselves at the service of natural evolution, to help to maintain complexity and diversity diminish suffering and reduce pollution. His social ecology approves that we use our gifts of sociability, communication and intelligence as if we were 'nature rendered conscious', instead of learning them against the very source and origin from which such gifts derive.

As you know, Exploitation of nature should be replaced by a richer form of life devoted to nature's preservation. John Clark has argued that social ecology is heir to a historical, communitarian tradition of thought that not only includes the agitator Peter Kropotkin, but also the nineteenth century socialist geographer Elisée Reclus, the eccentric Scottish thinker Patrick Geddes and also the latter's disciple, Lewis Mumford (Clark, 1998). This is the view that the natural features should provide the defining conditions for the places of the community, and that secure and satisfying local lives are led by those who knows a place, have learnt its lore and who adapt their lifestyle to its affordances by developing its potential within ecological limits.

Feminist analyses have often been welcomed for the psychological insight they have also bring to several social, moral and political problems. There is, although, considerable unease about the implications of critical theory, social ecology and some varieties of deep ecology and animism. Few writers have argued, for example, that critical theory is bound to be ethically anthropocentric, with nature as no more than a "social construction" whose value ultimately depends on human determinations (see Vogel, 1996). Some have argued that the demands of "deep" green theorists and activists cannot be accommodated within contemporary theories of liberal politics and social justice (see Ferry 1998). A further suggestion was that there is a need to reassess traditional theories such as virtue ethics, which has its origins in ancient Greek philosophy (see the following section) within the context of a form of stewardship similar to that of earlier endorsed by Pass more (see Barry 1999). If this last claim is correct, then the radical activist need not to, after all, look for philosophical support in radical, or counter cultural, theories of the sort deep ecology, feminism, bioregionalism and social ecology claim to be (but see Zimmerman1994).

Infact, Indian environmental thinker, Ramchandra Guha also expressed his ideas similar with social ecology. He also supported the idea of social change to solve the eco-crisis. He confidently said that our historical experience of different societies shows that there are always fault less individuals who in their own lives, through thinking, reflection and experience have undertaken value changes and a spiritual transformation in their attitude towards nature and the non-human.

In 1979, Eugene C. Hargrove founded the journal 'Environment Ethics', whose name has become the name of the field. The first five years of the journal were spent mostly arguing about the rights for nature and the relationship of environmental ethics and animal rights/animal liberation. Rights lost and animal welfare ethics were determined to be a separate field. Animal rights has since developed as a separate field with a separate journal, first, 'Ethics and Animals', which was later replaced by 'Between the Species'.

John B. Cobb published another book in the early 1980s 'The liberation of life with co-author Charles Birch. Robin Attfield, a philosopher in Wales, wrote a book called 'The ethics of Environmental Concern'. An anthology of papers, 'Ethics and the environment' was edited by the Donald Scherer and Tom Attig.

There comes a turning point in about 1988, when many single-authored books become available. Paul Taylor's 'Respect for Nature, Holmes Rolston's 'Environmental Ethics, Mark Sagoff's 'The Economy of the Earth, and Eugene C. Hargrove's 'Foundation of Environmental Ethics, J. Baird Collicott created a collection of his paper 'In Defense of the Land Ethic. Brayon Norton wrote 'Why preserve Natural Diversity?, followed more recently by 'Towards Unity' among Environmentalist. A large number of books have been written by Kristin Shrader – Frechette on Economic and Policy.

In the 1980s a second movement, a concept of eco-feminism was developed. Karen Waren was the key philosopher; however the eco-feminism movement involves many thinkers from other fields. Eco feminism also points a link between social domination and the domination of the natural world and such as deep ecology and social ecology, eco feminism calls for a radical service of the prevailing philosophical perspective and ideology of western society. Like deep ecology and social ecology, eco feminism also believes that to solve environmental problems we are facing and the system of domination in place; it is the consciousness and philosophical outlook of individual that must change. Deep Ecology, feminism and social ecology have had a significant impact on the development of political positions in regard to the environment. Feminism represents a complete challenge for environmental thinking, politics, and traditional social ethical perspectives. It assures to link environmental questions with wider social problems concerning various kinds of discrimination and exploitation, and fundamental investigations of human psychology. However, whether the rear conceptual a causal or merely possible connection among the different forms of oppression and liberation remains a contested issue (see Green 1994). The term "eco feminism" (first coined by Françoised' Eaubonne in 1974) or "ecological feminism" was for a time generally applied to any view that connects environmental advocacy with feminist analysis. Nonetheless, because of the varieties of, and disagreements among, feminist theories, the label may be too wide to be informative and has generally fallen from use. In 1989, 'Earth Ethics Quarterly' was begun as, a new popular environmental publications. Originally deliberated primarily as, are print publication, now as a publication of the 'Center for respect for life and Environment', it is focused more on international sustainable development. However, the 1990s begin with the establishment of the 'International Society for Environmental Ethics', which was founded largely through the efforts of Laura Westra and Holmes Ralston

III. Presently, it has members throughout the world. In 1992, a second mentioned philosophical journal dedicated to environmental ethics, 'Environmental values' published its first issue in England. In 1966, a new journal was accepted at the University of Georgia, 'Ethics and the Environment.' In 1997, a second international association was created 'The International Association for Environmental Philosophy', with an importance of environmental phenomenology.

The variety of approaches to environment ethics mentioned in this chapter indicates the diversity and complexity of environmental ethics. All these approaches to ethics generated in current general ethical theories have been applied with environmental ethics. The environmental problems of the present have drawn an attention to the insight that ethical questions are raised by human behavior towards not only non-human individuals, but towards ecosystem, species and biosphere itself.

As you know, work in the environmental ethics over the past three decades has focused to a considerable degree, on how humans should think about world environment and what values they might carry. But it seems like that in future, ethical interest in other kind of environment will also grow. There are number of obvious reasons for this. As you know, wilderness is declining both in size and number. And urban areas are spreading rapidly. Most of the people in the world rarely or never enter wild areas, living and working in urban or rural agricultural areas. Environment ethicists are now turning to explore new dimensions of ethics to be applied in broad perspective in order to realize the prescribed condition of harmonious and healthy environment. So, in the future, debates about environmental ethics are likely expanded to consider even other kinds of environmental and ethical issues, which this environment raises. In the light of above it can be summarized up that this millennium will be significant for the extension and application of environmental ethics, and this will be also the need of an hour.

8.4 Patterns in developed and developing countries

As you know, China and India are the world's largest developing economic countries and also two of the most populous countries. China, which has now more than 1.3 billion people, is expected to grow to more than 1.4 billion by 2050, and whereas, India with a population of 1 billion will overtake China to be the most populous countries with about a 1.6 billion population. As you know, these population giants are home to 37

percent of the world's total population today. In addition, China and India have achieved outstanding success in their economic development characterized by a high rate of GDP growth in the last two decades. And together these two countries accounts already for almost a fifth of world GDP. The most direct and remarkable result of economic growth in India and China is the amazing improvement in quality of life (or at least spending power) for an increasing share of the population. The populations of both the countries have experienced a transformation from 'poverty' to 'adequate food and clothing'; today growing parts of the population are getting closer to 'well to do lifestyles'. These portions of the society are not satisfied any more with enough food and clothes, but are also eager to obtain a quality life of high nutrient food, comfortable livings, health care and other quality services. Thus, the population, affluence and technology to be the major driving forces in environmental pollution for the two most populous countries in the world; then applies a simple equation of Impact= Population x Affluence x Technology, or I=PAT to evaluate the effects of changes in these drivers on CO_2 emissions. In terms of economic growth, people's consumption patterns has changed and thus causing environmental pollution, best example for this is CO_2 emissions

We have categorically limited ourselves to the time period until 2050 because of our focus on the important greenhouse gas CO_2. There is a global agreement amongst climate researchers that the next couple of decades will be crucial in terms of human induced climate change and thus gather a certain urgency of immediate policy action. China and India have been recognized as one of the two large stand flourished developing economies in the world, and China ranks as the second largest economy in term of GDP in PPP (purchasing power parity) dollars after the U.S. and four thin real values; and India is the fourth world-largest economy by PPP. Presently, together the two nations are home to more than one third of the world population and contribute 19.2% of world GDP - China 11.5% and India 7.7%. On the other hand, China and India both are contributing 18.1% of world carbon emissions; 13.7% and 4.4% respectively

As you know, the economic successes in these developing Asian countries have resulted in considerable improvements of people's quality of life. Larger sections of the population have been experiencing a transformation from 'poverty' to 'adequate food and clothing'; today growing parts of the population are getting closer to 'well to do'

lifestyles. On the other hand, in both nations, in spite of significant efforts, a large number of people are surviving with only the daily essentials. By 2003, China's secondary and tertiary industries have contributed approximately 85% of the national GDP. While in India agricultural sector shares in GDP has been declining from over 50% in the early 1950s to 26% in recent years and the shares of transportation and banking and the other service sectors has doubled. It is very interesting to note that secondary industries are dominant in China's economy while tertiary industries contribute almost half of GDP in India. That may be one of the reasons why India produces less CO_2 emissions per capita than China. CO_2 emissions by Asian developing countries grew significantly between 1980 and2001, rising by 1.51%--4.5% per year--from2,398 MMT to 6,027 MMT (million metric tons). The proportion of the region's carbon dioxide emissions comes from India and China. In 2001, these two countries accounted for two thirds of all of the Developing Asia's carbon dioxide emissions. As you know, China and India are the second and the fifth largest contributors to world carbon emissions, respectively. 98% of the efficiency gains for both of the countries indicate that China and India will require large-scale technology improvement in the next 50 years in order to be on track with current CO_2 agreements.

As you know, people directly consume energy for lighting, cooking and other daily uses. But they also eager to a 'higher-quality life' by purchasing fashionable goods and services, such as houses with air conditioning and other modern electrical house hold appliances as well as the weekly visits to the gym and all these products and services consume energy during their production processes and usage.

The domestic energy production cannot meet any more the rapid increase of consumption requirements on both domestic and industrial usages. The excellent increase of expenditure on housing shows people's willingness to improve their immediate living conditions. Many rural households rebuilt and expanded their bungalows using building materials of concrete bricks and tiles instead of cow dung and woods. At the same time, average per capita living space extended from 8.1 m^2 to 24.2 m^2. People's requirements on housing improved the development of the construction sector

As you know, these more spacious living places allow consumers to buy and store more house hold appliances and other durable goods. For example, since the 1980s, urban locals spent increasing amounts on large durable furniture (e.g. wardrobes, beds

and sofas). And also in the late 1980s and 1990s the connection of a larger number of households to the electrical grid helped in increasing the sales for household electrical appliances. For example, purchases of refrigerators and color TVs in urban areas has increased in 2000 as compared to1990. Another example is air conditioners, previously a sign of the wealthy, which increased notably to about 30 sets per 100 households. The popularization of household electronics enormously increased the house hold appliance production

The urban household energy consumption has also experienced changes. As you know, in terms of heating, most urban areas still keep the traditional way of heating by burning the coal. The overuse of biomass energy put up to land degradation of cultivated land and destroyed forest resources. Nonetheless, the previous type of individual heating has been switched to large-scale central heating as people moved from bungalows to apartment blocks, which effectively enhanced energy efficiency. The government on the other hand provides LPG (liquefied petroleum gas) or gas pipelines for people's daily cooking instead of traditional cooking by burning coal, to reduce urban coal consumption and associated pollution.

8.5 Technology and resource consumption

In the past few years, the manufacturing sector has gone through a period of remarkable technological change, and this drift is expected to continue in the coming decades (McKinsey Global Institute 2012; UNIDO 2013). As you know that the Technological advancements have been made at both the product and production process level.

Recently, a few developing economies have engaged in industrial biotechnology by starting to use the enzymes and micro-organisms in order to produce the bio-based products in different manufacturing industries. A report by UNCTAD (2004) shows that biotechnology industry is progressing in several developing countries and regions, although it is important to highlight that it remains moderate compared to developed countries. If we talk about India, for example, Biocon has become a major player in the field of modern biotechnology developing new fermentation platforms and enzymes, and it is currently a major supplier of food enzymes to the United States and European markets. Moreover, an increasing amount of developing countries are producing transgenic crops. In recent reports James (2013) reported that in 2013 genetically

modified crops (mainly soy, maize, cotton, and canola) were grown in 27 countries, of which 19 were developing and 8 were industrial economies. Besides, in 2013 for the second consecutive year the developing countries has grew more biotech crops (54%) than developed economies (46%), and Brazil, Argentina and India were among the global top-5 countries planting the transgenic crops. In Africa, Burkina Faso and Sudan increased their *Bacillus thuringenesis* (BT) cotton square measures by an impressive 50% and 300%, respectively, in 2013. However, the biofuel industry, which makes use of biofuel technologies, is also flourishing in developing economies. In fact, Biofuel technologies can be classified into two groups: first and second generation biofuels.

As you know, the former utilize the sugar or starch portion of plants (e.g.sugarcane, cassava,etc.) as well as oil seed crops (e.g. sunflower, palmoil, etc.) as raw material staple to produce ethanol and biodiesel respectively. According to the OECD-FAO Agricultural Outlook (2013), the biofuel production in these developing countries is expected to increase over time. For example, the ethanol production is projected to rise from 42 billion in 2012 to 72 billion in 2022, with Brazil accounting for the biggest share of such increase followed by China. In fact, African countries, India, and other South American economies such as Argentina are also increasing their ethanol production. Whereas, in Africa, ethanol production is approximated to grow from 1.6 billion in 2011 to more than 3 billion in 2021, with South Africa, Ethiopia and Nigeria being the main producing countries (OECD-FAO 2011).

As you know, in Africa, biodiesel production is concentrated in South Africa, Mozambique, Tanzania and Ghana, and it is projected to increase from less than 0.3 billion in 2011 to about 0.4 billion in 2021 (OECD-FAO 2011). As you also know that the developing countries are also slowly but steadily increasing their roles in the Renewable energy industry. As for your knowledge the renewable energy sources are the inexhaustible energy resources which include solar, wind, and hydropower energies, among others. And also China is a leading producer of solar thermal collectors and hydropower turbine-generators (REN21 2014). On the other hand, Manufacturers of solar PV systems are also spreading in Africa, with Ethiopia opening its first manufacturing facility in 2013 (REN212014).

On the other hand, India is among the most promising countries for wind power development (Panwar et al., 2011), whereas China dominates the wind turbine supplier

market with eight out of the top 15 major vendors being Chinese. Apart from this, the developing world has become an increasingly important player in the computer and electronic product manufacturing sector. As you know, Asian countries, in particular, are now home to some of the world's largest electronic manufacturers. Whereas, China is one of the largest producers of information and communication technology (ICT) goods, and is also the largest exporter of ICT goods accounting for 37% of world exports (OECD-WTO 2013). In addition to the increasing role which they are playing in the advanced manufacturing industries, developing countries also continue to dominate some of the traditional manufacturing sectors such as the textile and clothing industry. As you know, Asia is the biggest exporter in the sectors, and in 2004 it accounted for about 45% of world textiles exports and 47% of world clothing exports (UNCTAD 2005a). If we talk about at the country level, the 2014 WTO statistics show that in 2013 China, India, Turkey, Pakistan, Indonesia, Thailand, Vietnam and Mexico ranked among the top 15 textile exporters, while China, Turkey, Mexico, India, Indonesia, Bangladesh, Thailand, Vietnam, Cambodia, Malaysia, Pakistan and Sri Lanka featured among the top15 clothing exporters. These all developing countries are also playing a progressively important role in the steel industry. Indeed, the steel production in these developing countries, and in particular in Asian economies, has experienced a remarkable rise in the early 2000s; and in 2005 Asia has produced over 50% of the world's total crude steel (Sato, 2009).

As you know that China and India are the key players in this sector: China has increased its share of worldwide crude steel production from roughly 23% in 2003 to 49% in 2013; not only China, India has also experienced a huge increase in steel production, becoming the fourth largest crude steel producer, just behind China, Japan and the US (World Steel Association 2014). Indeed, all the above-mentioned technological changes in the manufacturing sector are a double-edged sword since they can bring huge benefits but at the same time cause serious challenges to developing countries.

These technological changes in the manufacturing sector may produce economic benefits but at the same time they affect the environment negatively. As a matter of fact, while increasing productivity in some types of technological innovation may boost the environmental pressures by increasing the demand for natural resources (both material and energy inputs used in production). In fact, do you know that, a massive

use of fossil fuels leads to dangerous effects on the environment including acid rain, deterioration of the ozone layer, and the green house effect? And you know these technological changes in the manufacturing industry may also leads to negative environmental impacts by increasing the magnitude of waste and pollution. Even those cleaner technologies such as renewable energy and biofuels can also leads to important adverse environmental effects.

Terminal question

Tick the correct option

1. 'Silent spring' book was written by:

   (a) Arnenaess (b) Paul Ehrlich (c) Rachel Cason (d) Hardin

2. In which year the book "Population bomb" published

   (a) 1928 (b) 1968 (c) 1948 (d) 1998

3. Who has written the book "Population bomb"?

   (a) Leopold (b) Rachel cason (c) Paul Ehrlich (d) Arnenaess

4. "A thing is right when it tends to preserve the integrity, stability and beauty of biotic community, it is wrong when it tends otherwise" is said by

   (a) Arnenaess (b) Hardin (c) Leopold (d) Paul Ehrlich

5. Deep ecology has how many principles or statements

   (a) 8 (b) 6 (c) 7 (d) 9

6. The concept of 'self-realization' was given by:

   (a) Sanger (b) Hardin (c) Arnenaess (d) Leopold

7. Which country produces the largest amount of CO_2?

   (a)USA (b) China (c) India (d) Japan

8. Which country is the largest producer of ICT goods?

   (a) India (b) China (c) Japan (d) USA

9. India ranked at in worldwide crude steel production

   (a) 1st (b) 4th (c) 3rd (d) 2nd

10. Which country produce large amount of solar thermal collector?

(a) USA (b) Japan (c) China (d) India

Short answers type questions

1. Name two books that develop the awareness regarding resource consumption patterns or environmental ethics?
2. What were the views of scientist for trees, wildlife and all non-human contents in ancient times?
3. Write a short note on land ethics?
4. What are the principles of deep ecology?
5. Name Indian supporter the concept of deep ecology and what was his views?
6. What do you understand by social ecology and which Indian supported this idea?
7. Write a short note on resource consumption patterns in India?
8. What do you understand with historical perspectives of environmental ethics?
9. What are the environmental effects that can be caused due to the technological changes in the developing countries?
10. List the technologies in which India is heading above the other countries.

Long answers type questions

1. Describe the concept of deep ecology. (see sect.1.4)
2. Describe the historical perspective of environmental ethics. (see sect. 1.1 to 1.5)
3. What do you understand by the Naess concept of self-realization? Give your comments on this. (see sect.1.4)
4. Describe the patterns of resource consumption in developing countries. (see sect.2)
5. Briefly explain about the technologies in developing countries. (see sect. 3)

Answers of Terminal question

1. Tick the correct answers

1(c), 2(b), 3(c), 4(c), 5(a), 6(c), 7(a), 8(b), 9(b), 10(c)

Unit 9: Equitable Utilization

Unit Structure

9.0 Learning Objectives

After studying this unit you will be able to explain:

- Water resources
- Forest resources
- Mineral resources
- Food resources
- Equity disparity in north and south countries
- Urban and rural equity
- Role of individual in conserving the natural resources
- Role of government in conserving the natural resources.

9.1 Introduction

Resources are the most important factors and the basic needs of human life; it is not only important to human beings but also to wild life. But from past decades growing population has become the major problem for resources over consumption. The dependency of human beings on the natural resources has increased by 50 times more than it used to be in past decades. This increase in consumption and changes in

consumption patterns has not only caused harm to the nature but also to the wildlife . Natural resources are those parts of nature that are utilized and exploited by the humans. It can be living, non-living, renewable and non- renewable. Nonetheless natural resources are the specific part of the nature. Besides this natural resources are undoubtedly the part of environment which has economic interests and therefore leads to conflicts in between states also. Scarcity of resources is the burning problem of modern technology. The 21st century will see growing human needs for resources since many parts of the world are using natural resources at a rate faster than the natural processes can replenish it.

9.2 Need and governing factor

Traditionally international law has protected natural resources indirectly by determining the way property and sovereignty rights are allocated among states. This distribution of natural resources between states is in order to avoid over-exploitation in one way of protecting them. More recently, however international law has developed direct means to protect natural resources. These rules are of particular significance to living resources, but also affect non-living resources as well as the use of water, air and common spaces. Common spaces include areas beyond national jurisdiction, are protected by a series of multilateral treaties. In dealing with conservation and utilization of natural resources, a distinction should therefore, be made between different types of natural resources; those being under the control of single state, those being shared in between two or more states.

Natural resources which are lying within common spaces either fall under the concept of common property or under the concept of common inheritance of mankind. “Authentic” international environmental law is collection of rules protecting the environment from pollution. These rules are set off by regulations affecting the conservation and utilization of natural resources. Their goal is to avoid an overexploitation and permanent loss of natural resources. They are, therefore, mainly of economic nature. But as natural resources form an integral part of the environment, the rules which are protecting them from economic abuse have also got an environmental impact.

Natural resources are those principal parts of the environment which are used and exploited by man. They can be either being living or non-living, renewable or non-

renewable. Nearly the whole fauna and flora is part of natural resources, but also includes air, water, and soil when used by man. Usually, in treaties as well as in many other international documents, a terminological difference is made between the environment itself and the natural resources. Nonetheless, natural resources do form a specific part of the environment. In other words we can say Natural resources are those parts of the environment which are of economic interest and, therefore, lead to conflicts between States.

The commission on environment and development in its report "Our Common Future" defined sustainable development as development that meets the need of the present without compromising the ability of the future generations to meet their own needs.

"Sustainable use" considers the need to balance economic, social and environmental values in the use of natural resources and to take into account the carrying capacity of international watercourses. "Optimum utilization" means the most economically reasonable and, if possible, the most efficient use.

Sustainable development has some main features which include:

- A desirable human condition: a society that people want to sustain just to meet their needs.
- An enduring ecosystem condition: an ecosystem that maintain its capacity to support human life and others.
- A balance between present and future generations and within the present generation.

Or otherwise we can also say that sustainable development includes sustainable growth, sustainable consumption and sustainability.

Sustainable growth, for growth we need resources and the rate of depletion of resources cannot be matched with the regenerating capacity of earth, as it is finite, not growing and materially closed. Therefore, sustainable growth seems an impossible theorem.

Sustainable consumption is related to production and distribution, use and disposal of products and services provides the means to rethink our lifecycle. The aim is to ensure that the basic needs of the entire global community are met, excess is reduced and environmental damage is avoided.

Sustainability is the action oriented variant sustainable development. There are some principles of sustainability which include the following: protecting nature, thinking long term, recognizing limit.

9.2.1. Water resources

If we talk about water resources, we know that inland fresh water accounts for only 3% of the earth's water and 90% of it are present in frozen form. Thus, international and transboundary waters are indeed important in supporting human life and livelihood activities that are associated with these waters.

Equitable and reasonable utilization requires interrogation of two related doctrines; territorial sovereignty and territorial integrity. Territorial sovereignty holds the state which has full right to use water in unlimited quantity and can affects the quality of water. Article 2(2)(c) of water convention, however includes among the appropriate measures that are taken in order to prevent, control and reduce impact measures. Although in terms of adverse effects, this convention defines transboundary impact on the environment.

"Equitable" utilization does not surely mean an equal portion of the resource or equal share of uses and benefits. The practice of equitable and reasonable utilization in a particular watercourse will not prohibit a use that causes damage unless it exceeds the limits of the using State's equitable share of the watercourse. Equitable utilization is governed by the concept of sovereign utilization of the watercourse which require that every near shore or coastal State has a right to the utilization of the watercourse which is qualitatively equal to the rights of the non-coastal. Although, this must not be mistaken for the right to an equal share of the uses and benefits; nor does it imply that the water itself has to be divided into equal shares.

As you know that, natural resources are limited. For example, the existing water sources are being subjected to heavy pollution. Global climatic changes are converting the quality of fresh water sources as a consequence of unknown effects on the hydrological cycle.

It is very essential to sustain the natural resources. We should conserve natural resources so that it may yield sustainable benefit to the present generation while maintaining its potential to meet the needs of the future generation. There are three specific objectives to conserve living resources: firstly, to make sure that any utilization

of the ecosystem is sustainable; Secondly to preserve biodiversity and thirdly to maintain essential ecological processes.

As a matter of fact, sustainable development is implying economic growth together with the protection of environmental quality, each reinforces the other. Sustainable development, thus, is maintaining the balance between the human needs to improve lifestyles and feeling of well- being on one hand, preserving natural resources and ecosystems, on which our future generations will depend.

A rapid rise in population as well as expansion of industry and agriculture, have increased the demand for water mankind. The use of water has increased 4-8 per cent per year from 1950. The rate of consumption of water varies among different countries. Agriculture uses maximum amount of water in the world, which is estimated to about 70 percent of the total consumption. Only about 1.1 percent is used for domestic and municipal supplies and the rest is used by various industries such as pharmaceutical, cement, mining, detergent, textile and leather industries.

9.2.2. Forest resources

Forest resources include forest which is a community predominantly composed of trees, shrubs and any woody vegetation. About one- third of the earth's total land area is covered with the forests and it is a very valuable wealth of a country. It provides three major types of function productive function, protective function and regulative function. As it provides timber, bamboo, food etc. protection against wind, cold, radiation and conservation of soil and water and also regulate the nutrient contents and absorption, storage and release of gases. With these qualities the misuse of these resources is increasing. Humans are cutting forest constructing roads, overgrazing, for mining purposes, for the demand of woods, dams and hydroelectric projects.

A lot of management programmes are running by government, which are based on two principles:

(i). Sustainable supply of tree products and services to people and industry.

(ii). Maintenance of long term ecological balance through protection, restoration and conservation of forest cover.

Following measures to be taken to conserve forests;

(i). If one tree is removed from the forest then it should be replaced by a new one.

(ii). Afforestation should be done in areas unfit for agriculture, along highways and rivers around playgrounds and parks. A special programme for trees plantation called Van Mahotsav is held in the months of August and February, every year in our country.

(iii). Modern methods of forest management should be adopted. These include use of irrigation, fertilizers, bacterial and mycorhizal inoculation, disease and pest management, control of weeds, breeding of elite trees and tissue culture techniques.

(iv). Pest and diseases of forest trees should be controlled by fumigation and aerial spray of fungicides and through biological method of pest control.

9.2.3. Mineral resources

Minerals are exhaustible, non – renewable resources found in the earth's crust. These are essential for our industries and daily life. Due to rapid increase in industries, the consumption of minerals has increased tremendously all over the world. Many minerals like silver, copper, mercury, tungsten, etc. are now in short supply and likely to be exhausted within next 20 to 100 years.

The limited stock of minerals once exhausted will not be regained; therefore, the consumption of these minerals needs immediate attention. Following measures can be taken to conserve the mineral resources:

(i). Recycling; in recycling used and discarded items are collected, re-melted and reprocessed into new products e.g., gold, silver, led, nickel, steel, etc.

(ii). Reuse; certain items can be collected and can be used over again e.g. reuse of glass bottles.

(iii). Substitution; the use of scarce minerals can be substituted with more abundant minerals keeping in mind the environmental implications.

(iv). Decreased consumption; to maintain the extended supply of minerals for a longer time, consumers must decrease their mineral consumption by becoming a low waste society.

(v). Use of waste; the manufacturing industries may use the waste products of one manufacturing process as the raw materials for another society.

9.2.4. Food resources

World's population is growing every year and so the demand of food is also increasing continuously. However, world's food population has increased almost three to four

times in past 50 years, but at the same time rapid population growth especially in less developed countries has surpasses the food production. About 45 billion people die every year due to undernourishment and malnourishment. And out of which 50 percent are growing children between the ages of 1 to 14years.

According to an estimate about 300 million people in India are undernourished. Large population- inspite of green revolution it could not meet the needs of growing population. Farmers cannot afford pesticides and fertilizers. The principle cause for food shortages in India is wanted to improve methods for cultivation through science and technology, poverty and lack of purchasing power, excessive growth of population, lack of cold storage facility, wastage of food for ignorance of preserving method, wastage of food in wrong process of cooking.

9.2.5. Land resources

Land is a major constituent of one of the life supporting system- the lithosphere. It almost covers one-fifth part of the earth surface, which is largely covered with natural forests, grasslands, wetlands (these are the low lying areas with shallow water or transitional place between terrestrial and aquatic areas), agricultural land and urban and rural settlements. These land areas are the important source of many essential materials to man and other organism.

The fertile surface layer is capable of supporting the plant life is called soil. Plants obtain their water and nutrient through the soil. Plants decay materials are also released into the nutrient bank in the soil. Soil is the home to many useful microorganisms. Soil is the most important resource and it takes many years to renew that's why it is considered as non- renewable resource. A number of factors are responsible for the degradation of land. These factors include soil erosion, water logging, salination, shifting cultivation and desertification and these all are happening due to overutilization of land resources.

To control these ecologists have provided many methods to conserve our soil:

(i). Conservational tillage; it is a method in which incorporation of residues from previous crops into the soil by ploughing is called conservational tillage. It helps in improving the soil permeability and increases the organic matter, which in turn improve the soil moisture and nutrients as well.

(ii). **Organic farming;** it is a practice which provides increased organic input to the soil. It has long term beneficial effects on the soil. Use of bio fertilizers is an important practice of organic farming.

(iii). **Crop rotation**; it is a practice of growing different crops (generally legumes after cereal crops) in successive years on the same piece of land.

(iv). **Contour ploughing**; it is an old method useful in the areas with the low rainfall in the preparation of the field with alternate furrows and ridges. In this process water is retained and held in furrows and stored, which helps in reducing runoff and erosion.

(v). **Terrace farming**; a slope is divided into small flat fields called terraces. These terraces slow down the velocity of run-off and allow the water to move to the sides of the fields, where it flows away without eroding the soil.

(vi). **Agrostological methods**; in this method grasses are grown to check soil erosion. The grasses act as soil binders or stabilizers. The grasses are grown either in rotation or along with agricultural crops or they are grown on such lands, where major portion of the top soil has been eroded, these grasses prevent erosion and also improve soil permeability.

(vii). **Strip cropping**; it involves planting of crop in rows or strips to check flow of water. It may be contour strip cropping (strip planted along contour at 90° to the direction of slope), field strip cropping (strip planted parallel to each other) or wind strip cropping (strip planted in straight parallel rows at 90° to the direction of prevailing wind).

9.3 Equity disparity in north and south countries

Generally, Northern countries include Australia, Canada, most of the Western European countries, Israel, Japan, New Zealand, Singapore, South Korea, Taiwan (ROC) and the United States. On the other hand, Southern countries of Africa, Latin America and the Caribbean, Pacific Islands, and the developing countries in Asia, including the Middle East. It is also a home to: Brazil, India and China, which, along with Indonesia and Mexico, are the largest Southern states in terms of land area and population.

Since the early 1990s, almost all developing countries have refused to adopt greenhouse gas emission reduction commitments in the name of fairness. Inequality

and justice have been central issues at every major environmental conference since the 1972 UN Conference on the Human Environment in Stockholm, Sweden: Nairobi in 1982, Rio in 1992, Rio+5 in New York and Johannesburg in 2002.

With only 4 per cent of the world's population, the US is alone responsible for over 20 per cent of all global emissions. While 136 developing countries that together are only responsible for 24 per cent of global emissions (Roberts and Parks, 2007).

The Kyoto Protocol, as it was negotiated in 1997, was based on grandfathering: the notion that countries should reduce their emissions step by step from a baseline year (1990). . The carbon intensity approach, which was introduced by the World Resources Institute and favored by the second Bush administration starting in 2002, calls for voluntary efficiency changes to drive emission reductions.

There is a great variation in the utilization of natural resources among different countries. The more developed countries (MDC's) represent only 22 percent of world's population, but consume about 80 per cent of the global energy. MDCs include USA, Canada, Japan, Australia, New Zealand and Western European countries. On the other hand less developed countries (LDC's) represents 78 percent of the world's population and use only about 12 percent of natural resources and energy lavishly, while in less developed countries majority of people cannot even meet their minimum requirement of natural resources and energy needs.

With horrifying growth in the rich countries of the world, that is, the North, it seems doubtful that they can continue to serve as a growing market for the products of the relatively poorer countries of the world, that is, the South, as it has done in the past. In the words of W. Arthur Lewis (1980), it does not seem that the North can continue being an engine of growth for the South, at least in the near future.

Fifteen years ago, the Report on the World Social Situation 2005 warned that growing inequality could risk the accomplishment of internationally agreed development goals. The report noted that the world was at a crossroads. If the vision of a shared future was to be carried forward, world leaders had to grab every opportunity to take bold and decisive action to reduce inequality (United Nations, 2005). Inequality has since moved in the front line of the policy debate. "Leave no one behind" is the rallying cry of the 2030 Agenda for Sustainable Development. Precisely, Powerful economic, social and environmental forces are affecting inequality. The inferences of these global forces – or

megatrends – are broad and varied. Some can help equalize opportunities, while others are exerting mounting pressure on income inequality, mainly through their effect on labour markets.

9.4 Urban and rural equity

The rich or more developed countries are contributing more to pollution and threatening the sustainability of life supporting systems of the earth. The poor or less developed countries, on the other hand, are struggling hard with their large population and poverty problems. The rich have grown richer and poor have stayed poor or gone even poorer. This needs equal distribution of resources especially the basic requirements like drinking water, food, fuel etc. so that the people in less developed countries are at least able to sustain their life. The problems of less developed countries like pollution, unhygienic conditions, diseases, etc, can be brought under control only with the help of more developed countries. The rich countries should have to reduce utilization of natural resources and much of the resources must be diverted to the poor countries. This will narrow down the gap between more developed countries and less developed countries and will lead to sustainable development of the entire world.

Environmental destruction is largely caused by the consumption of the rich. The worst sufferers for resources or environmental destruction are the poor. Rural community is somewhere supplying the needs of the urban sector. Many of the villages land is being taken by the industrial and urban sectors to expand.

In present time, urban- rural development has been regarded as one of the key pillars in driving regenerative development that includes economic, social and environmental balance. A growth of urban areas is taking place in many countries at the expense of rural areas, which are increasingly lagging behind urban areas socially, economically and environmentally.

As we all know, India is the largest democracy with harmonious economic growth rate since independence. India is also third largest scientific and technological workforce. In agriculture field India produces sugar, groundnut, tea, fruits, rice, wheat, vegetables and milk in a large scale. With regard to demographic profile more than 720 billion i.e. one third of its population live in rural areas. Despite these developments, there is a wide gap between rural and urban India with respect to technology, living condition,

economic empowerment, etc. Many in rural India lack access to education, nutrition, health care, sanitation, land and other assets and they are trapped into poverty.

Urbanization is a strong transformative force which is reshaping the world's urban and rural landscapes and bringing success to many urban regions. Although, urbanization forces have also led to various challenges and opened up new forms of inequality, unsustainability, polarization and divergence in development and incomes between urban and rural areas. Degradation of natural resources has a direct negative impact on the livelihoods of the poor people.

9.5 Role of individual in conserving the natural resources

Conservation of resources means the management of the use of resources by human so that it may give maximum benefit to present generation, whilst maintaining its potential to meet the requirements of the future generations. Environment belongs to each one of us and it's our duty to contribute towards its conservation and protection. As an individual you can contribute in conservation of natural resources in the following way:

Conservation of water

(i). Continuous running of water taps should be avoided while brushing your teeth, shaving, bathing or washing.
(ii). Rain water harvesting system should be installed in the house for the future use.
(iii). Water leakage in pipes and toilets if any, should be repaired promptly.
(iv). Drip irrigation and sprinkling may be practiced to improve irrigation efficiency and reduce evaporation.
(v). Water of washing from clothes may be used for washing off courtyards driveways etc.

Conservation of energy

(i). Solar cooker can be used for cooking during sunny days to cut down LPG consumption.
(ii). Make a habit of switching off lights, fans and other applications when not in use.
(iii). Build your house with the provision for sunspace to keep the house well lit and to save electricity.

(iv). Trees like deciduous trees can be grown outside the house to cut off intense heat during summers and to get cool breezes. The trees shed off their leaves in winter and provide adequate sunlight and heat. It will reduce the consumption of electricity on coolers during summer and heat convectors during winter.

(v). One can save fuels like petrol or diesel by using public transports or by doing carpooling.

Conservation of soil

(i). Don't throw vegetable peelings and kitchen wastes and make compost from the same to use it in kitchen garden or flower pots.

(ii). Green manure and mulch may be used in the fields to maintain soil fertility and protection of the soil against erosion.

(iii). Avoid over irrigation of agricultural fields to prevent water logging and salination.

(iv). Use sprinkling irrigation to prevent washing off the soil.

(v). Crop residues should be incorporated in the soil by ploughing instead of burning it in the field.

9.6. Role of government in conserving the natural resources.

Natural resource management is a very important thing that should be done by the community for their survival. Indeed rising demand and poor management of water resources have resulted in increased water scarcity in India.

After years of failing to protect the forests through elimination of people from forest lands, the government has acknowledged that involving of people in forest protection and management is the only way forward. Joint Forest Management (JFM), which entitles villagers to certain rights to forest produce instead of protection, is the main policy and strategy through which local people's participation is noticed.

The government of India has taken many initiatives to conserve natural resources:

- Regulations and reforms for proper housing and infrastructure developments to avoid land acquisition problems.
- Mass media public service messages to educate the people on the importance of conservation of resources.
- Increase the wildlife and forest reserves in the country.

- Schemes to do proper inventory of the resources and monitor changes in the environment.
- Various projects and schemes that promote conservation of resources.
- Many laws and act have been passed in Indian constitution for the protection and conservation of various natural resources such as Environmental Protection Act (1986), Forest Conservation Act (1980), Chipko Movement (1988) and many more.

Terminal question

1. Tick the correct answer

1. The dependency on natural resources has increased by _____ times in the past decades.
   (a) 20 (c) 30
   (b) 50 (d) 40
2. The commission on environment and development defined sustainable development in its report named as:
   (a) Our present future (c) our common future
   (b) Our interesting future (d) none of these
3. Sustainable consumption is related to_____.
   (a) Production (c) destruction
   (b) Distribution (d) both a & b
4. The inland water accounts for how much percent of earth's water_____.
   (a) Only 2% (c) only 3%
   (b) Only 1% (d) only 6%
5. Which one of the following is the northern country?
   (a) Canada (c) Africa
   (b) China (d) India
6. Sustainable development meets with the needs of _____.
   (a) Present (c) past
   (b) Future (d) none of the above
7. Special programme for tree plantation is called _____.
   (a) Joint forest management (c) Van Mahostav
   (b) Afforestation (d) Deforestation
8. Stockholm conference was held in which year _____.
   (a) 1972 (c) 1992
   (b) 1974 (d) 1996
9. The Kyoto protocol was held in which year _____.
   (a) 1992 (c) 1993
   (b) 1995 (d) 1997

10. Environmental protection act was enacted in which year _____.
    (a) 1998 (c) 1994
    (b) 1986 (d) 1980

2. Short answer type questions

(a) What do you understand with the term sustainable development?
(b) What is the importance of natural resources in our life?
(c) How can we manage and conserve forest resources?
(d) Write about the roles of individual in conserving our natural resource.
(e) What steps are taken by our government to conserve natural resources?
(f) What is the role of MDCs and LDCs in the utilization of resources?
(g) What are the techniques given by the ecologist to conserve the soil?
(h) Write a short note on mineral resources. How can you conserve them?
(i) How a rapid increase in population becoming a problem for degradation of resources? Explain.
(j) What do you understand with the term equitable utilization?

3. Long answer type questions

a) Write a short note on sustainable development?
b) What are the needs of natural resources in human life? Explain.
c) How can you describe the term equity disparity in north and south countries?
d) Write a short note on urban and rural equity.
e) "Equitable utilization of resources for sustainable lifestyles". Illustrate it with your answer.

Answers of Terminal question

1. Tick the correct answer

1(b), 2(c), 3(d), 4(c), 5(a),6(a), 7(c), 8(a), 9(d),10(b)

Unit 10: The Gender Equity: The Concept; Role of Gender; Issues of Neglect/Misinterpretation

Unit Structure

10.0 Learning objectives

After studying this unit you will be able to understand:

- Meaning of gender equity
- What are concepts of gender equity?
- What are benefits of gender equity?
- What is role of gender equity in environmental protection?
- What are the issues related to gender inequity?
- About renowned women who has worked for environmental protection.

10.1 Introduction

There are commonly two genders in human society one is men and other is women. Both the genders are main components of the human society. Without any one gender we cannot imagine further generation. Gender is slightly different from sex; sex is categorized as male and female. Gender is social and cultural definition of men and women. If we say that women give birth to babies and men don't, it means we talk about the particular sex. But if we say the girls are gentle and boys are rough, it means we are talking about the gender. This sentence shows the gender characteristics. We can also understand the gender by the following sentence.

- In England, most truck drivers are men.
- Most of the women of hilly regions are hard-worker.
- As per UN data, women do 67% of the total work at global level.

In society it is experienced that men are dominating over women and sometimes women feel partial behavior. Partial behavior may be seen in offices, institutions, factories, companies etc. This behavior is comparably in higher percentage in Indian subcontinent as compared to western culture. This attitude and system certainly degrade the social life in community. Gender inequity is one of the major issues in society. It is felt that human societies also believe that boys are more responsible as compared to girls. It is also noticed that most of the companies, organizations, industries etc. believe that men can do their work perfectly as compared to women. This unscientific thinking seriously suppresses the talent of women in country which consequently reduce the economic growth of Nation. When any child takes birth, he or she doesn't have any **gender**. We must know that Gender is social term and society is responsible for the formation of genders. We should also know that both the genders are equally important for the development of country and they should have equal rights, equal facilities and equal jobs. Government of India and other nations take various initiatives to promote the men and women equally. In Indian constitution both the genders have equal rights. Indian constitution also tells that "no partiality should acceptable on the basis of gender". Gender equity is need of hour, because it is socially, economically and ecologically very important. In this unit you will learn about the concept, role of gender and issues related to gender inequity.

10.2 Concept of gender equity and environment

The gender equity refers to "Justice of treatment for both the gender viz male and female, according to their individual needs. According to International Labour Office gender equity is equal in terms of rights, benefits, responsibilities and opportunities for both the genders. Gender is related to the social attributes and opportunities connected with male and female. According to United Nations gender equity refers to equal rights and opportunities of men, women, girls and boys. Gender inequity is not only an issue of women but it may be issue of men. You have now learnt about the gender. You know that environment is total surroundings of an organism. Environment is made up of air, water, soil, plants, animals, microbes etc. It is experienced that

environment of the world is degrading day by day due to manmade activities. Global warming, environmental pollution, ozone layer depletion, green house effects and deforestation, etc. are major environmental problems. Changes in environmental attributes create an immediate risk to the people. Men and women are directly related to environment. Gender plays a important role in the differing impacts on men and women. Gender not only determines men and women's ability to deal with climate change but fundamental structural inequities can also mean that those changes have an uneven impact on women. Men and women both are important in protection, preservation and conservation of environment.

Gender equity is certainly a driver of sustainable development. As you know sustainable development is sustain in the natural resources for upcoming generations. Due to lack of sustainability whole world feel unsecure. As you know both genders have knowledge and skills that are vital to finding solutions to present environmental problems. These environmental problems may be global warming, climate change, biodiversity degradation, environmental pollution, unbiased policies on both the genders offer the opportunity for their views, experiences and ideas to be included in sustainable development schemes. Women and men both are equally important change of agents in attaining objectives of sustainable development.

Role of United Nations Environment Program (UNEP) in gender equity is very important. United Nations entity charged with responsibility for environmental issues, United Nations Environment Program has a central role to play in promoting gender equity in the area of sustainable environmental development. United Nations Environment Program envisages a world in which people are understood to be at the centre of sustainable development that is just, equitable and inclusive, and where sustained and inclusive economic growth, social development and environmental protection are attained. It is now realized that woman play various roles in conservation of environment. United Nations Environment Program actions to promote gender equity and women empowerment to make sure their full and efficient contribution in sustainable development policy and decision making at all levels.

10.2.1 Need of gender equity

There are various reasons for gender equity, some of the important reasons are summarized in fig. 1 and also discussed below:

Both the genders are greatly influenced by their surroundings. There is urgent need of gender equity because we can't depend on one gender to conserve the environment. If we depend on one gender for environmental protection there will be huge degradation in the ambient environment. We should know that both the genders have equal ideas, skill, and decision making capacity. It is not necessary that one gender has better skills as compared to other gender. Women and men both have ideas about the environmental conservation. Many renowned women of world have worked for environmental protection. We cannot ignore the contribution of women in society. It is earlier mentioned that women are more close to nature as compared to men. They may have better ideas regarding to protect, preserve and conserve the environment. The scientist of India and Nepal also observed that when women participated in forest management, it may lead into to batter forest conservation. Involvement of both the genders is vital for environmental conservation, therefore gender equity is needed. It is found that there is a correlation between environment and gender and it is experienced that when gender inequality is high, deforestation, environmental pollution and other factors of environmental degradation are also high. But effectively engaging women is not just about avoiding negative impacts. Women are active agents of conservation and restoration of natural resources, as their care giving responsibilities and livelihood activities are also highly depend on these resources. For example, in three-quarters of households without drinkable water, women are responsible for storing it.

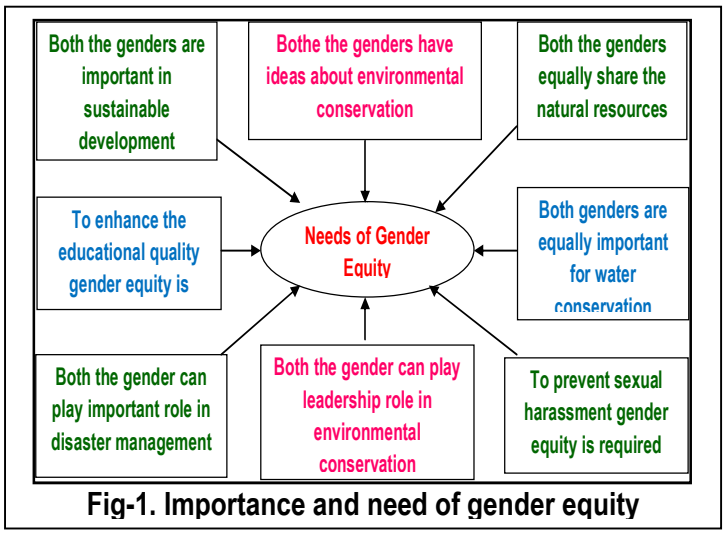

Fig-1. Importance and need of gender equity

There are so many examples from all over the world on how women are taking responsibilities for developing water harvesting, managing disaster risk reduction, minimizing pollution impacts and that reduce the footprint of households and communities. It is also found that gender inequities lead into environmental challenges and have different impacts. As women characterizes two thirds of the poor in the

region, their economic insecurity is part of a cycle of disadvantages, often caused by discrimination in employment and land ownership along with limited access to resources. Gender inequities are also becoming more obvious due to rapid urbanization, the region's high vulnerability to climate change and disasters as well as environmental challenges like environmental pollution and other natural depletion.

There is urgent need of gender equity in society due to following reasons.

(i) If we maintain gender equity we can educate both the genders equally. As you know educated men and women both can conserve our natural resources such as forest, aquatic, land, mineral, food, energy sources etc.

(ii) If we involve both the gender in conservation of environment we can find better results.

(iii) For the sustainable development gender equity is important.

(iv) To prevent the sexual harassment specially in rural areas, we must require gender equity.

(v) To prevent environmental pollution at various levels we require gender equity.

(vi) Because of their socially constructed roles and pre-existing inequalities, women are more vulnerable to the impacts of environmental and natural disasters such as drought, floods and cyclones than men. Gender equity provides better remedial measures during natural disaster.

(vii) Women are extremely susceptible to sexual abuse and other forms of brutality and risk of sexual harassment increases at times of disaster. To avoid this situation gender equity is needed.

10.2.2 Role of Genders in Environmental Protection

There are various roles of genders in environmental protection. Some of the important roles are summarized in Fig-2 and also discussed below:

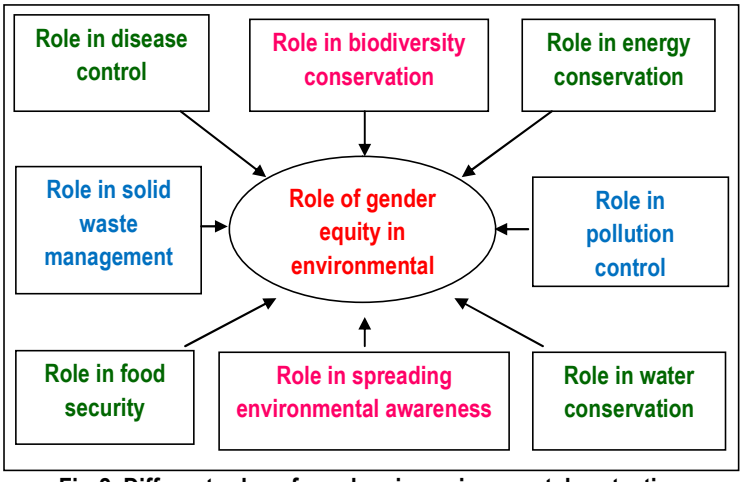

Fig-2. Different roles of genders in environmental protection

(i) **Role in pollution control:** As you know that pollution is any undesirable change in physical, chemical and biological properties of environment. It is well known that both the genders are directly influenced by the environmental factors. Both genders viz. men and women play important role in pollution control. Women are closely allied to nature as compared to men. Women can control indoor air pollution, water pollution etc. It is also important to know that women of India do more work in the agricultural field. It is also recognized that insecticides and pesticides are now become environmental hazards. Both the gender can minimize the harmful impacts of insecticides and pesticides by using biopesticides and biofertlizers. If we can educate both the genders and inculcate the environmental awareness in both genders we can control environmental pollution. Women are axis of a family and women can manage the water pollution within the house.

(ii) **Role in diseases control:** As you know that most of the diseases are spread due to unhygienic condition. A healthy environment keeps you away from various diseases. Several diseases such as cholera, typhoid, malaria, dengue etc. are happened due to unhygienic environment. Both the genders in society can control these diseases significantly. In society, men and women both can play significant role in awareness regarding to epidemic diseases. In this way little bit awareness about the environment can save million of life. Government of India is also running various programs related to epidemiology. Women are closely related to social life and can control these life threatening diseases.

(iii) **Role in biodiversity conservation:** Biodiversity is variety and variability among the species. Habitat destruction, poaching, hunting, pollution, introduction of invasive species etc. are main threats to biodiversity. It is experienced that women are more close to nature as compared to men. India is country of villages and biodiversity is an integral part of the villages. Women can conserve the biodiversity by conserving forest, aquatic bodies etc. Sacred grooves are also reservoir of biodiversity and women generally pray at these sacred grooves. Women may inculcate the knowledge about importance of biodiversity among younger generation. These little things can save thousands of species in particular area. Deforestation is also responsible for biodiversity degradation. Women can save the forest in village areas. Women of villages

live in eco-sensitive areas and they can conserve forest in general and biodiversity in particular.

(iv) **Role in Energy conservation:** As you know the simple meaning of energy is capacity to do work. Today, whole world is looking for energy conservation techniques. India is also working on that aspect. Alternative sources of energy such as solar power, wind power, tidal power etc. are other options which reduce the burden on traditional sources of energy. Both the gender in society used various electrical appliances and can manage the energy consumption at their home. Women used washing machine, electric oven and other electric equipments. Women can save energy by using appropriate electric appliances at their home. Energy also can be saved by switch off the unused bulbs, equipments, etc.

(v) **Role in Solid waste management:** Solid waste is anything which is not in use. Mismanagement of solid waste may leads into diseases, air pollution, water pollution, land pollution. After burning it causes air pollution. Both genders can manage the solid waste in their house, society, colony and state. Women can reduce the solid waste by avoiding use of plastic and polythene. Generally, women specially housewives can make a great difference in solid waste management. They can segregate biodegradable and non-biodegradable waste in separate bins. Therefore, there is huge role of both the genders in solid waste management.

(vi) **Role in Water conservation:** Water is one of the most precious gifts of nature to human kind. In urban and rural area both the genders can conserve the water resource. The water resource can be conserved by avoiding water loss during washing the clothes, agricultural practices etc.

(vii) **Role in spreading environmental awareness:** It is one of the most important aspects of environmental conservation. Both the genders can play important role in spread mass awareness regarding environmental awareness. Women and men can spread environmental awareness by campaigning, meetings, conferences, seminar etc. In many villages of India women are key social persons therefore, they can spread environmental awareness among villagers.

(viii) Role in food security: In present time whole world is facing food scarcity. Most of the women cooked the food in their houses. Women can play very important role in food conservation.

10.2.3 Benefits of gender equity

There are many benefits of gender equity which are summarized in Fig-3 and also discussed below:

(i) Better environmental awareness: As you know that environmental awareness is one of the major steps in environmental conservation. Both the genders are close to society and can play vital role in spread mass awareness about the environmental conservations. Many villages have their own *Mahila Mangal Dal* in which women do meeting regarding the developmental activities in and around the village. The women and men both can aware the villagers or stakeholders of area to protect, conserve and preserve the environment.

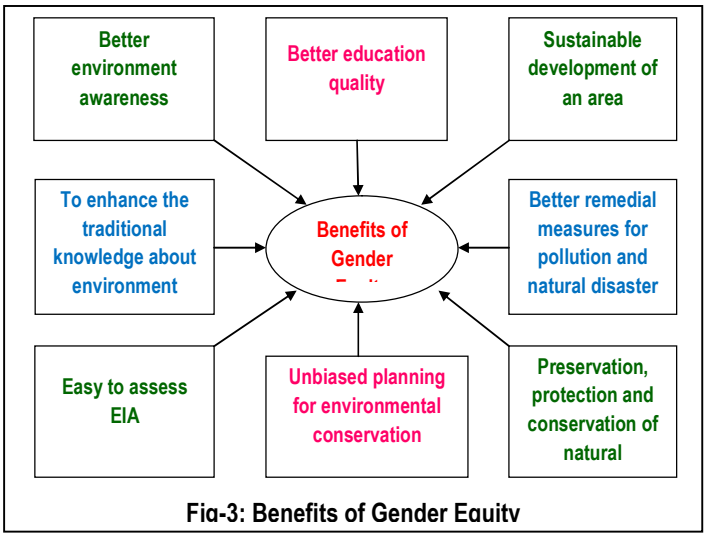

Fig-3: Benefits of Gender Equity

(ii) Better educational quality: It is one of the most important benefits of gender equity. We see the people who don't take much interest in women education. This situation is worse in remote area. Gender equity provides better education to both the genders. As you know both the genders have equal educational right, but unfortunately it is observed that some people do not think about women education. It is well known that without education women cannot express their ideas, knowledge, and thoughts at local and global forum.

(iii) Better remedial measure for pollution and disasters: Gender equity also provides us better remedial measures for environmental pollution and disaster. Both the environmental issues viz. pollution and disaster cause huge harm to the

society. Women and men both are affected due to pollution and disaster. Gender equity minimizes the impacts of pollution and disasters.

(iv) **To enhance traditional knowledge about environment:** In present time it is also noticed that modern educational system only emphasized on jobs and employment. Traditional values are degrading very fast than ever. Gender equity provides us traditional knowledge regarding to environment. Both the genders have tremendous knowledge of traditional system and their ideas, customs; ethics can minimize the burden on environment. You will learn the details of traditional value in Unit-11 of this course.

(v) **Easy to assess Environmental Impact Assessment:** Environmental impact assessment is assessment of any project to identify the possible impacts and remedial measure. Public hearing is one of the important aspects of the EIA. Gender equity provides us all the ideas of women and men regarding to project. Sometimes it is experienced that women cannot express their feeling in the meeting. Gender equity provides platform to both the genders to express their idea, customs, feeling etc.

(vi) **Sustainable development of an area:** Rapid urbanization and industrialization is certainly responsible for environmental degradation. Therefore, sustainable development is need of hour. Both the genders of the society are equally important in sustainable development. Without gender equity we cannot achieve the objectives of sustainable development. It is also observed that lack of sustainable development is directly proportional to gender inequity.

(vii) **Preservation, protection and conservation of natural resources:** Gender equity is also important in preservation of environment. Both the genders can play important role in conservation of biodiversity, natural resources etc. It is also experienced that women are preserving more forest, plants and trees as compared to men.

(viii) **Unbiased planning for environmental conservation:** Gender equity also provides unbiased planning for environmental conservation. If we maintain the gender equity, then both the genders can express their ideas, what they feel about the environment, biodiversity and their surroundings. We cannot ignore the ideas of any one gender during the plan.

10.2.4 Issues related to gender inequity

There are various issues related to gender inequity specially in Indian subcontinent. Some of the important issues related to gender equity are summarized in Fig-4 and also discussed below:

(i) Unequal pay: In present educational system women have more bachelor's degrees, master's degrees, and doctorate degrees as compared to men. But when we talk about the salary, in some cases we found that women are getting much less money as compared to other. Beside the government job and some reputed companies women are paid much less salary as compared to men. However, Government of India has taken very initiative to promote the women at various levels.

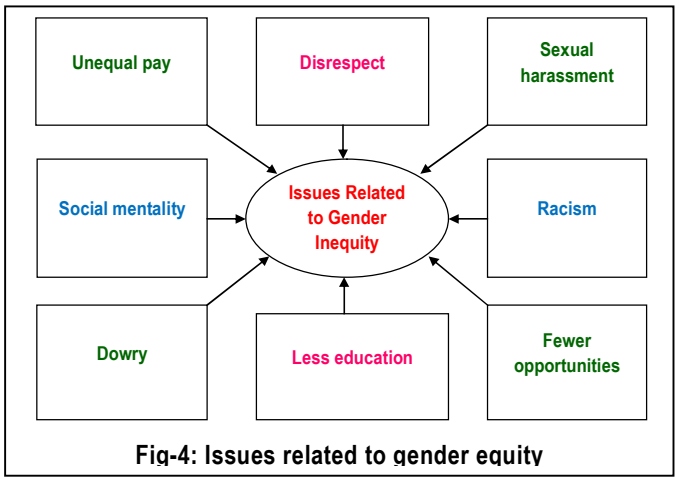

Fig-4: Issues related to gender equity

(ii) Sexual harassment: It is one of the worst issues of the gender inequity. Many women face sexual harassment in companies, institutions, factories. In one survey it was found that 38% of women have experienced sexual harassment in their workplace while 81% of women reported that they experienced some form of sexual harassment in their life time. Sexual harassment may include verbal and physical assault. The issue of sexual harassment is comparably higher in remote area. Many women are worked on restaurant, companies, factories, institutions. Therefore, issue of sexual harassment must be prohibited at all levels.

(iii) Racism: In which one community show they are superior to other is called racism. Racism is not restricted to colour, money, prosperity but it is also based on gender. Sometimes men show they are superior to women. In the workplace race seems to play a huge role in how women are treated and compensated. The pay a woman receives may vary depending on her race and customs.

(iv) **Women are promoted less often than men:** Sometimes it is feel that women are promoted less as compared to men. Some companies, industries believe that men can work more as compared to women; therefore they promote men in higher positions as compared to women. This type of attitude should be avoided and promotion of individual should be based on skills, work efficiency but not on the gender basis. In spite of being more educated than men and constituting nearly half of the workforce, women are promoted at work far less frequently than the men.

(v) **Fewer opportunities:** It is also found that many organizations strictly mentioned that they require only male candidate. This type of attitude towards women certainly declines the opportunity to women. As you know that women also have same degree, qualification and they have no lacuna in their documents but they don't have similar opportunities as men have.

(vi) **Less education:** It is also an issue of gender equity. In many parts of world, millions of women could not avail better education. This issue of gender equity is comparably higher in remote area as compared to urban area.

10.2.5 Misinterpretation related to gender equity

There are few misinterpretations related to gender equity some of them are discussed below:

(i) **Gender is only about women**: It is misinterpretation related to gender equity. Gender is regarding ensuring that point of views and needs of the genders viz., men and women are taken into consideration. It is factual that women have historically been left out of decision-making.

(ii) **Gender is always about vulnerability:** It is also gender misinterpretation. Women are leaders in managing natural resources and have valuable knowledge and skills, which can inform and benefit adaptation approaches. Providing them with a voice can strengthen disaster and climate risk reduction approaches as well as reduce gender inequalities.

(iii) **Taking a gender-responsive approach is complicated, costly and takes time**: This could not be further from the truth. Every decision that is made when designing and implementing interventions already considers local dynamics, which include gender - whether explicit or not.

10.2.6 Renowned women of India and World who has worked for environmental conservation

There are various women who has worked for environmental conservation at national and internation levels. Some of them are discussed here:

(i) **Amrita Devi:** Amrita Devi is probably first women of India who tried to protect the plant about 300 year ago in the state Rajasthan. She belonged to Bishnoi community and sacrificed her life with her three daughters in protest. Amrita Devi protested to the felling of trees (Khejri tree scientifically known as Prosopis cineraria) for building a palace for the King of Jodhpur, Rajasthan. She died in the attempt, which was followed by large-scale protests by the local villagers. In the memory of Amrita Devi, Government of India felicitated people for remarkable contribution in the field of wildlife protection. During the protest 363 Bishnois sacrificed their life.

(ii) **Gaura Devi:** Gaura Devi was born in the year 1925 in the state Uttarakhand who organized the women to hug the tress and prevent deforestation. Gaura Devi was the head of the mahila Mangal Dal of Reni village. Gaura Devi led 27 women and the protest became famous Chipko movement.

(iii) **Medha Patkar:** Medha Patkar is popular environmentalist and known for her great contribution in Narmada Bachao Andolan (NBA). NBA a powerful mass movement against the construction of a large hydropower project on the Narmada River. The proposed Sardar Sarovar Dam would have displaced more than 3 lakh individuals. It was assumed that foreign funds were being used to obstruct rehabilitation. Medha Patkar was also concerned that the people living there had no idea about the project. Medha Patkar formed the Narmada Bachao Andolan in 1989 and she took up fasting many times against the hydro-power construction. She spread mass awareness among the people regarding harmful impacts of the proposed hydropower project.

(iv) **Sugatha Kumari:** Sugathakumari is a poet and environmentalist and she have dedicated most of her poem to Nature. She has been known for at the Silent Valley Movement in the south state Kerala. Sugatha kumari was born on 22nd January, 1934 in Aranmula, Kerala. She wrote several poems related to beauty of nature, her poem Marathinu stuthi become a symbol of Save Silent Valley. Save

Silent valley was a social movement aimed at protection of silent valley in the Palakkad District of Kerala. As you know that silent valley is home to several species including lion tailed macaque. The contribution of Sugatha kumari for silent valley is unforgettable. She spread mass environmental awareness through her heart touching poems.

(v) **Sunita Narain:** Sunaita Narain presently is the Director General of Centre for Science and Environment (CSE), and publisher of Down to Earth. After the loss of tigers in Sariska, Sunaita Narain chaired the Tiger Task Force for conservation in the year 2005. Sunaita Narain is an active member of the Council for Climate Change and National Ganga River Basin Authority. In the years 2005, 2008 and 2009 her name was on the 100 public intellectuals list by US Journal Foreign Policy. Sunaita Narain has been awarded by the Padma Shri award by government of India. Her research area is on climate change and forest resource management and water related issues.

(vi) **Maneka Gandhi:** Maneka Gandhi was wife of the famous Indian politician, Sanjay Gandhi. Maneka Gandhi is known as animal lover and environmentalist. In 1994, she founded People for Animals, the largest organization for animal welfare in country. She believed in ahimsa (non-violence) and the fact that India was in need of a movement to protect the animals.

(vii) **Vandana Shiva:** Vandana is an environmentalist and well known for her popular efforts to protect forests, organize women's networks, and protect biological diversity. A physicist and philosopher of science, she has authored books such as Monocultures of the Mind, Women, Ecology and Development, Biopiracy and Soil Not Oil etc. Shiva is the director of the Research Foundation for Science, Technology, and Natural Resource Policy in Dehradun. She was felicitated by Right Livelihood Award in the year 1993.

(viii) **Radha Bhatt:** Radha bhatt is associated with Nadi Bachao Abhiyan to be in opposition to the building of a chain of hydropower projects on rivers specially in Uttarakhand state. As you know that constructions of hydropower project not only prevent the ecological flow of the river but have other negative consequences such as deforestation, water logging, rehabilitation of people, prevent fish migration etc. Radha Bhatt led 2000 km march to aware the people about the water rights.

Women around the world play a key role in the protection of environment some of them are discussed below:

(i) **Rachel Carson:** Rachel Carson was a scientist, writer, and ecologist. She is known for her famous book "Silent Spring" which described the use of synthetic pesticides, specifically DDT. This book contains the various impacts of the industrial revolution on the environment.

(ii) **Wangari Maathai:** Wangari Maathai worked tirelessly for land conservation and rights of women. She is the founder of the Green Belt movement in her native country is Kenya. In addition to being honoured by many world leaders for her efforts, she was awarded the Nobel Peace Prize in 2004 for her approach to sustainable development, democracy and peace.

(iii) **Isatou Ceesay:** Isatou Ceesay known as "Queen of Recycling," who started the recycling movement called One Plastic Bag in the Gambia. Her works to educate citizens about recycling and reducing the amount of waste that is generated. She founded a project that creates plastic yarn and forms bags out of the up cycled waste. Her work dramatically reduced the amount of waste in her village and also employing hundreds of West African women and providing them with monthly income.

(iv) **May Boeve:** May Boeve is co-founder of the website viz. 350.org. It is a organization dedicated to working against climate change by connecting leaders across the globe. The aim of the organization is to reduce the levels of CO2 in the atmosphere to a point where global warming will not be as dangerous as predicted. As you know that CO2 is main contributor of global warming.

(v) **Marina Silva:** Marina Silva is a fighter for the Amazon Rainforest in Brazil. She led demonstrations in the 1980s to protect the rainforest from government power with Mendes. After Mendes' assassination, Silva became a politician and fought for environmental conservation, preservation and its protection. She has also worked on sustainable development, and social justice. During her political career from 2004 to 2007deforestation decreased by 59%.

Summary

In this unit we have discussed various aspects of gender equity. So far you have learnt that:

- There are commonly two genders in human society one is men and other is women. They both are main components of the human society. Without any one gender we cannot imagine further generation. Gender is little bit different from sex; sex is categorized as male and female.

- The gender equity refers to "Justice of treatment for both the gender viz male and female, according to their individual needs. According to International Labour Office gender equity is equal in terms of rights, benefits, responsibilities and opportunities for both the genders. Gender is related to the social attributes and opportunities connected with male and female.

- Role of United Nations Environment Program (UNEP) in Gender equity is very important. United Nations entity charged with responsibility for environmental issues, United Nations Environment Program has a central role to play in promoting gender equity in the area of sustainable environmental development.

- There are various reasons for gender equity, some of the important reasons of gender equity are because both genders are important in sustainable development, both genders have ideas about environmental conservation, both genders are equally share the natural resources, it is important in improve educational quality, both genders can play important role in disaster management, both genders play leadership role in environmental planning etc.

- There are various roles of genders in environmental protection. Some of the important roles are pollution control, diseases control, role in biodiversity conservation, in Energy conservation, in solid waste management, in water conservation, in spreading environmental awareness, in food security etc.

- There are many benefits of gender equity such as better environmental awareness, better educational quality, better remedial measure for pollution and disasters, enhance traditional knowledge about environment, easy to assess environmental impact assessment, sustainable development of an area, preservation, protection and conservation of natural resources, unbiased planning for environmental conservation etc.

- There are various issues related to gender inequity which are unequal pay, sexual harassment, racism, women are promoted less often than men, fewer opportunities, less education etc.

- Some women who have worked for environmental conservation at national levels renowed women are Amrita Devi, Gaura Devi, Medha Patkar, Sugathakumari, Sunita Narain, Maneka Gandhi, Vandana Shiva and Radha Bhatt.

- Women around the world play a key role in the protection of environment some of them are Rachel Carson, Wangari Maathai, Isatou Ceesay, May Boeve and Marina Silva

Terminal Questions

1. (a) Fill in the blank spaces with appropriate words.

Both the …….. are greatly influenced by their surroundings. There is urgent need of ……..…… because we can't rely on one gender to …… the environment. If we depend on one gender for environmental protection there will be huge degradation in the ambient environment. We should know that both the genders have equal ideas, skill, and decision making capacity. It is not necessary that one ……. has better skills as compared to other…….. Women and men both have …… about the environmental conservation. Many renowned women of world have worked for environmental protection. We cannot ……..the contribution of women in …….. They may have better ideas regarding to protect, preserve and …….. the environment. The scientist of India and …….also observed that when women participated in forest management, it may lead into to batter forest conservation. Involvement of both the genders is vital for environmental conservation, therefore gender equity is needed.

2. (a) What do you understand by the word "gender"?

(b) Give a note on concepts of gender equity

3. (a) Describe the role of gender in environmental protection.

(b) Describe issues related to gender equity.

4. (a) What are benefits of gender equity?

5. (a) Discuss about misinterpretations related to gender equity.

6. (a) Fill the blank spaces with appropriate words.

Amrita Devi is probably …….women of India who tried to protect the plant about …….. year ago in the state……..... She was belonged to ……..community and sacrificed her life with her three daughters in protest. Amrita Devi protested to the felling of trees (Khejri Tree scientifically known as…….. ……) by for building a palace for the King of……., Rajasthan. She died in the attempt, which was followed by large-scale protests by the local villagers. In the memory of Amrita Devi, Government of India felicitated people for remarkable contribution in the field of …….protection. During the protest ……..Bishnois sacrificed their life.

(b) Gender is? **(**Biological term/Social term/Political term/Educational term**)**

(c) What is role of gender equity? **(**Pollution control /Biodiversity conservation/Solid waste management/All of the above**)**

(d) Sexual harassment, racism and unequal pay are examples of (Gender equity/Gender inequity)

(e) Gaura Devi is associated with (Chipko movement/Bishnoi movement/Appiko movement/Silent valley movement)

(f) Who got Nobel Prize for the sustainable development (Gaura Devi/Amrita Devi/ Wangari Maathai/Sugathakumari)

7. (a). Write about renowned women of India who has worked for environmental conservation.

Answers

1. (a) genders, gender, equity, conserve, gender, gender, ideas, ignore, society, conserve, Nepal

2. (a) see the section 10.1 under heading introduction.

(b) See the section 10.2. under heading gender equity

3. (a) See the section 10.2.2

(b) See the section 10.2.4

4. (a) See the section 10.2.3

5. (a) See the section 10.2.5

6. (a) first, 300, Rajasthan, Bishnoi, *Prosopis, cineraria,* Jodhpur, wildlife, 363

(b) Social term

(c) All of the above

(d) Gender inequity

(e) Chipko movement

(f) Wangari Maathai

7. (a) See the section 10.2.6

Unit 11: Traditional Value System and Environment: Role of Traditional Values; Indian Experiences

Unit Structure

11.0 Learning objectives

After studying this unit you will be able to understand:

- What is tradition and traditional values?
- How traditional values and environment are correlated?
- About role of traditional values in environmental conservation.
- What are Indian experiences?
- What are Indian traditional values regarding to environment

11.1 Introduction.

As you know traditional values are values which passed from generation to generation without verification. Traditional values are very important in growth and development of any area, state and country. Traditional values refer to the values which pass from generations to generations. Such values are the ethics of our heritage, largely based on the Indian traditions, which civilized population and instilled character and maturity. Through the traditional values people learned, how to behave, to have manners, good morals, to be honest, unselfish, and generous. Traditional values teach us about the benefits of discipline, hard work, and responsibility. Traditional values give us fundamental knowledge of our traditions, their values and about the harmful effects of

drug, abuse, rape, assault, robbery, venereal disease and murder, etc. Unfortunately these traditional values declining very fast whose consequences are also seen in the society. Decline in traditional values ultimately leads into various social problems like robbery, dowry, murder, violence, greediness etc. The greediness of human being leads into natural resources depletion, industrial pollution, biodiversity degradation etc. Traditional values are equally important for our planning, policies, laws for environmental protection. Therefore, it is also important to preserve and conserve our traditional practices. In this you will learn about traditional value system, environment, role of traditional values and Indian experiences.

10.2 Definitions of tradition

There are various definitions of tradition. Some of the important definitions of tradition are given below:

- Tradition is an inherited, established thought, action, or behavior It is a belief involving to the past that are usually conventional as historical though not provable.
- Tradition is the beliefs, and customs by examples from one generation to another without verification.

The tradition is a custom passed down within a human society with symbolic meaning or special significance. Traditions can continue and evolved for many years. The word Tradition is derived from Latin word *tradere* which means transmit.

The concept of tradition comprises numbers of thoughts; the unifying one is that tradition refers to beliefs, objects or customs performed or believed in the past, originating in it, transmitted by time by one generation to the another.

In ancient time, traditions were passed orally. There are diverse origins and fields of tradition; they can refer to:

(i) The forms of artistic heritage of a particular culture.

(ii) Beliefs or customs instituted and maintained by societies.

(iii) Beliefs or customs maintained religiously and mythologically, that share history, customs and culture.

(iv) Tradition contributes a sense of comfort and belonging. Tradition also brings people together.

(v) Tradition teaches about several values such as responsibilities, education, belief, freedom, faith, integrity.

(vi) It provides a opportunity to showcase role models and celebrate the events which matter in our life.

(vii) Tradition enables us unite as a country.

(viii) Tradition serves as a way for creating long-lasting reminiscences for our values.

Tradition is also related to several academic fields such as biology, archaeology, sociology and anthropology. There are numbers of causes for the loss of tradition. These reasons may include urbanization, breakdown of joint families, industrialization, disrespect of elders etc. In response to this, our traditional value system declining very fast.

11.3 Traditional values

Traditional values refer to ideals and values held to be true because of their long history and established success. Traditional values sometimes called as family values. The definitions of the traditional values are given below:

(i) Traditional values are the moral and ethical values which are traditionally upheld and passed to next generations. The examples are honesty, loyalty, believe etc.

(ii) Traditional values are values which held traditionally taught or resistant within a group or society or religion.

Traditional values are identity of the society; these values connect us with our families, societies and religions. These values also remind us about the history and about the likes and dislikes. If we don't know about our traditional values then we may lose our identity in the social life. Our forefathers taught us about the traditional values and these values are important in social life. There are various traditional values in every corner of the world. Respect of elders, hard working attitude, compassion, responsibility, volunteering these are important traditional values. As far as environmental protection is concerned, if we follow our traditional values then we can preserve, conserve and protect our environment in significant manner. If you see the whole world today, you will find that most of the persons are focused on money, job and wealth. The greediness of people certainly leads into the overexploitation of

natural resources. As you know poachers killed the animals for commercial purpose, the greediness of poachers certainly declines the populations of animals and reduced biodiversity. You also know that people are responsible for deforestation, pollution in rivers, industrial emission etc. In present time presence of solid waste is becoming a sign of human being presence in an area. However, our traditional values teach us about the importance of environmental components.

Traditional values teach us following things regarding environment.

(i) This earth is mother of all the entities of this planet and we all are dutiful son of mother earth.

(ii) Sun is God and Sun should be worshipped.

(iii) In many traditions animals and plants are associated with God and Goddess.

(iv) Some important rivers are regarded as mother.

(v) Planting trees is an integral part of traditional system.

(vi) Most of the traditional festivals are related with nature.

(vii) Throwing of solid waste anywhere is strictly prohibited in traditional systems.

(viii) Air and water regarded as deity in many traditional systems.

(ix) Animals and plants are protected by various traditional systems.

(x) Hygiene is an integral part of the many traditional systems

There are some important traditional values which are given below and also summarized in Fig-1.

(i) **Importance of Elders:** The elders are important family members. Elder people often help out with the heaving of children. The grandfather is ready and willing to help out and you do not have to worry. Sometimes it is observed that grandparents actually live with the family due to physical and financial struggle.

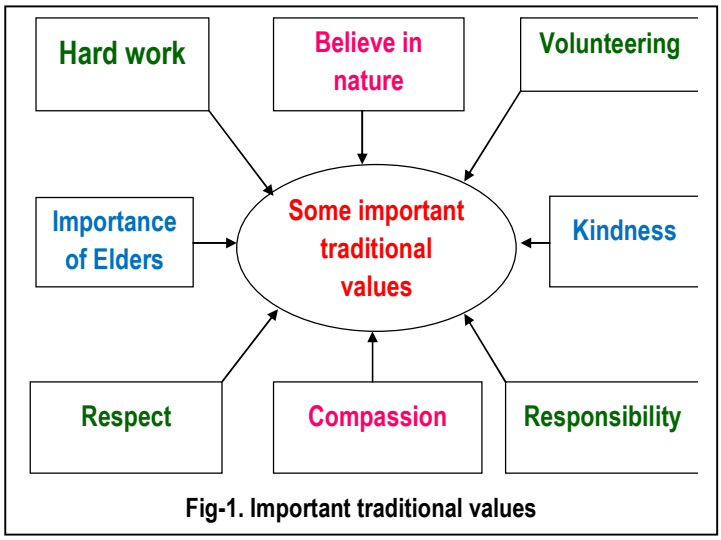

Fig-1. Important traditional values

Children spend lot of time with their grandparents in joint families and get the knowledge from them. They get to learn about history, traditional values, religious importance etc. If elders are valued, the children will also value them.

(ii) **Hard Work:** Hard work is one of the most important traditional values which shared by many. Hardworking attitude makes person responsible, reliable and faithful.

(iii) **Respect:** Respect is another traditional family value. Families teach their children to respect others by showing respect to people inside and outside of the family. If father thanks mother for preparing dinner, it is showing all of the children will know how a woman should be treated. Treating people in the behavior in which you would like to be treated is a way to show respect too.

(iv) **Compassion:** Compassion is kindness towards other people. It is also an important traditional value. Compassion will teach your upcoming generations how to be a good human being. This traditional value teaches us don't tease others because they don't have as much money, education as you have. Teaching compassion will allow your family to show sympathy to those people who are not as lucky in life as they are.

(v) **Eating Together:** This traditional value connects family members together. It sounds quite simple, but when the television is off and the mobiles are put away, the family gets in to discussion and really gets to know each other in a better way. Eating together is a great way to find out what is going on at office, school and other work places. The children of family may not like the idea of giving up their mobile phone, but they will gradually start to enjoy food with the family.

(vi) **Responsibility:** It is one of the most important traditional values. Responsible person make a difference in society. This traditional value embodied in human behavior with intellectual maturity. Our elders teach us we should be responsible for village, country and even for whole world.

(vii) **Kindness:** Kindness is the traditional value which is integral part of many traditional systems. Kindness costs nothing and the kindness you show others can change their life.

(viii) **Volunteering:** Volunteering with your family is a great way to show them that you need to give back to society. We can volunteer with a religious organization,

food pantry or animal shelter. Volunteering is traditional value which makes the difference in society. You can see many people do Samay Daan (time donation) in many spiritual organizations. Volunteering always makes you feel good about yourself.

11.4 Traditional values and environment

You must know that environment is very old than the tradition. Traditional values provide various fundamentals to conserve our environment. Traditional values say that deforestation should not occur, save the water, protect animals and other creatures of earth. If we follow our traditional values then we can save millions of species on this earth. In other words, it can be illustrated that traditional values are important to conserve, protect and preserve our environment. Traditional values teach us about the importance of water, air, soil, food etc. Traditional values and environmental components are certainly correlated.

11.5 Role of traditional values in environmental conservation

Environment has always been very vibrant, giving and flexible to a very large degree. Traditional values are our strong cultural heritage. Traditional values protect, conserve and preserve nature. If we see the traditional values of world we will find that, we have been worshiping the sun, wind, land, trees, plants, and water which are the fundamentals of human survival. Respect and conservation of wildlife (garuda, lion, peacock, and snake) is part of traditional value system. The scripture “Vishnu Samhita” in Sanskrit language contains some direct instructions dealing with biodiversity conservation.

The process of economic growth and development is also vital for progress. However, it is done at the cost of environmental degradation through industrialization and urbanization transportation, burning of fossil fuels and deforestation has led to the emission of green house gases into the atmosphere. These gases absorb the heat of solar rays, which results in global warming, leading to floods, droughts, severe storms, melting of ice at the poles, receding of glaciers and rise in sea water levels. These issues have brought the concerns for environmental conservation.

Traditional values had always contributed to modern medicine and health care. Further for centuries, indigenous communities used to live by adjusting their agriculture, fishing

and hunting practices in the event of changes in climate. It is ironical that now when the threat of climate change is so looming we are looking for solutions outside. However, there is another threat looming large, that is, of losing these communities to outright annihilation or due to their amalgamation in the mainstream. Moreover, with the commercialization of even natural resources, traditional knowledge that managed to maintain sustainable levels of harvest has been sidelined. Issues of privatization, alienation and 'bio-piracy' are major areas of concern. With globalization these pressures are stronger than ever. The existing policy and legal mechanisms to protect traditional knowledge usually does not involve these communities themselves.

There are few examples of conservation of biodiversity through traditional values. In first example fishermen of Greater Mumbai, Maharashtra were found to be rich, varied with potential technical knowledge associated with the management of net, shore-seine, gill net, long line and traditional trawl fishery.

In another example, ethno-botanical surveys were conducted during 1998 and 1999 in villages of Karnataka. The utilization of leaves of *Centella asiatica*, and roots of *Ichnocarpus frutescens* in the treatment of jaundice, diabetes were found to be notable.

11.6 Indian experiences and Indian traditional values

As you know India is country of rich culture and tradition. In Country we can find unity in diversity. This uniqueness of India mesmerized people from all over the globe. The rich heritages of Indian traditional practices are including tradition, rituals, food, worships, events, festivals etc. You must be know that Indian traditional practices are eco-friendly and connected to environmental conservation. We can understand few traditional practices of India with following examples.

(i) Yagya is one of the main traditional practices in India. Yagya means devotion and regarded as Vedic tradition. In yagya many ingredients are used which purify the air. Many researchers have worked on impacts of yagya on air quality and found that the population of harmful microbes declined after the Yagya. The ingredients used in Yagya destroyed the pathogens from the air. Yagya is combination of chanting of mantras and fire (agni), in which ingredients (hawan samagri) offer to agni with chanting mantras.

(ii) In Indian traditional practices many festivals are celebrated according to nature and most of the festivals are dedicated to nature. Festivals like Baisakhi, Makar sankranti, Basant Panchmi, Ganga Dussehra, Harela etc. Baisakhi is dedicated to new crops, while Makar Sankranti is dedicated to Lord Sun, Basant panchmi is celebrated for nature, Ganga dussehra is celebrated as birthday of Ganga River, Harela is dedicated to monsoon season and many plants being planted on this festive. Harela parv is symbolizes for the new seasons and it is believed that Lord Shiva got married with Maa Parvati on this day. Many festivals are being celebrated to protect sacred grooves.

(iii) Many plants and animals are worshipped in many Indian traditional practices. Plants like Tulsi, Peepal, Kadamb, Bel, Ashoka, etc. being worshipped in Indian tradition practices. Animals like tortoise, fish, tiger, snake, cow, bull etc. also being worshipped in traditional practices.

(iv) Many rivers in Indian traditional practices regarded as sacred.

(v) Fasting is also integral part of Indian tradition practices. The benefits of fasting include weight loss, reduced heart problems, prevent cancer, longevity, improve immune system, boost brain function etc.

11.7 Role of Indian traditional practices related to environmental protection

As per Ministry of Environment, Forest and Climate Change the Indian conception of life is embodied in a coherent world-view in which all its aspects exist in a state of inter-related harmony. The human being is part of a well-ordered system in which all aspects of life and nature have their place, and are not in opposition, but in harmony with each other. This harmony between humans and environment is integral to the Indian tradition. Today, when whole world is facing environmental problems by the degradation of the environment and the disastrous consequences of this, traditional ethics of nature conservation could be looked upon as a source of inspiration and guidance for the future.

There are various Indian experience which can protect our environment, these experiences are shown in Fig-2 and also discussed below:

(i) **Food:** As you know that food is one of the basic needs of life. In Indian tradition food production, processing, marketing, consumption and disposal have been

considered. Respect of food has always been a method of Indian life. Indian traditional practices emphasized on seasonal food. As you know seasonal food in excellent for good health. The significance of seasonal food is that it reduces energy preservation and transportation of food. In many schools you can observe that students take the food after chanting food mantra (Bhojan mantra). Many examples can be found from all parts of India. Many recipes to recycle the leftover food are prevalent in Indian tradition practices, hence reducing the waste. In Indian tradition practices, many energy saving techniques like hand grinding and hand churning are used in preparing food. In Indian tradition younger are taught about respect for food. Indian diet is primarily plant based. About 42% of the households in India are strict vegetarian. The remaining households are less strict vegetarians or non-vegetarians. According to Ministry of Environment, Forest and climate change MoEFCC) per capita meat consumption in India for the period 2011 to2013 was 3.3 kg, which is 1/10 of the global average.

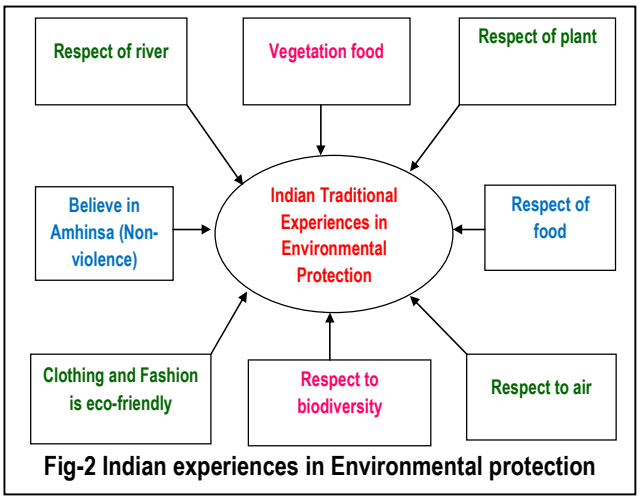

Fig-2 Indian experiences in Environmental protection

(ii) Worship of Sun, Air and Water: Sun worship is of vital importance in Vedic adoration; the Sun God being worshipped as Surya, Bhanu, Aditya, Ravi, etc. As you know solar energy is the ultimate source of energy that regulates the energy flow through the food-chain, but it was probably well understood and realized by the ancient people as well. The famous Gayatri Mantra of the Rigveda is chanted on every auspicious occasion and this mantra is dedicated to Lord Sun. Indian tradition practices also respect air and water. Actually Indian traditional practices regard both air and water as deity.

(iii) Respect to biodiversity: Protection and conservation of species and their habitat have been an important aspect of the Indian traditional practices. The Sacred Groves are important repositories of biodiversity that have been

conserved by local villagers. Bishnoi is a social group found in the Western Thar Desert of India, who follows the creed of safeguarding biodiversity of the place and ensuring a healthy eco-friendly social life for the community. In Rajasthan, the Khejri tree (*Prosopis cineraria*) is important because this plant has moisture-retaining and other useful properties.

Wild and domesticated ones also have given respect in Indian traditional practices. In Indian traditional practices lion, tiger, elephant, bull, horse, peacock, swan, owl, vulture, ox, mouse, etc. are being protected. In Indian tradition many plants and animals associated with God and Goddess. For example, the snake associated with God Shiva, as you know that snakes are an important link in the food chain and play a significant role in sustaining the ecological balance. There are numerous common values in Indian traditional practices, these include: *Tyaga* which is renunciation, *Dana* which is liberal giving, *Nishtha* which is dedication, *Satya* which is truth, *Ahimsa* which is non-violence, *Upeksha* which is restraint. Respect is an extremely valued component of the everyday life of people in India.

Plants have been given importance in the Indian traditional system. Many references related to plant conservation are found in four *Vedas*. Trees and plants were considered as animate beings and to harm them was regarded as a sacrilege. In *Atharvaveda* the medicinal value of herbs is described. In the ancient texts we come across references to trees like *Kalpavṛkṣa* and *Parijat* with mythical powers. *Padma* (lotus) and trees like *Vatbraksha*, or *Palasa* were given special attention. The worship of the *Peepal* tree became a folk ritual this plant dedicated to *Lord Shani* and *Lord Vishnu*. As you know that, *Peepal* plant releases more oxygen as compared to other plants. You also see that women and men moving in a circle around a *Peepal* tree each morning. The *Peepal* tree continuously releases oxygen in the atmosphere.

In other instances, trees such as Bel (*Aegle marmelos*), Aśhoka (*Saraca asoca*) hold special significance in various religious rituals. *Cynodon dactylon* commonly known as Doob Ghass is used in various rituals. Biodiversity and its association with human beings were depicted in epics like the Abhigyanshakuntalam, Mahabharat, Meghdoot, Ramayan etc. Their provide depiction of trees, creepers, animals and birds conversing with people and sharing their joys and sorrows,

which shows that people believed in harmony between man and nature. Manusmṛti gives a distinct classification of plants and states that some of them can experience pleasure and pain and have awareness.

(iv) **Water conservation practices:** Conserving the water is also given importance in Indian tradition practices. Indian traditional practiceness is harvesting rain water since centuries. The rain water harvesting systems are specific and unique according to the topography and environmental condition. Step Wells of Gujarat, Tanks of Tamil Nadu, Johads of Rajasthan & Zabo System of Nagaland are few examples by which traditional practiceness conserve the water.

(v) **Energy conservation**: Simple sustainable consumption values, such as switching off unwanted electrical appliances are imbibed in homes as well as schools from a young age. During summers, people often prefer to sleep out in the open, in courtyards or on the terrace, thus leading to reduced usage of cooling appliances in homes. For generations, earthen pots or *Matkas* have been used to store water and keep it cool. This helps to reduce the refrigeration requirement during summers. The practice of sun-drying of clothes and hand washing dishes reduces the usage of energy-intensive tumble driers and dish-washers, respectively. Hand washing the dishes would save around 200 to 300kWh/year assuming one cycle per day of dish washing. This also results in reduced water consumption as compared to dishwashers. People bath with a bucket and mug which is significantly less wasteful than bathing under shower or in bath tubs. Some people also prefer to bathe in cold water for most of the year.

(vi) **Eco-friendly clothing and fashion:** Eco-friendly clothes are used in Indian traditional practices which save energy, environment and ecosystems. India is a home to many exclusive types of hand woven fabrics or handlooms. Traditional practice of weaving textile with a weaving loom does not require any cost and energy. These clothes are made through skill of weave. Indian tradition have a rich heritage of various hand embroidered fabrics such as Banarsi, Patola, Zardozi, Kalamkari, Phulkari, Kantha, etc. As you know that khadi is made from cotton. Charkha is used to weave khadi which doesn't require any electric energy. One meter Khadi fabric consumes just three liters of water on the other hand textile mill consumed 55 liter water to produce one meter cloth. In Indian tradition, elders pass their clothes and books to younger siblings which save

trees, papers etc. All these examples give sufficient evidence that sustainable lifestyle is rooted in Indian traditions.

(vii) Ahimsa or Non-violence: Ahimsa Parmo dharma is Sanskrit phrase which means non-violence is the duty f human being. This phrase is rooted in Indian traditional practices. Indian tradition seeks harmony throughout life. Indian traditions value their gods and worship a variety of Gods and Goddesses. Ahimsa for animals and human being is mentioned in Indian tradition. Indian traditional practices believe in reincarnation, with good karma, as reborn into a higher caste or even as a God. Awful Karma consequences are being reborn into a lower cast or even as an animal.

10.8 Birds and animals in Indian traditional practices:

Flora and fauna are part of ecosystems and environment. These entities naturally present in natural environment. Birds and animals have been used as indicators by human being for different purposes. Indian tradition regarded these birds and animals as gifts of God. On the basis of their characters human being are worshipping birds and animals. According to the *Rigveda* animals are of three types viz. birds, wild animals, and animals in human form. Three types of living animals are found in this earth and all have specific type of environment for survival. All the birds and animals are adapted for specific environment. Most of the birds are adapted for flying mode of life and most of the wild animals are carnivores. Our Indian tradition and Vedic literatures say that these animals and birds play vital role in ecosystem. In Vedas it is mentioned that domestic animals such as cow, dog, buffalos, bull as well as humans and wild animals should live in harmony and they are under the control of *Rudra Dev*.

(i) Birds: Birds are one of the most beautiful creatures on this planet. Birds are also known for their singing. Generally male sing the song to attract the female. Female birds generally lay eggs in the nest and both the gender lookafter their eggs and young ones. In birds development by incubation was done in which female sit on the nest to keep the eggs warm until they become hatched. Young ones of the birds take care by both the parents and remains in their nest. Parents of their young ones bring them food. Many birds have been given importance in Indian culture and tradition. In Shradh season *(Pitra Paksha)* people offer food to crow. It is believed

that ancestors come in the form of crows. Some of the important birds of Indian tradition are given here:

(a) Pigeon: Pigeon is commonly found in India and has mythological importance. It is scientifically known as *Columba livia*. It is believed that Lord Shiva and Goddess Parvati live in the Amarnath cave in the form of pigeons. The male pigeon which is regarded as Lord Shiva called Kapoteshwara and female pigeon is regarded as Goddess Parvati called Kapoteshwari.

(b) Peacock: Peacock has been a symbol of divine beauty. According to the Hindu mythology, the peacock was created from one of the feathers of the bird Garuda (a mythical creature) which is the vehicle of Lord Vishnu. The peacock is also regarded as vehicle of Lord Kartikeya. In Hindu mythology peacock bird is also associated with the Goddess Saraswati (deity of knowledge).

(c) Owl: Owl is a nocturnal bird active at night. It has mythological importance and it is believed that this is the vehicle of Goddess Laxmi (deity of wealth and prosperity). Many Hindus worshipped owl on the occasion of Mahalaxmi Poojan. This bird is scientifically known as *Bubo*.

(d) Parrot: Parrot is commonly found in India and it is frugivorous bird which feed on fruits. This is one of the most beautiful birds. It has mythological importance in Hindu religion; it is believed that when Lord Shiva was explaining the Amrita Katha to Maa Parvati, the Katha (sacred story) was listened by this Parrot also. This parrot after re-birth became renowned saint Sukhdev. This story is origin of Shrimad Bhagwat. Parrot is scientifically known as *Psittacula.*

(e) Vulture: Vultures are found in forest and act as scavenger of the ecosystem. The vulture is scientifically known as ***Gyps indicus*.** Vulture is also mythologically important bird in Indian culture and tradition. Garud (Jatayu) is mentioned in greatest Indian epic i.e. Ramayan. It is mentioned that when Ravan took Maa Sita to Lanka Jatayu fought with him and sacrificed his life.

(f) Crow: Crow are commonly found in houses and in grasslands. They are regarded as ancestor in Indian tradition. The crow is commonly known as *Corvus splendens*. In every year people offer some kind of food to crow specially in the month of October and January (Makar-Sankranti).

(ii) **Animals:** Animals are also very important part of community in this earth. These animals are generally described as invertebrates and vertebrates. Invertebrates include those do not possess notochord in their body on the other hand vertebrates possess notochord in their body. Most of the vertebrate animals traditionally important in Indian tradition are given here:

(a) **Cow:** Cow is found in almost in every village of India. Cow is sacred animal of the Indian culture and tradition. It is the holiest animal in and their slaughter is banned in India. It is believed that cow become human being after one reincarnation. The cow is most worshipped animal in Indian culture, she is considered to be Gods in the shape of animals. The cow is regarded as mother in Indian cuture and often called *Gau Mata*. It is regarded as a gift of the Gods. It is a symbol of prosperity, mercy, religiosity, divinity, purity and motherhood. It is also mentioned that Lord Krishna grew up in a family of cows. Lord Shiva has unique importance in Indian tradition and he is also known as Gorakhnath, which means Lord of cows. Kamadhenu, is regarded as the mother of all deities and believed that this cow can give every essential services to human being. Cow milk is used in Indian tradition as a Prasad (Charnamrit) during ritual worship. Even urine (Gomutra) and cow dung is also used in every auspicious occasion. These are used in vehdic rituals to cleanse past sins. These waste products of cow are also being used in preparing traditional medicines in Ayurveda.

(b) **Monkey:** Monkeys are found in every part of the world and well adapted for arboreal mode of life. They feed on grains, fruits etc. Indian monkeys are regarded as form of Lord Hanuman (God of strength). Further, monkeys are commonly found in many Indian temples like Mansa Devi Temple, Haridwar, Ram mandir, Ayodhya and the famous Monkey Temple Galta, Jaipur. The big monkeys are known as Langur or Hanuman Langur, the holiest in India.

Monkeys are associated with Lord Rama. The Bhagavatpurana states that sex is predominant among animals, people who indulge in excessive sexual pleasure must have been monkeys in past lives. In the Ramayana, monkeys played a major role in assisting Rama in the search for his queen, Sita, who was imprisoned by the Ravana by building a bridge (Ram Setu) across the sea

and participated in the war against the army of demons to win Sita back. Due to their association with Lord Rama, Hindus treat monkeys with kindness and respect, and provide them food in public places.

(c) Elephant: Elephant is the biggest terrestrial animal on the earth. It is scientifically known as *Elephas maximus***.** The elephants are found in the forest and some are domesticated. In the Indian tradition, the elephant symbolizes power, divinity, intelligence, destructive power etc. Indra (*Lord of Devtas*) vehicle is the white elephant known as Airavat. Lord Ganesha has head of elephant. Big head of Lord Ganesha is a symbol of wisdom and intelligence.

(d) Horse: Horses are one of the most important animals in Indian tradition. In ancient times Horses gave more importance than cows and other animals. Horse is scientifically known as *Equus caballus*. Horse is associated with Lord Sun (*Surya Dev*). Sun is ultimate source of energy on this planet. Horse is symbol of Energy and power. In the Indian tradition, the star Ashwini and the month August (*Assiyuja*) are famous related to horses. It is believed that Surya (Sun) is driven by the seven horses. It is now proved that all the power comes from the sun energy and after the process of photosynthesis the sun energy is converted into chemical energy which is utilized by all the animals.

(e) Snake: Snakes are commonly found in grassland, forest and desert ecosystems. Some of them are deadly poisonous. Snakes are important creatures which maintain the population of rodents. There are various poisonous snakes in India these are Cobra, Krait and Viper etc. Snakes are associated with Lord Shiva. These are ornaments of Lord Shiva. The famous festival i.e. Nag Panchmi is celebrated by Indians and many people offer milk to the snake.

On the basis of above account we can conclude that Indian tradition protects animals and birds in significant manner. Indian tradition connects all the fauna and flora with God and Goddess and protects, preserve and conserve them. However, due to lack of documentation our traditional values are declining. Government should take the responsibility to promote the Indian tradition at all levels to protect these beautiful

creatures. When whole world is looking for biodiversity conservation the Indian traditional practices may be great option for decision makers.

Table-1: Punishment prescribed in Manusmriti for acts hostile to the environment (Source: Priyadarshan Senasarma "Conservation of biodiversity in Manu Samhita") Indian Journal of History of Science 33(4)1998

Nature of offence	Prescribed Punishment
Felling trees for establishing mine, factory or hydropower projects and firewood	Offender should be condemned as a degraded person (XI.64 and XI 65)
Cutting down the fruit bearing trees or shrubs or flowering herbs	Offender should recite certain Rks for 100 times (XI 143)
Destroying cultivated or wild plants	To atone for the sin, the offender has to attend on a cow throughout a whole day and undergo penance bu subsisting only on milk (XI.145)
Teasing the animals	Punishment should be commensurate with the gravity of offence (VIII 286)
Wounding, injuring, leading to slaughter or bloodshed etc.	Cost of treatment should be borne by the offender (VIII.287)
If other animals are harmed because of untrained driver of a vehicle	Owner of the vehicle is to pay a fine of two hundred Panas (VIII.293)
Causing harm to noble animals like cow, elephant, camel, horse etc	Offender has to pay a fine of five hundred Panas (VIII.296)

SUMMARY

In this unit we have discussed various aspects of traditional value practices. So far you have learnt that:

- Traditional values are values which passed from generation to generation without verification. Traditional values are very important in growth and development of any area, state and country.
- Tradition is an inherited established thought, action, or behavior It is a belief involving to the past that are usually conventional as historical though not provable.
- Tradition is the beliefs, and customs from one generation to another without verification.

- Traditions can continue and evolved for many years. The word Tradition is derived from Latin word tradere which means transmit.
- Tradition is also related to several academic fields such as biology, archaeology, sociology and anthropology. There are numbers of causes for the loss of tradition. These reasons may include urbanization, breakdown of joint families, industrialization, disrespect of elders etc. In response to this, our traditional value system is declining very fast.
- Traditional values are the moral and ethical values which are traditionally upheld and passed to next generations. The examples are honesty, loyalty, believe etc. Traditional values are values which held traditionally taught or resistant within a group or society or religion.
- There are some important traditional values which are; Importance to Elders, Hard Work, Respect, Compassion, Eating Together, Responsibility, Kindness, Volunteering
- Traditional values teach us about the importance of water, air, soil, food etc. Traditional values and environmental components are certainly correlated.
- Traditional values had always contributed to modern medicine and health care. Further for centuries, indigenous communities were used to surviving and adjusting their agriculture, fishing and hunting in the event of changes in climate. It is ironical that now when the threat of climate change is so looming we are looking for solutions outside. However, there is another threat looming large, that is, of losing these communities to outright annihilation or due to their amalgamation in the mainstream. Moreover, with the commercialization of even natural resources, traditional knowledge that managed to maintain sustainable levels of harvest has been sidelined. Issues of privatization, alienation and 'bio-piracy' are major areas of concern. With globalization these pressures are stronger than ever. The existing policy and legal mechanisms to protect traditional knowledge usually does not involve these communities themselves.
- Traditional practices of India are Yagya. Yagya means devotion and regarded as Vedic tradition. In Yagya many ingredients are used which purify the air.
- In Indian traditional practices many festivals are celebrated according to nature and most of the festivals are dedicated to nature. These festivals named as Baisakhi, Makar sankranti, Basant Panchmi, Ganga Dussehra, Harela etc.

Baisakhi is dedicated to new crops, while Makar Sankranti is dedicated to Lord Sun, Basant panchmi is celebrated for nature, Ganga dussehra is celebrated as birthday of Ganga River.

- Many plants and animals are worshipped in many Indian traditional practices. Plants like Tulsi, Peepal, Kadamb, Bel, Ashoka etc. being worshipped in Indian tradition practices. Animals like tortoise, fish, tiger, snake, cow, bull, etc. are also being worshipped in traditional practices. Many rivers in Indian traditional practices are regarded as sacred.
- Fasting is also integral part of Indian tradition practices. The benefits of fasting include weight loss, reduced heart problems, prevent cancer, longevity, improve immune system, boost brain function etc.
- There are various Indian experience which can protect our environment, these experiences are food, worship of Sun, air and water, Respect to Biodiversity, Water Conservation practices, Energy Conservation, Eco-friendly clothing and Fashion and Ahimsa or Non-violence.
- In Indian traditional practices, many energy saving techniques like hand grinding and hand churning are used in preparing food. In Indian tradition younger are taught about respect for food. Indian diet is primarily plant based. About 42% of the households in India are strict vegetarian. The remaining households are less strict vegetarians or non-vegetarians.
- Sun worship is of vital importance in Vedic adoration; the Sun being worshipped in the form of gods like Surya, Bhanu, Aditya, etc.
- Protection and conservation of species and their habitat have been an important aspect of the Indian traditional practices. The Sacred Groves are important repositories of biodiversity that have been conserved by local villagers. Bishnoi is a social group found in the Western Thar Desert of India, who follows the creed of safeguarding biodiversity of the place and ensuring a healthy eco-friendly social life for the community.
- Conserving the water is also given importance in Indian traditional practices. Indian tradition practices harvesting rain water since centuries.
- Ahimsa Parmo dharma is Sanskrit phrase which means non-violence is the duty of human being. This phrase is rooted in Indian traditional practices. Indian traditional seeks harmony throughout life.

Terminal Questions

1. (a) Fill in the blank spaces with appropriate words.

Traditional values are identity of the society; these values connect us with our families, societies and religions. These values also remind us about the ……and about the ……and dislikes. If we don't know about our …….values then we may lose our identity in the social life. Our forefathers taught us about the …… ……..and these values are important in social life. There are various traditional values in every corner of the……. Respect of elders, hard working attitude, compassion, responsibility, volunteering these is ……traditional values. As far as environmental protection is concern, if we follow our traditional values then we can……, conserve and protect our environment in significant manner. If you see the whole world today, you will find that most of the persons being focused on money, job and wealth. The …….of people certainly leads into the overexploitation of natural resources. As you know poachers killed the animals for …….purpose, the greediness of poachers certainly declines the populations of animals and reduced biodiversity. You also know that people are responsible for deforestation, pollution in rivers, industrial emission etc. In present time presence of solid waste is becoming a sign of human being presence in an area. However, our traditional values teach us about the importance of environmental components.

2. (a) Write a short note on tradition.
(b) What do you understand by traditional values? Explain with some examples.

3. (a) Describe traditional values and their correlation with environment.
(b) Describe the role of traditional values in environmental conservation.

4. (a) What are Indian traditional values?

5. (a) How Indian traditional practices save biodiversity?

6. (a) Fill the blank spaces with appropriate words.

As per MoEFCC the Indian conception of life is embodied in a coherent world-view in which all its aspects exist in a state of inter-related…….... The human being is part of a well-ordered system in which all aspects of life and nature have their place, and are not in opposition, but in harmony with each other. This harmony between humans and environment is ……..to the…… …….. Today, when whole world is facing environmental problems by the degradation of the environment and the disastrous consequences of this, traditional ethics of nature conservation could be looked upon as a source of inspiration and guidance for the future. As you know food is one of the basic needs of…….. In Indian tradition food production, processing, ……, consumption and disposal have been considered. Respect of …….has always been a method of Indian life. Indian tradition emphasized on seasonal food. As you know seasonal food in excellent for good health. The significance of seasonal food is that it reduces energy preservation and transportation of food. In many schools you can observed that students take the food after chanting food mantra (……. ……..).

Many examples can be found from all parts of India. Many recipes to recycle the leftover food are prevalent in Indian tradition practices, hence reducing the……... In Indian tradition practices, many energy saving techniques like ……. ……..and

…….. ……..are used in preparing food. In Indian tradition younger are taught about respect for food. Indian diet is primarily …….based. About 42% of the households in India are strict…….. The remaining households are less strict vegetarians or non-vegetarians. According to …… … …… …… ….. …… …… (MoEFCC) per capita meat consumption in India for the period 2011 to2013 was 3.3 kg, which is 1/10 of the global average.

(b) The word Tradition has been taken from Latin word "*trader*" which means (Truth/ transmit/Strange/Scientific)

(c) Which of the following has given importance in Indian tradition? (Air/Animals/Plants/all of the above)

(d) Respect of elders, volunteering, Kindness, responsibility are examples of (market values/Traditional values/Ecological values/Scientific values)

7. (a) How Indian traditional practices save energy resources?

(b) Write about punishment prescribed in manusmiriti for acts hostile to the environment

Answers

1. (a) history, likes, traditional, traditional values, world, important, preserve, greediness, commercial
2. (a) see section 11.2.
   (b) See section 11.3
3. (a) See section 11.4 & 11.5
   (b) See section 11.5
4. (a) See section 11.6
5. (a) See the section 11.7
6. (a) harmony, integral, Indian tradition, life, marketing, food, Bhojan mantra, waste, hand grinding, hand churning, plant, vegetarian, Ministry of Environment, Forest and Climate Change
   (b) Transmit
   (c) All of the above
   (d) Traditional values
7. (a) See the section 11.7
   (b) See the section 11.7 in Table-2

Unit 12: The Ethical Basis of Environmental Awareness: The Concept of Awareness; Role of Ethics

Unit Structure

12.0 Learning objectives

After studying this unit you will be able to understand:

- What is ethics?
- What is need of environmental awareness?
- About ethical basis of environmental awareness.
- What is cloning?
- About role of ethics in environmental conservation
- about role of NGOs in Environmental awareness
- About role of an individual in Environmental awareness

12.1 Introduction

Environment is a broad term which has been taken from the French word “Environ” which means surrounding. Environment is anything which is surrounding us. Environment may be air, water, food, biological diversity and other non-living

components. Environment is not only important to survive but also most ignored component of human life. People care their commodities like house, car, laptop, mobile, money but very few of them care about the environment and its components. This condition is going worst day by day. Due to manmade activities every element of environment is degrading. In last two-three decades problems related to environmental pollution raised and human beings suffer from various types of life threatening diseases. The question is arising that what will be the future of human on this planet? The answer is simple human being and other species of earth will also become threatened without clean and pure environment. According to World Health Organization (WHO) water pollution responsible for 10 million deaths per year at global level while 10 million deaths occur due to air pollution. Environmental awareness is need of hour in the context of successfully addressing environmental harms. Environmental awareness is connected to environmental education. In one way provision of environmental education produces greater awareness among communities with respect to placing natural sources to use even while preserving them. In the other way, environmental awareness enhances the scope of environmental education. As you know many media spread environmental awareness among one and all. Electronic media, print media etc. are the major tools of spreading environmental awareness.

Global warming, ozone layer depletion, environmental pollution, excessive use of agrochemicals, use of non-biodegradable waste, energy crisis all these are current environmental issues and to overcome with these problems we must have to create environmental awareness. Universities, institutions, schools, colleges play significant role in spreading environmental awareness among communities. Supreme court of India also implemented environmental science subject at college level to spread environmental awareness. In this unit you will learn about the ethical basis of Environmental Awareness and Role of ethics in environmental awareness.

12.2 Meaning and definitions of environmental ethics

You have learnt environmental ethics in Unit-1 of this course. The term “ethics” has been taken from the ancient Greek word “ethos” which means habit or custom. Ethics in the broadest sense alludes to the worry that people have dependably had for making sense of how best to live. The logician Socrates (399 B.C.) is cited "the most essential thing is not life, but rather the great life”.

12.2.1 Definitions of Environmental Ethics:

In very easy language environmental ethics may define as “to set the moral values toward environment”.

Environmental ethics is a branch of philosophy that deals with the conceptual foundations of environmental values as well as more real issues surrounding societal attitudes, actions, and policies to protect and sustain ecological systems.

“Environmental ethics is the branch of environmental philosophy which considers extending the traditional boundaries of ethics from solely including humans to including the non-human world.

Environmental Ethics is the field of applied ethics that discusses, reflects and reasons on values, rules, norms, criteria for dealing with animate and inanimate entities in a responsible way.

Environmental Ethics is the base of reasoning for, e.g., the following fields of action within society: environmental protection, animal protection, nature protection, animal rights, and sustainability issues.

12.3 Concept and objectives of Environmental Awareness

As you know environment is all that surrounds any organism from physical and non-material components that affect organism. When God created the environment, all its abiotic and biotic components were made balanced. But the anthropogenic activities are certainly responsible for imbalance of these factors. Environmental awareness is about the awareness regarding natural environment. Environmental awareness has become an important issue at the national and international levels. Environmental awareness has been a requirement of life, and it must be enhanced for all, specially younger generations. Environmental awareness is the understanding of people towards environmental components. Environmental awareness is all about the thinking towards air, water, soil, flora and fauna. The procedure of attaining environmental awareness is not an easy job, but it requires urgency, determination and serenity to achieve the required results. To achieve the environmental awareness the need is to connect the efforts of individual to Government and vice versa. Environmental awareness is about consciousness about the natural environment. Environmental awareness is about ecologically thinking or ecological consciousness.

12.3.1 Objectives of environmental awareness

There are following objectives of environmental awareness.

(i) To inculcate the environmental education among one and all.

(ii) To explain the people about environmental components.

(iii) To inform people about their reliance on the natural sources.

(iv) To aware people about the impacts in the environment and other negative impacts of their activities on the environmental components.

(v) To aware the people about importance of environment and relationship of environmental components with men.

(vi) To encourage a sense of responsibility that will inspire normal citizen to look for and acquire more information about the environment and its issues.

12.4 Current Environmental Issues

Environmental awareness is required because whole world facing various environmental problems. If we are not aware about the current environmental issues of world there is no meaning of environmental awareness. However, Environmental problems vary place to place to place and country to country. It is because geographical conditions, manmade activities and other There are various current environmental issues some of them are discussed below:

12.4.1 Global Warming

Global warming is one of the most environmental issues at global. In simple words global warming is a phenomenon in which average temperature of earth increases. The consequences of global warming are melting of glaciers, rising in sea level, declining in biodiversity etc. The main contributor of global warming is CO_2 gas.

12.4.2 Ozone layer depletion

As you know that ozone layer is found in stratosphere of atmosphere. This layer protects us from harmful UV rays. Human activities release CFCs in atmosphere which causes ozone layer depletion. One molecule of chlorine destroyed one lakh molecule of ozone. Montreal protocol is made for the protection of ozone layer. International ozone Day also celebrated every year on 16th September to aware the people about the importance of ozone layer.

12.4.3 Environmental Pollution

This is commonest type of environmental issue. You know that pollution is any undesirable changes in physical, chemical and biological properties of environment. The types of environmental pollution may include air, water, soil, noise, radioactive pollution. Environmental pollution may lead in to various types of diseases in human being. Air borne diseases are asthma, pulmonary disease, skin diseases etc. The water borne diseases may include diarrhea, amoebiasis etc. Noise pollution can cause psychological and neurological diseases. If we can spread mass environmental awareness we can minimize the impacts of environmental pollution

12.4.4 Green House effect

There are various green house gases in atmosphere but due to anthropogenic activities the concentration of these gases is increasing in the atmosphere. There is urgent need of environmental awareness to reduce the concentration of green house gases.

12.4.5 Acid rain

Acid rain is formed by the reaction of SOx and NOx with water. Oxides of nitrates and sulphates are responsible for formation of acid rain. Human activities certainly increase the concentration of SO_2 and NO_2 in atmosphere. If we spread environmental awareness among communities we can minimize the level of these pollutants.

12.5 Need of Environmental Awareness

There is urgent need of environmental awareness at national and international level. Though, on the basis of following points we can say that environmental awareness among community is need of hour.

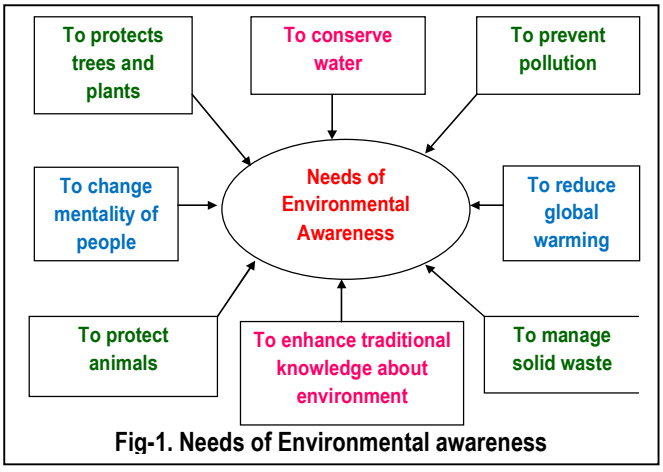

Fig-1. Needs of Environmental awareness

(i) **Protect Plants and Trees:** As you know that, plants and trees are great absorbers of carbon-di-oxide and other harmful gases. In last few decades it is observed that

deforestation is a common phenomenon. Developmental activities certainly destroyed million of trees and plants. Environmental awareness is certainly useful in protecting trees and plants; therefore we must spread mass awareness.

(ii) **Water Conservation:** Water is one of the important natural resources. There is about 70% of earth is covered by water but unfortunately only 2.5% is freshwater and very little amount of freshwater is used for drinking purposes. In last few decades it was found that demand of water is increasing at very fast rate. Environmental awareness is very much needed because it makes aware to the people about the importance of water.

(iii) **To Control Environmental Pollution:** Environmental awareness is needed because our air, water and soil are being polluted due to manmade activities. Human being is responsible for air, water, soil, noise, radioactive pollution. Environmental awareness is important tool to minimize the impacts of environmental pollution. Human beings pollute air by industrial emission, burning of solid waste and transportation. People can minimize the air pollution by small activities. Such activities may include proper management of solid waste, use of public mode of transportation etc. Men also pollute water and water bodies in various ways. Dumping of solid waste in and around water bodies may lead to water pollution. Environmental awareness also can minimize the impacts of water pollution. You know that noise pollution can also be minimized by the environmental awareness.

(iv) **To change mentality of people:** It is well known that degradation of environmental quality is due to greediness, selfishness and overexploitation. Poor mentality is responsible for environmental degradation. If we change the mindset of the people then we can conserve our natural resources. Environmental awareness needed because we have to change the mentality of people regarding environmental components. Environmental awareness can change the psychology of human. Due to environmental awareness people will think ecologically and the desirable changes will occur in the environment.

(v) **To protect animals:** You know that animals are being poached since prehistoric time. Poaching is illegal hunting of animals. Various animals such as elephant,

musk deer, dolphins, rhino, tiger, owl etc. are being poached. By the environmental awareness we can protect the animals.

(vi) **To enhance traditional knowledge:** It is experienced that our traditional knowledge is depleting at a very fast rate. Our ancestors have great and vast knowledge about the environment and its components. If we want to conserve our traditional knowledge of environment, then we have to promote environmental awareness.

(vii) **In Solid waste management:** In current time solid waste management is one of the most important steps in environmental conservation. Solid waste is anything which is not in use. Improper management of **s**olid waste may lead into air, water and soil pollution. Besides, this it can cause eutrophication, loss of biological diversity and certain diseases in animals and human being. Environmental awareness is one of the best methods to apply three R concepts i.e. Reduce, Reuse and Recycle. However, Government of India has taken initiative to control the solid waste by implementation of Swacch Bharat Abhiyan.

(viii) **To minimize the impacts of Disasters:** You know that disaster is a sudden phenomenon in which people lost their life. Natural disasters may include earthquake, flood, landslide, volcano and forest fire. Environmental awareness is certainly needed because the impacts of disasters are more dangerous as compared to environmental pollution. Environmental awareness make the people aware about the consequences of natural disaster. Due to environmental awareness we can make appropriate strategy to control the natural disasters.

(ix) **Ethical basis of Environmental Awareness:** Environmental ethics is branch of science and philosophy in which we study the moral relationship of human beings with the environment and its components. Environmental ethics covers following points

(a) Confront of environmental ethics to the anthropocentrism which means human-centeredness.

(b) The early development of the discipline from 1960 to 1970.

(c) The connection of deep ecology, animism and social ecology to politics.

(d) The attempt to apply traditional ethical theories.

(e) The conservation of biological diversity as an ethical goal.

(f) The broader concerns of some thinkers with wilderness, the built environment and the politics of poverty.

(g) The ethics of sustainability and climate change.

(h) Directions for possible future developments of the discipline.

As you know environmental ethics is the part of environmental philosophy which believes extending the traditional boundaries of ethics from solely including humans to the non-human world. It exerts influence on a large range of disciplines including environmental law, environmental sociology, ecological economics, ecology and environmental geography.

There are various examples which showed that human being should need environmental ethics. These examples are given below:

- Should men carry on to deforestation for different purposes?
- Should humans continue to make gasoline-powered vehicles?
- What are environmental responsibilities do humans need to keep for future generations?
- How should humans best use and conserve the space environment to secure life?

12.6 Role of Ethics in Environmental Conservation

Ethics is one of the most important environmental conservation methods and engages in near the beginning history of human civilization. Environmental ethics has various roles in environmental conservation but most of the people are not aware about its importance. It is interlinked with the sustainable development. Environmental ethics plays very important role in environmental conservation and spreading mass

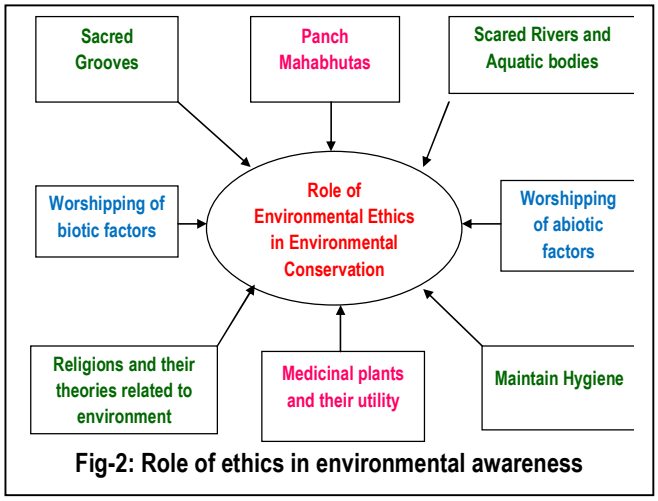

Fig-2: Role of ethics in environmental awareness

environmental awareness among the society. However, some of the important roles of ethics in environmental awareness are summarized in Fig-. 2 and also described below:

(i) **Sacred Grooves:** Ethics plays an important role in conservation of sacred grooves. Sacred grooves are very important sites of biodiversity. Actually, these are reservoirs of biological diversity in which religious species are found. Sacred grooves conserved traditionally by the villagers. Conservation of **s**acred grooves entirely depends on moral values. People think that there is God and Goddess therefore we should not destroy plants and animals of that groove. There are various sacred grooves in different states of India viz., Himachal Pradesh, Manipur, Uttarakhand, etc. These grooves consist of religiously important trees, viz., Peepal, Bargad, Amla, Neem, etc.

(ii) **Panch Mahabhutas:** The five great elements called as "Pancha Mahabhutas" create a web of life that is shown forth in the structure and interconnectedness of the cosmos and the human body. Hinduism teaches that the five great elements (space, air, fire, water and earth) that constitute the environment and are all derived from Nature (Prakriti). Hindus says that the human nose is related to earth, tongue to water, eyes to fire, skin to air and ears to space.

(iii) **Sacred Rivers**: When we talk about conservation of river the role of environmental ethics become more important. In India conservation of rivers is very important issue. Environmental ethics play an important role in conservation of these sacred rivers. Ethics of India says that these rivers are our mother. Rivers like Ganges is regarded as one of the most sacred river of India. As you know Ganga pollution is increasing day by day due to anthropogenic activities. Environmental ethics provide a platform to conserve this National River. If we follow the ethics we can certainly minimize the pollution level in Ganga and other rivers. For example our ethics say that dumping of solid waste in Ganga River is a sin then we could not throw waste in Ganga and can conserve the River. Therefore, Environmental ethics is very important to maintain the water quality in the rivers.

(iv) **Worship of Abiotic factors:** As you know that our environment is made up of two major components first are abiotic factors and second are biotic factors. Abiotic factors may include air, water, soil etc. Our ethics says that these abiotic factors are equally important to us. In many religions air, water and soil are regarded as

God and Goddess. For example air is regarded as Vayu Dev in Indian tradition, Soil or earth is regarded as mother.

(v) Worship of biotic factors: Biotic factors include plants, microbes and animals. Environmental ethic says that plants and animals be worshipped. In many religions and culture plants like Tulsi, Peepal, Bel, Mango, Banana etc. are being worshipped. In the same way animals like rat, snake, cow, lion, crow, owl, pigeon are also being worshipped. Environmental ethics says that we should live with these plants and animals in perfect harmony. In many festive occasions plants and animals also are worshipped. Therefore, Environmental ethics play an important role in conservation of plants and animals.

(vi) Religions and their theories related to environment: Environmental ethics is embedded in different religions of the world. Every religion supports the environmental protection and conservation. You can understand view of Hinduism by Atharvaveda verse which says that "माताः भूमिः पुत्रोहम् पृथिव्याः" which means "Earth is my mother and I am the dutiful son of Her". Quran says man is born with nature made by Allah (Q30:30) and he indeed prospers who purify it and he is ruined who corrupts it (Q91:9-10). The great Buddha has laid down religious sanction against the indiscriminate use of trees and plants. Bhikkhu and Buddhist always required that their dwelling be near the mountains or in the forest under the shade of tree. Pollution is prohibited in Buddhism. Christianity says that God instructs humanity to manage the creation in particular ways. "And God blessed them, and God said unto them, be fruitful, and multiply, and replenish the earth, and subdue it: and have control over the fish of the sea, and over the fowl of the air, and over every living thing that live on earth. In Sikhism, earth is mentioned in the Moolmantra (Seminal formula) where Guru Nanak calls God as Karta purakh (Creating power of universe). Guru Granth Sahib stated that God is only creator of nature without nature no animal and plant can survive on this earth. "Magnificent nature is the symbol of His creative vision".

(vii) Maintain Hygiene: As you know, most of the diseases spread due to unhygienic conditions. This unhygienic condition can be changed into hygienic one by little awareness among people. Environmental ethics tell us about the significance of hygiene. If we follow our ethical values we will maintain cleanliness and hygienic condition in and around our society.

12.7 Role of NGOs in Environmental Awareness

Non Governmental organizations play a huge role in environmental awareness. There are various NGOs which are working for environmental protection in general and environmental awareness in particular. Environmental awareness in need of hour, without awareness we cannot inculcate environmental conservation among community. In India non-governmental organizations includes charity organizations, committees and various other professional organizations. They spread mass awareness across the country and they have close contacts with communities. They are concerned with the whole range of developmental actions from producing environmental awareness to watershed development: from disaster management to sustainable livelihoods; from joint forest management to giving inputs to policies. There are various roles of NGOs in environmental awareness which are summarized in Fig-3 and also described below:

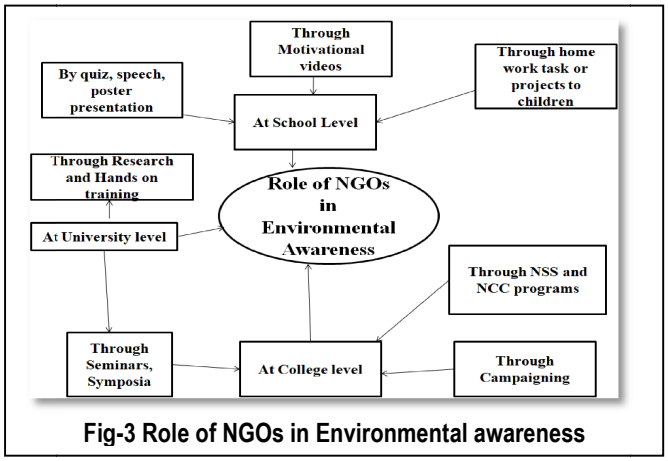

Fig-3 Role of NGOs in Environmental awareness

(i) At school level: NGOs can play very important role in spreading mass environmental awareness at school level. It is very important that environmental awareness should inculcate among children in school. NGOs can perform various activities such as poster, quiz, and speech competitions at school level. As you know we will find pure and fresh mind in schools. It is role of NGOs that environmental awareness should be spread at first level of education. It can spread through motivational videos and through home work project etc.

(ii) At college level: Environmental awareness should also spread at college level. Youth need the environmental awareness and it can be done by various Non-Governmental Organizations. NGOs can organize various seminars, symposia, conferences etc. at college level to spread the mass environmental awareness. Various NGOs provide a platform to degree college students to express their knowledge, skill and planning regarding environment.

(iii) In Urban area: As you know urban area in which all the facilities are easily accessible. The environmental problems are also high in the urban area. NOGs play an important role in spreading mass environmental awareness in urban area. The main environmental problems of urban area are generation of non-biodegradable waste, air pollution, water pollution, noise pollution. NGOs can aware the people about these environmental problems. For example NOGs can organize campaigns to mitigate the environmental problems.

(iv) In rural area: The role of NOGs is also important in rural area. The people of rural area generally follow the traditions and able to mitigate the environmental problems. However, the NOGs can aware the people about the recent technologies which are used in environmental science. Such techniques may include remote sensing, GIS etc.

(v) In industries: Environmental problems are happening due to the industrial processes. NGOs can aware the industrial people about the impacts of industrial waste, industrial effluents and industrial emission. NGOs also play important role in monitoring of certain parameters of industries to make sure that this or that industry is following the rules and regulations of government.

There are large number of NGOs in India and other countries that are exclusively working for environmental protection, conservation, and awareness. There are many important NGOs/institutes/agencies such as Greenpeace, WWF, Bombay Natural History Society, Development Alternatives Group, The Energy Research Institute etc. are working for environmental conservation.

12.8. Role of an Individual in Environmental Awareness

As you know environment protection has been burning concern and it is becoming more burning issue in last few decades. Many initiatives have been taken to tackle the menace of pollution and other environmental issues. Urgent steps have to be in use at local and global level. Many policies, planning, programs have developed to protect environment. But unfortunately, most of them are not successful till date. Therefore, role of individual is becoming more importance, because it is the individual that plays important role in environment protection. Attempt by each individual at his or her level can have a significant effect. It has been appropriately said that “charity begins at home”. Awareness and inspiration by an individual is strongest tool to undertake environmental problems. This is because an aware individual not only lessens the

burden on state but also can tackle problem of environment more efficiently as he or she is more familiar with environmental problems persistent at local level. An individual can feel day to day environmental problem and can take initiative to resolve the problem. It is viable to prevent environmental problem by individual's effort than other planning. Therefore, role of an individual is vital in conservation, protection and preservation of environment and their components. Individuals should encourage adapting their way of life and living practices if that are not ecofriendly. There are different roles of an individual in environmental conservation and environmental awareness. Some of the important roles are summarized in Fig-4 and also discussed below:

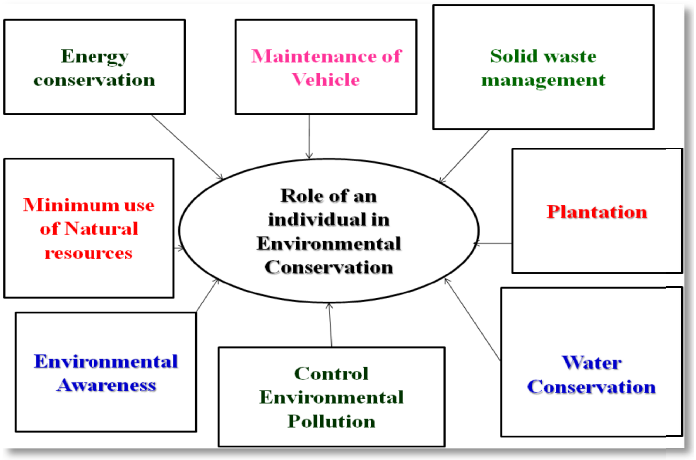

Fig-4: Different roles of an individual in environmental conservation and awareness

(i) Energy conservation: An individual can save energy significantly. Individuals should minimize consumption of resources such as energy. An individual can switch off the lights which are not necessary. Every unit of electrical energy saved is equivalent to unit of electricity produced as it not only saves the fuel that would be used to produce that electricity, but also help to prevent environmental pollution produced by burning of that fuel. Therefore, person should always switch off electrical devices when not in use. An individual can save energy by walking or by the use cycle instead of motor vehicle. Individuals can make substantial contribution by using public transport instead of using personal vehicles. Use renewable resources by installing solar devices such as solar heaters, solar cookers etc. Individuals should not use refrigerators during the winter. As we know that refrigerators are main source of Chlorofluorocarbons which is responsible for ozone (O_3) layer depletion.

(ii) Maintenance of Vehicle: An individual can protect environment by proper maintenance of his/her personal vehicle. As you know vehicles require time to

time service and if our vehicles are not fully maintained these can release harmful gases in the atmosphere which is responsible for air pollution. Individuals should maintain their vehicles to minimize the air pollution.

(iii) **Solid waste management:** An individual can manage the solid waste in significant manner. Individuals should reduce, reuse and recycle the waste. An individual should not bring any non-biodegradable material such as polythene, plastic etc. The products that are made of biodegradable components should be given priority. An individual can use gunny bags made of biodegradable materials instead of plastics. An individual can also segregate non-biodegradable and biodegradable waste at their home.

(iv) **Plantation:** As you know deforestation is one of the biggest environmental problems. Deforestation can leads into improper or less rain, desertification, low biodiversity, air pollution etc. To resolve this problem agro-forestry, urban forestry etc. have been developed at various levels. An individual can participate in environment management through plantation. If one individual of any community can plant a tree we will find that our area is full with trees and plants. An individual can plant fruit bearing trees, ornamental plants etc.

(v) **Water conservation:** Water is one of the most important fundamentals of life after air. In present time whole world is facing water scarcity. An individual can save water using various small steps such as to stop the leakage of water, proper monitoring of water supply, use of traditional method of cloth washing instead of washing machine. As the western style toilets consume more water therefore an individual can use Indian toilets to save water.

(vi) **Population Control:** An individual can play important role in population control. An individual can follow family planning. As you know more population means more burden on natural resources. High population also requires more resources and if we utilized more resources it will leads into environmental pollution.

(vii) **Control Environmental Pollution:** As you are aware about the sources, causes and consequences of environmental pollution. Environmental pollution can be found in the form of air, water, soil and noise pollution. An individual can reduce environmental pollution through various eco-friendly activities. Individual can perform various activities like avoid personal use of vehicle, proper maintenance of vehicle, management of solid waste to reduce the air pollution. To avoid water

pollution individual should not dump solid waste near aquatic bodies, plantation near water bodies, use of bio-fertilizers and bio-pesticides etc. Individual should not use pressure horn; avoid use of DJ and other noisy instruments.

(viii) Environmental awareness: An individual can spread environmental awareness and inspire other people to environmental conservation. Individual may have different occupations and can aware people of his/her surrounding. Individual can play important role in spreading mass environmental awareness through meetings, seminars etc.

Summary

In this unit we have discussed various aspects of ethical basis of environmental awareness. So far you have learnt that:

- Environmental awareness is need of hour in the context of successfully addressing environmental harms. Environmental awareness is connected to environmental education. In one way provision of environmental education produces greater awareness among communities with respect to placing natural sources to use even while preserving them.
- In very simple words Environmental ethics may define as "to set the moral values toward environment". Environmental ethics is a branch of applied philosophy that deals with the conceptual foundations of environmental values as well as more concrete issues surrounding societal attitudes, actions, and policies to protect and sustain biodiversity and ecological systems.
- There are various current environmental issues such as Global Warming, Ozone layer depletion, Environmental Pollution, Green House effect and Acid rain
- There is urgent need of environmental awareness at national and international level for Protect Plants and Trees, Water Conservation, Control Environmental Pollution, change mentality of people, protect animals, enhance traditional knowledge, solid waste management and to minimize the impacts of Disasters we need environmental awareness.
- Ethics is one of the most important environmental conservation methods and engages in near the beginning history of human civilization. Environmental ethics has various roles in environmental conservation but most of the people are not

aware about its importance. It is interlinked with the sustainable development. Environmental ethics plays very important role in environmental conservation and spreading mass environmental awareness among the society.

- NGOs can play important role in spreading mass awareness in different regions of the world.
- An individual can save energy significantly. Individuals should minimize consumption of resources such as energy. An individual can protect environment by maintaining his/her personal vehicle. As you know vehicles require time to time service and if our vehicles are not fully maintained these can release harmful gases in the atmosphere which is responsible for air pollution.
- An individual can manage the solid waste in significant way. Individuals should reduce, reuse and recycle the waste. An individual should not bring any non-biodegradable material such as polythene, plastic etc. The products that are made of biodegradable components should be given priority. An individual can also segregate non-biodegradable and biodegradable waste at their home.
- An individual can participate in environment management through plantation. An individual can save water by various small steps such as stop the leakage of water, proper monitoring of water supply, use traditional method of cloth washing instead washing machine. An individual can play important role in population control.

Terminal Questions

1.(a) Fill in the blank spaces with appropriate words.

Many initiatives have been taken to tackle the menace of pollution and other environmental issues. Urgent steps have to be in use at local and …….level. Many policies, planning, programs have developed to protect environment. But unfortunately, most of them are not ……..till date. Therefore, role of ……..is become more importance, because it is the individuals that make huge role in …….protection. Attempt by each individual at his or her level can have a significant effect. It has been appropriately said that “charity begins at…….”. Awareness and ……by an individual is strongest ……to undertake environmental problems. This is because an aware individual not only lessens the burden on state but also can tackle problem of environment more efficiently as he or she is more familiar with environmental

…….persistent at local level. An individual can feel day to day ……problem and can take initiative to resolve the problem. It is viable to prevent environmental problem by individual's effort than other…….. Therefore, role of an individual is vital in conservation, protection and preservation of environment and their components.

2. (a) Give the definitions of ethics.

(b) What do you understand by environmental awareness? Explain the need of environmental awareness.

3. (a) Describe the ethical basis of environmental awareness.

(b) Write about concept and objectives of awareness.

4. (a) What is the role of ethics in environmental conservation.

5. (a) Discuss current environmental issues.

6. (a) Fill the blank spaces with appropriate words.

Every religion supports the environmental protection and conservation. You can understand view of Hinduism by Atharvaveda verse which says that "माताः भूमिः पुत्रोहम् पृथिव्याः" which means "Earth is my ……..and I am the dutiful ……..of Her". Quran says man is born with nature made by …….and he indeed prospers who purify it and he is ruined who corrupts it. The great Buddha has laid down religious sanction against the indiscriminate use of trees and plants. Bhikkhu and Buddhist always required that their dwelling be near the ……..or in the forest under the shade of tree. Pollution is prohibited in Buddhism. Christianity says that God instructs humanity to manage the creation in particular ways. "And God blessed them, and God said unto them, be fruitful, and …….., and replenish the earth, and subdue it: and have control over the fish of the sea, and over the fowl of the air, and over every living thing that live on earth. In Sikhism, earth is mentioned in the …… (Seminal formula) where Guru Nanak calls God as …….. …….(Creating power of universe). Guru Granth Sahib stated that God is only creator of ……without nature no animal and plant can survive on this earth. "Magnificent nature is the symbol of His ……vision".

(b) Environmental ethics is all about (moral values/scientific value/governmental rule)

(c) International Ozone day is celebrated every year on (1st October/16th September/22nd April/23rd March)

(d) Montreal protocol is related to (ozone layer / eutrophication / global warming / acid rain)

(e) What are the roles of NGOs in environmental awareness?

7. (a) Describe the role of an individual in Environmental awareness.

Answers

1. (a) global, successful, individual, environmental, home, inspiration, tool, problems, environmental, planning

2. (a) see the section 12.2

(b) See the section 12.5

3. (a) See the section 12.5.1

(b) See the section 12.3

4. (a) See the section 12.5.2

5. (a) See the section 12.4

6. (a) mother, son, Allah, mountains, multiply, Moolmantra, Karta purakh, nature, creative

(b) Moral values

(c) 16th September

(d) Ozone layer

(e) See the section 12.6

7. (a) See the section 12.7