

ENVIRONMENTAL ETHICS

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14.1 INTRODUCTION

In Unit 13 we have discussed human population growth and its impact on environment and human health and the issues related to natural disasters together with problem of resettlement and rehabilitation. In this unit, we will discuss about many social issues in terms of ethical and moral dimensions in respect of environmental management.

Many environmental problems are in fact social issues in terms of moral and ethical values. Building a just, stable, harmonious world for the future generations should be the central organising principle for civilisation.

This unit reviews the environmental ethics, our views and beliefs about nature and environment, issues of environmental equity, environmental crisis, environmental justice and

racial discrimination at the policy and public level in managing the environment, and teachings about environment in the major religions practiced in South Asia.

Expected Learning Outcomes

After studying this unit, you should be able to:

- ❖ discuss different ethical approaches and attitudes towards nature and environmental management;
- ❖ explain the importance of equity for environmental management;
- ❖ discuss the necessity of justice in dealing with environmental crisis;
- ❖ describe the effects of discriminatory policies and plans for environmental management; and
- ❖ explain the teachings of different religions about environmental management.

14.2 ETHICAL USE OF NATURAL RESOURCES

The release of noxious gases into the atmosphere, the destruction of forests and the over-exploitation of natural resources have caused irreversible environmental damage throughout the world. In some cases the damage is so severe that life-support systems, both local and global, are being threatened. Unless we curb our desire for more and more material possessions and unceasing economic growth, continued ecological damage will be unavoidable. To solve our environmental problems, there has to be a change in the way we think about and the way we interact with our environment.

Ethics, seeks to define as to what is right and what wrong we have done on a universal basis. For example stealing, lying, cheating, killing and indifference to the well-being of others are considered to be unethical. Preserving human life, concerns for others, honesty and truthfulness are considered to be ethical.

Moral values reflect the dominant belief of a particular culture about what is right and what is wrong. For example killing a person is wrong but during the wartime, killing an enemy soldier is not considered as an immoral act. It is difficult to define what is wrong and what is right because of the differences in cultural and religious beliefs. Some individuals consider it unethical, immoral to unnecessarily waste resources while others argue that maximising consumption is a moral act because it promotes the economic growth, that is a source of jobs and funds for helping the poor and protecting the environment.

When we use the term “Environmental Ethics” we refer to it as a discipline that studies the moral relationship of human beings, and also the value and moral status of the environment and its non-human contents.

Why do we need a new set of ethics for the environment? The answer includes three factors.

1. **New effects on nature:** As our modern technological civilisation affects nature greatly, we must examine the ethical consequences of these new technological actions.
2. **New knowledge about nature:** Modern science demonstrates as to how we have changed and are in the process of changing our environment in ways not previously understood, thus raising new ethical issues. For example, until the past decade, few people believed that human's activities could be changing the global environment. Now, scientists however, believe that burning fossil fuels and clearing forests have increased the amount of carbon dioxide in the atmosphere, and that this causes changes in our climate. Hence the emphasis is on a global perspective.
3. **Expanding moral concerns:** Some people argue that animals, trees, and even rocks have normal and legal rights. These expanded concerns lead to a need for a new ethic.

For most of human history, ethics has concentrated on "human rights", the rights of individuals, of families and ethnic groups. However ethics now include the rights of animals, plants and the environment beyond the human rights to rule and use them.

14.3 THREE VIEWS ABOUT NATURE

There are essentially three views of nature:

1. The Western (European and North American),
2. The Sineatic (Chinese, Korean and Japanese) and
3. The Indian (a combination of Hindu, Buddhist and Jain philosophies).

In the past the western view considered that nature was alien and hostile to human beings; it had to be conquered, and subsumed under human control.

The Sineatic concept of nature is that it is beautiful and perfect, but it has to be transformed to be loved. Nature creates an aesthetic awe. "Rather than being hostile, humans are part of nature, in the Sineatic view, human being have their place in nature".

The Indian spiritual tradition combines perspectives on nature from Hinduism, Buddhism and Jainism. In this case, nature is a mother. She cannot be tamed by her children. She is a Goddess.

14.4 ATTITUDES TOWARDS NATURE

The way we treat the environment reveals much about our beliefs regarding ourselves and the world around us? Some people regard human beings as merely one of the many species of animals; others view human being's role as caretaker or stewards of nature. This differing points of view often lead to contradictory environmental policies. Let us see some of the popular points of view towards environment.

14.4.1 Anthropocentrism

The people having an anthropocentric or human centred attitude towards nature assign significantly greater value to human being than any other non-human organisms or things. According to anthropocentric attitude, protection or promotion of human interests or well-being at the expense of nonhuman things turns out to be nearly always justified. Aristotle maintains that 'nature has made all things specifically for the sake of man' and that the value of nonhuman things in nature is merely instrumental.

In the early 1970s, with the emergence of environmental ethics as a new discipline, a challenge was posed to anthropocentrism. Environmental ethics questioned the assumed moral superiority of human beings over other species on earth and the rationales for assigning intrinsic value to natural environment. However, some theorists working in the field see no need to develop new, non-anthropocentric theories. Instead, they advocate what may be called *enlightened anthropocentrism* (or, perhaps more appropriately called, *prudential anthropocentrism*). Briefly, this is the view that all the moral duties we have towards the environment are derived from our direct duties to its human inhabitants.

14.4.2 Stewardship

Many tribal or indigenous people, both hunter-gatherers and those in traditional agricultural societies, have a strong sense of stewardship or responsibility for a particular part of nature. As custodian of resources, they see their proper role as working together with human and non-human forces to sustain life. Humanity and reverence are essential in this worldview, where humans are seen as partners in the natural process rather than masters-not outside of nature but part of it. Stewardship requires a person to consider the entire universe as her or his extended family, and all living organisms are members of the household. In this humane view, stewardship need not reject science or technology. If we are part of nature, then our intelligence and discoveries are parts of nature too. As stewards of our environment, we have a duty to use the power of science and technology to improve rather than destroy or degrade the world.

14.4.3 Ecofeminism

Many feminists argue that neither anthropocentrism, nor stewardship is sufficient to solve environmental problems or to tell us how we ought to behave as moral agents. They argue that all these philosophies have come out of a patriarchal system based on domination and duality. This worldview assigns prestige and importance to some things but not others. It claims that men are superior to women, minds are better than bodies, and culture is higher than nature. Feminists see an important connection between patriarchal domination, exploitation, and ill-treatment of woman, children, minorities and nature.

Ecofeminism is radically a new vision. It is rooted in women's biological, procreative and maternal role. Ecofeminism finds instant rapport with Eastern

concepts of 'Mother Nature'. According to some experts on the subject, 'The capitalist, patriarchal World system' is founded upon and sustains itself through three 'colonisations' - of women, of foreign people and their lands and of nature. The ecology of nature is linked to the biology of women's bodies, and the exploitation of nature to the exploitation of women's wombs. It is anti-modern science and economic growth, as both are characteristic of a violent male ethos. It envisions a work of subsistence life style, in harmony with nature and pervaded by 'feminist principle'. For the greater good of both man and woman, ecofeminism seeks to forge a 'new sexual and reproductive ecology'.

Ecofeminist, a pluralistic, nonhierarchical, relationship oriented philosophy suggests that humans could reconsider their relationship to nature in nondominating ways and this is proposed as an alternative to patriarchal systems of domination. Ecofeminism is concerned not so much with rights, obligations, ownership and responsibilities as with care, appropriate reciprocity and kinship. It promotes a richly textured understanding or sense of what human life is and how this understanding can shape people's encounters with the natural world.

According to this philosophy, when people see themselves as related to others and to nature, they will see life as bounty rather than scarcity, as a network of personal relationships rather than isolated egos. However, Ecofeminism has been subjected to severe criticism for its impracticability and its peculiar biases and distortions. It is argued all development is not patriarchal and anti-women.

14.4.4 Biocentrism and Ecocentrism

Many modern environmentalists criticise stewardship as being too anthropocentric. They instead favour the biocentric attitude thinking that all living organisms have values and rights regardless of whether they are useful or not. Aldo Leopold, in his famous essay on the Land ethic, included the whole biotic community as part of the land. Leopold pointed out that the history of civilisation has been accompanied by a gradual extension of inherent values and rights, first to men, then to women, children and minorities and more recently to nonhumans such as corporations and states. Leopold argues that values should be extended to the recognition of inherent worth to other organisms as well.

Some philosophers assert that even nonliving components of the landscape such as rocks, rivers, mountains or ecological processes such as succession or the hydrological cycle have a right to exist in their natural state without human interference. This attitude is described as ecocentric because it claims moral values and rights for both organisms and ecological systems. People having anthropocentric approach believe that the environment is in perfect balance until the evolution of modern humans who have disrupted the web of life in their quest to dominate nature; a quest which is leading to their own destruction if they do not relearn to live in harmony with the natural world.

SAQ 1

Match Column A with Column B:

Column A

- i) Western view
- ii) Anthropocentrism
- iii) Stewardship
- iv) Ecofeminism
- v) Biocentrism and Ecocentrism

Column B

- a) Strong sense of responsibility for a particular part of nature
- b) All living organisms have values and rights
- c) All philosophies have come out of a patriarchal system
- d) God created humans in his own image
- e) Nature was alien and hostile to human being

14.5 ENVIRONMENTAL EQUITY

An ideal of equal treatment and protection for various racial, ethnic, and income groups under environmental statutes, regulations, and practices are applied in a manner that yields no substantial differential impacts relative to the dominant group - and the conditions so-created. Although environmental equity implies elements of “fairness” and “rights”, it does not necessarily address past inequities or view the environment broadly, nor does it incorporate an understanding of the underlying causes and processes.

There are three categories of environmental equity issues:

14.5.1 Procedural Inequity

This issue addresses the questions of fair treatment: the extent that governing rules, regulations, and evaluation criteria are applied uniformly. Examples of procedural inequity are “stacking” boards and commissions with pro-business interests, holding hearings in remote locations to minimise public participation, and using English-only material to communicate to non-English speaking communities.

14.5.2 Geographical Inequity

Some neighbourhoods, communities, and regions receive direct benefits, such as jobs and tax revenues, from industrial production while the costs, such as the burdens of waste disposal, are sent elsewhere. Communities hosting waste-disposal facilities receive fewer economic benefits than communities-generating the waste.

14.5.3 Social Inequity

Environmental decisions often mirror the power arrangements of larger society and reflect the still-existing racial bias in these States. Institutional racism has influenced the noxious facilities and has let many black communities become “sacrifice zones”.

14.6 ENVIRONMENTAL JUSTICE

The right to a safe, healthy, productive, and sustainable environment for all, is the one where “environment” is considered in its totality to include the

ecological (biological), physical (natural and built), social, political, aesthetic, and economic environments. Environmental justice refers to the conditions in which such a right can be freely exercised, whereby individual and group identities, needs, and dignities are preserved, fulfilled, and respected in a way that provide for self-actualisation and personal and community empowerment. This term acknowledges environmental “injustice” as the past and present state of affairs and expresses the socio-political objectives needed to address them. *“Environmental justice has been defined as the pursuit of equal justice and equal protection under the law for all environmental statutes and regulations without discrimination based on race, ethnicity and /or socioeconomic status.”*

This concept applies to governmental actions at all levels - local, state and central as well as private industry activities. Providing environmental justice goes beyond the stated definition and includes a guarantee of equal access to relief and meaningful community participation with government and industry decision-makers.

14.7 ENVIRONMENTAL RACISM

It is sometimes thought that environmentalism is an elitist movement, for those who have money and leisure, and who can afford to worry about maintaining open spaces for recreation, and preserving economically valueless species as a matter of principle. It is said that from the point of view of the poor, providing jobs and a good standard of living should have higher priority than a clean environment, which is a luxury that comes after other needs are met.

However, others believe that the environmental consequences of our use of natural resources fall disproportionately on certain disadvantaged racial, ethnic, and socioeconomic groups. For instance, a good case could be made that hazardous waste sites are usually located in disadvantaged communities, and in disadvantaged nations, and that the people in these locations bear the consequences of the use of hazardous materials, without reaping the benefits proportionately. The environmental justice movement is concerned with such issues.

SAQ 2

Fill in the blank with appropriate word:

- i) decisions often mirror the power arrangements of larger society.
- ii) Environmental justice affirms the sacredness of mother
- iii) Environmental demands the right to participate equal partners.
- iv) is an elitist movement for those who have money and leisure.
- v) tend to be poor and more disadvantaged than others working in the dirtiest

14.8 RELIGIOUS TEACHINGS ABOUT ENVIRONMENT

World religious and individual spiritual traditions can provide a framework for changing our attitudes. World religions teach us that the land, rivers, mountains, minerals, oceans are held in trust for God, but can be wisely used for the general welfare of humanity. Put another way, our religions tell us that we should consider ourselves only as trustees of the universe, and as trustees we are authorised by God to use natural resources, but we have no divine power over nature and the elements. From the perspective of many religions, the abuse and exploitation of nature for immediate gain is unjust and unethical.

All religions and cultures have something to offer to conservation and environment protection. From each religion, several injunctions or exhortations can be brought forth to form a code for environmentally sustainable development. No religion says that we have the right to destroy our habitat, and no religion sanctions environmental destruction. On the contrary, penalties and admonitions are mentioned for those who do so. This is amply demonstrated in the codes of all the religions. A brief review of teachings about respect of nature and conservation of natural resources as given by Hinduism, Jainism, Buddhism, Christianity, Islam and Sikhism is given in the following sections.

14.8.1 Hinduism

In Hinduism one finds a most challenging perspective on respect for nature and environmental conservation, and the sanctity of all life on this planet and elsewhere is clearly ingrained in this religion. Only the supreme God has absolute sovereignty over all creatures, including humans. Human beings have no dominion over their own lives or over non-human life. Consequently they cannot act as viceroys of God, nor can they assign degrees of relative worth to other species. The sacredness of God's creation demands that no damage may be inflicted on other species without adequate justification. Therefore all lives, human and non-human, are of equal value, and have the same right to existence.

According to Hindu scriptures people must not demand or take dominion over other creatures. They are forbidden to exploit nature; instead they are advised to seek peace and live in harmony with nature. The Hindu religion demands veneration, respect and obedience to maintain and protect the harmonious unity of God and nature. This is demonstrated by a series of divine incarnations, as enunciated by Dr. Karan Singh in the Assisi Declaration:

The evolution of life on this planet is symbolised by a series of divine incarnations beginning with fish, moving through amphibious forms and mammals, and then on into human incarnations. This view clearly holds that man did not spring fully formed to dominate the lesser life forms, but rather evolved out of these forms itself, and is therefore integrally lined to the whole of creation.

Almost all the Hindu scriptures place strong emphasis on the notion that not killing His creatures or harming His creation can receive God's grace. Many trees and plants were worshipped during the time of Rig. Veda (about 1500 BC) because they symbolised the various attributes of God.

Environmental awareness was realised even in the pre-vedic period. There are references to 'Tree Worship' in Mohanjodaro and Indus civilisations. Environmental awareness was more manifest among humans during the Vedic period. The concept Aranyani the queen of forests identical to the concept of tree Goddesses of Indus people. Aranyanis are worshiped as the presiding spirit of forests, conceived as women is praised, honoured by herbs and described as mother of wild animals (Rigveda). Instances of attribution of divinity to plants are found in Rigveda and Atharvaveda.

Animals and nature were revered along with Gods. Hanuman and Ganapati are the most powerful deities, Peepal, Ganga, Himavan, Tulsi, Banyan trees are considered holy even today.

Vedic man identified at least four major components – Sun, Agni, Prithvi, and Sky that sustained life and therefore worshiped them as deities.

(O king of trees, these are Brahma by your root Vishnu by the middle of our body and Shiva by your front. Thou combine all the deities. We salute you. Disease vanish at your sight and by touch of you the sins Vanish. Ever cool and lasting. We salute you. (Rigveda 1-48-5).

Charrk Samhita, classical literature on Ayurvedic medicines, deals with divine herbs, with deep insight into preservation of environmental balance to benefit personal health and pollution free environment.

Planting of Trees has been proclaimed as conducive to great merit in Purans. Agni Purana and Varah Purana mention the benefits arrived from trees.

Durga Shaptasati prescribes so long as mother earth is full of trees and forests with hills, she would continue to nurse and rear the human race.

Ecological balance between nature and human beings has been depicted as part and parcel of human life and a sense of reciprocity has been felt. Such reciprocity finds references in kautilya's Arthasastra for state policies.

Through such exhortations and various writings, the Hindu religion provides moral guidelines for environmental preservation and conservation. From the perspective of the Hindu, culture the abuse and exploitation of nature for selfish gain is considered unjust and sacrilegious.

14.8.2 Jainism

Jainism places great emphasis on the principle that one should refrain from avoidable acts that are harmful to others. According to Jainism violence grows out of passion, and one who has passion causes self-injury. Preventing injury to oneself and others is accomplished through control of speech, control of thought, regulation of movement, care in taking things up and putting them

down, and examining food and drink, and a vow is taken by Jains to do all of these things.

Ahimsa (non-violence), which is the fundamental tenet of the Jain way of life, a term that is clearly allied with realism, common sense, and personal worth, and responsibility. It touches the deepest and noblest aspects of human nature: *‘it adheres to the universal law which states that like, order comes of order, and peace can only be achieved through peace.* It maintains that in all situations the ends and means are one and the same, and that truth, honesty and compassion must be the foundation of any truly civilised community.

14.8.3 Buddhism

At the very core of the Buddhist religion are compassion, respect, tolerance and ahimsa (non-injury) towards all human beings and all the other creatures that share this planet.

Buddha also set down rules forbidding the pollution of rivers, ponds and wells. As Buddha says in Sutta-Nipata:

Know ye the grasses and the trees Then know ye the worms, and the different sorts of ants.... Know ye also the four-footed animals small and great... the serpents... the fish which range in the water... The birds that are borne along on wings and move through the air....

Buddhists regard the survival of all species as an undeniable right, because as co-inhabitants of this planet, they have the same rights as humans. In Buddhism the rivers, forests, grass, mountains and night are highly respected and regarded as bliss bestowers. Buddhist thinkers have always had great respect for the sun, moon and other planets.

The teachings of Buddhism have concentrated on the theory or Karma and the theory of cause and effect. They demonstrate that unmindful neglect of these principles of right living may lead to chaos, and thus to environmental crisis. That is why there should be no exploitation of nature beyond what is needed for survival, and if we believe that all life forms are interconnected, our exploitative tendencies towards nature can be controlled. This message that all life is interconnected and should be cared for – is the foundation of the Buddhist ethics of nature.

14.8.4 Christianity

There is a common thread in the Old and New Testaments concerning the concept of nature and the rules governing our responsibility to it. Although certain verses in Genesis (1:26 and 1:28) have been interpreted as giving humans dominion and absolute control over nature, there are places where the responsibility of human beings has been clearly delineated. For example *“And the Lord God took the man and put him into the Garden of Eden to dress it and keep it”* (Genesis 2:15).

The word ‘dress’ has been interpreted as the duty of man to manage, and the word ‘keep’ has been interpreted as protecting the natural world from harm.

Furthermore the scripture clearly establishes God as the sole owner of the natural world, while humanity is actively responsible for the care of the world:

*'The earth is the Lord's and everything in it, the world, and all who live in it'.
(Psalm 24:1), and*

Every animal in the forest is mine, and the cattle on a thousand hills (Psalm 50:10)

Furthermore, we are advised that we have no rightful ownership over the land: 'because the land is mine, and you are but aliens and my tenants.'

The Bible also confirms that the purpose of creation is to proclaim God's glory because it is His handiwork. Divine life is actively manifested in and through the created world. As such the Earth is not to be considered as a lifeless entity or a means to some higher end. To an extent, a harmonious triadic relationship exists between the divine and humanity, among human beings themselves, and between human beings and nature, and failure to maintain this harmony may alienate humanity from its creator and also from nature.

14.8.5 Islam

In Islam the Holy Quran and the divinely inspired words of Prophet Muhammad (Peace be upon him) form the foundation of and rules for the conservation of nature. The Quranic message is one of unity, harmony, balance and order. The Quran stresses that nature's laws must be observed, and that defined limits should not be exceeded. Man was created so that he could become a manifestation of divine attributes and serve as a mirror to reflect the beautiful image of God. The Quran says:

"Surely, your Lord is Allaha, who created the heavens and the earth in six days.... His is to create and to govern (Quran 7:54). And there is not a thing but we have unbounded stores there of and We send it in regulated quantities (Quran 15:21). Indeed, we have created everything in proportion and due measure (Quran 54:49).

Thus everyone has to observe the balance and acknowledge that certain limits should not be exceeded. In other words humanity has only a guardianship role in God's heaven and earth, and not a position of outright ownership; this guardianship has obligations. The Islamic ethic holds that we have a choice in our interaction with nature. People have been given the intellect and the ability to decide what is just and unjust; what is right and what is wrong.

According to Islam the riches of the earth are a common heritage. Everyone may benefit from them, make them productive, and use them for their own well-being and improvement, but our quest for progress and development must not be detrimental to the environment; instead it should ensure conservation.

In both the Quran and the Shariah, the legal codes of Islam, the rights of the natural world are strongly expressed and the abuse of them by humans is condemned. The Quran says:

“He set on the Earth, firmly rooted, mountains rising above it, and blessed the Earth and provided sustenance for all, according to their needs.

14.8.6 Sikhism

Baba Guru Nanak Dev, the founder of the Sikh religion, assigned divine attributes to nature. According to Sikhism, people should respect God’s creations and know the eternal truth regarding their place in the universe. God had not granted any special or absolute power to humans to control and dominate nature. To the contrary, the human race is an integral part of nature and is linked to the rest of creation by indissoluble bounds.

God Himself is the source of the birth, sustenance and eventual destruction of all living organisms. It is He who created the universe through His divine will and with His word. According to the Sikh holy book, the *Guru Granth Sahib*, ‘From the Divine Command occurs the creation and the dissolution of the universe. The basis of creation was divine will, and the universe was produced by *His Hukum* (command). However, it should be noted that God is submerged in creation, as stated in the *Adi Guru Granth Sahib* (p.16)

From Primal truth emanated air

From air emanated water

From water emanated three worlds

And Himself the merged with the creation

Sikhism teaches that the natural environment and the survival of all life forms are closely linked in the rhythm of nature. The history of the Gurus contains many stories of their love and special relationship with the natural environment – with animals, birds, vegetation, earth, rivers, mountains and the sky.

SAQ 3

Match the religious teachings given in Column B with that of religious philosophies of Column A.

Column A

- i) Hinduism
- ii) Jainism
- iii) Buddhism
- iv) Christianity
- v) Islam
- vi) Sikhism

Column B

- a) Compassion, respect, tolerance and ahimsa
- b) God took the man and put him into the Garden
- c) Riches of the earth are a common heritage
- d) People should respect God’s creation
- e) Violence grows out of passion
- f) Human beings have no dominion over their own live

14.9 ENVIRONMENTAL COMMUNICATION AND AWARENESS

Education for environmental awareness is essential for the younger generation as well as for the older generation. It also needs to cover both urban and rural

population. The beneficiaries at the grassroot level are as much a clientele for environmental education as are the policy makers, the decision makers and the project implementers. Hence, environment education needs to be conveyed to these different categories of people through formal education systems, non-formal education systems and the use of mass media.

14.9.1 Among Students Through Education

Education in India is mainly a state subject and the responsibility is that of the Ministers of Education at the Centre and the States. The education system is divided into two major stages, namely, school and university education. Let us see what is the place of environment education at these two levels.

Stage-wise content

School stage: Four components are required to build up the social awareness about environment education at the school level. These are awareness, exposure to real life situations, concepts of conservation and sustainable development. These four considerations can be further adjusted in terms of the requirements at primary, secondary and higher secondary levels.

Awareness involves making the individual conscious about the physical, social and aesthetic aspects of environment. One has to appreciate the fact that humans are only one of the numerous species on the Earth; they are linked with the life support systems with six elements: air, water, land, flora, fauna and sunlight. These elements are crucial to the well being of human kind as well as other species.

Real-life situations bring people closer to the environment. These conditions are location-specific, with different environment aspects being emphasised in different areas.

As far as conservation and sustainable development are concerned, the main focus would be on sustainable utilisation of resources and not on exploitation. Contrary to the earlier notion of resource like water, soil and air being unlimited, the emphasis is now on their finite nature and thus the limits to the growth of living systems. Sustainable development aims at utilisation of resources not only by the present generation but their preservation for the future generations also, so that life can be sustained for a long period of time. Population growth and planning also form a part of this thinking.

At the primary stage of education, greater emphasis could be laid on awareness followed by real-life situation and conservation. This would prepare the child to understand the need for sustainable development at a later stage. The focus could be on sensitising child to environment. From the lower secondary stage onwards, the emphasis on awareness will begin to decrease in favour of increased knowledge about real-life situations, conservation and sustainable development. And at the higher secondary stage, conservation should get a priority over other factors. The methodologies may range from observation to practical experiences and action—oriented feedback. The school as well as college education on environment may be summarised as follows (Table. 14.1)

Table 14.1: Summary of school and college education on environment

Stage	Objectives	Content	Teaching Strategy
Primary	Awareness	Surroundings from home to outdoor situations	Audio-visual and field visits
Lower Secondary	Real life experiences, awareness and problem identification	As mentioned above for primary stage and general sciences	Classroom teaching, practicals, and field visits
Higher Secondary	Assimilation of knowledge, problem identification and action skills	Science based and action oriented work	Classroom teaching and field work
Tertiary/ College	Sustainable development, based on experience with conservation	College/University based on Science and Technology	Classroom teaching, practicals and action oriented field work

For the school stage, National Council of Educational Research and Training (NCERT) has done substantial work in designing syllabi, developing suitable text books and support materials like guide books, charts and video tapes.

University Stage: University education has three major components – teaching, research and extension, the last being the weakest link. In higher education, irrespective of the field- medical, engineering, science, fine arts, management or law – the relevant aspects of environment should be part of the curriculum.

14.9.2 Among General Population Through Various Media

So far we have been dealing with the clientele which are well defined and within the boundaries of formal education system. But there is a need to cut across the boundaries of illiteracy and reach the masses. This can be done only through the channels of adult education. Though programmes for adult education are already in progress and are duly emphasised by the New Education Policy, the time has come to emphasise environmental education for sections like women, tribals, agricultural labour, slum-dwellers and residents of drought-prone areas. The neoliterates from these groups will help to spread the environmental message to the grassroots level. Voluntary agencies have played an important role in adult education apart from the Directorates of Adult and Continuing Education. Some methods for creating environmental awareness are:

- i) Incorporation of topics in regional languages and local dialects in the primers of adult education programmes.
- ii) Information packs like posters, slides and audio-visual materials which can be utilised by the adult education centres as well as by the workers of other development agencies like agricultural extension services and primary health centres.
- iii) Special exhibitions and programmes in rural areas at the time of fairs and festivals.

14.9.3 Among Functionaries and Opinion Leaders Involved with Environmental Management

There are various kinds of people engaged as functionaries in environment management. They may be government officers at various levels and in various departments like irrigation, power, agriculture, industry, health, town planning. There are voluntary organisations also working actively in these areas. Politicians and social workers also get involved in environmental issues from time to time. Those functionaries and leaders who are concerned with critical decisions should be given necessary orientation and training from time to time through carefully designed courses at their training institutions or in specialised institutions.

The National Institute of Rural Development can play an important role as far as rural functionaries are concerned. The University Department of Environment Studies/Sciences can also undertake such orientation or training colleges and programmes for specific groups. All state governments have their staff training colleges and programmes. Environmental education should become a necessary part of their curricula. The Department of Environment of the government should have a list of clientele group for systematic orientation. They should plan a series of publications for mailing to these people regularly: It should be the responsibility of the functionaries and opinion leaders to first get educated in these matters and pass this information on the other levels.

Ministry of Environment, Forests and Climate Change, Govt. of India has created an information system called ENVIS. Its main centre is located in Delhi and it has been entrusted with the responsibility to collect, compile and provide information on different aspects of environment to the users.

ENVIS can also provide information on a large number of topics related to environment as given in Table 14.2. This is, in fact, a major success. Functioning of ENVIS is being improved steadily.

Table 14.2: ENVIS centres and areas of their activities

Institutions	Area
Central Board for the Prevention and Control of Water Pollution, (CPCB) New Delhi	Pollution control (water & air)
Industrial Toxicology Research Centre, (ITCR) Lucknow	Toxic chemicals
Society for Development Alternatives, (SDA) New Delhi	Environmentally sound alternatives, appropriate technology
Environmental Service Group, (ESG) New Delhi	Media and Parliament related to environment
Institute for Coastal & Offshore Research, (ICOR) Andhra University, Visakhapatnam	Coastal and offshore ecology; Remote sensing for environmental mapping; and Eastern Ghats ecology
Tata Energy Research Institute, (TERI) New Delhi	Renewable energy resources and environment
Centre for Environmental Studies, (CES) College of Engineering, Anna University, Chennai	Eco-toxicology, Bio-degradation of wastes; Environmental impact assessment and systems analysis
Centre for Theoretical Studies, (CTS) Indian Institute of Science, Bangaluru	Western Ghats ecology
Environmental Planning & Coordination Organisation, (EPCO) Department of Environment, Bhopal	Environmental management
National Institute of Occupational Health, (NIOH), Ahmedabad	Occupational health

In addition to the National Environmental Awareness Campaign, the Ministry of Environment, Forest and Climate Change provides funds for organising eco-clubs in educational institutions, for holding seminars and workshops, for making films on environment and various other activities which can create awareness. State Governments also allocate funds for this purpose. Communication media like Doordarshan, and All India Radio also highlight and project the importance of environment. As a result general consciousness towards environment has grown during the last few years. Now, we find that environmental issues are discussed even by common people. Ministry of Environment, Forest and Climate Change, Government of India, has also brought out a Directory of Voluntary Organisations working in the field of environment under its ENVIS programme.

Propagation of environment awareness programmes needs a lot of searching and hunting. This process can be summarised as given in Fig. 14.1.

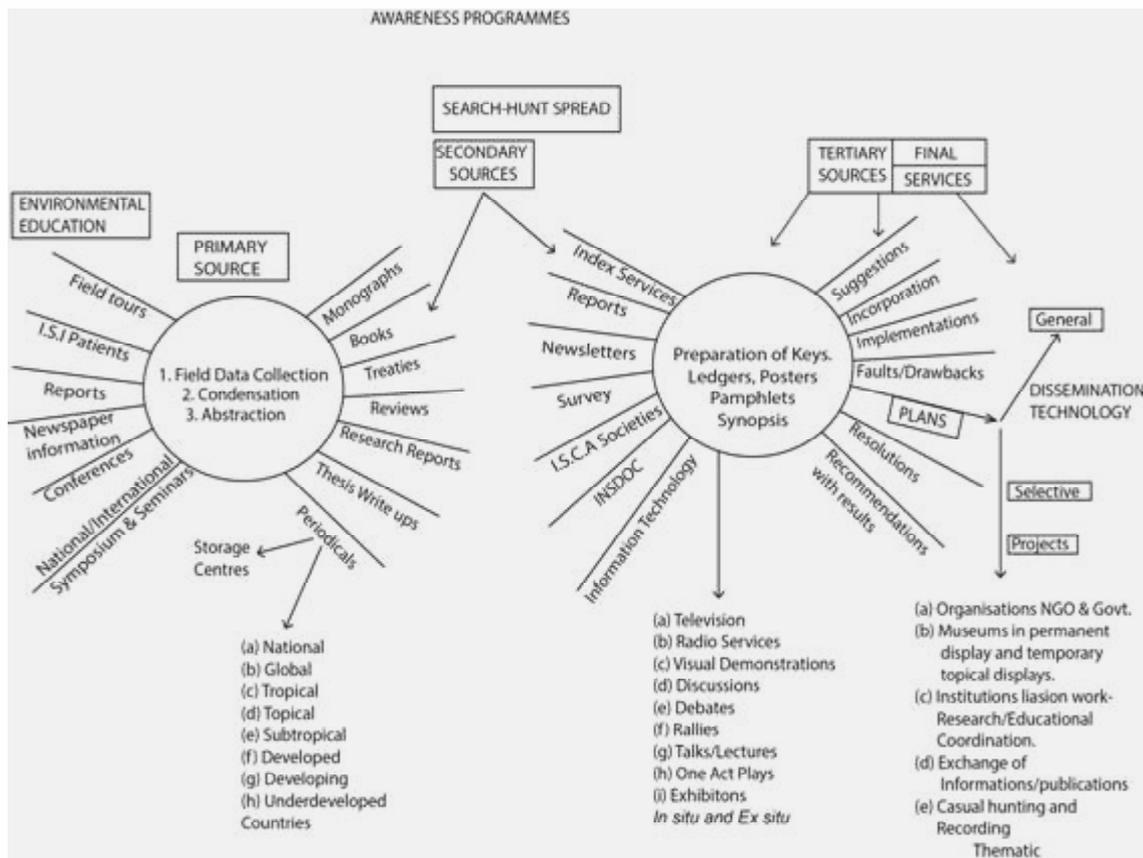


Fig. 14.1: Searching and hunting the information for analysis and propagation.

14.10 COLLECTIVE ACTIONS

Although it is effective to change your behaviour and activities towards sustainable patterns, it is more productive and more satisfying to work collectively for the purpose. Collective action multiples individual's power as

- You get encouragement and useful information from meeting regularly with others who share your interests.
- When working individually it is easy to get discouraged by the slow pace of change.
- Having a support group helps maintain enthusiasm.

However, there is a broad spectrum of environment and social action groups. Some will suit your particular interests, preferences or beliefs more than others.

Options that can be used for collective action include the following.

Student Environment Groups

Organisations for school and college students could be among our most active and effective groups for environmental change. By teaching them ecology and environmental ethics at elementary and secondary school level and by training them about environmental problems and their solutions and involving them in community projects, the purposes of environmental management could be served very effectively.

Margaret Mead once said

“Never doubt that a small, highly committed group of individuals can change the world; indeed, it is the only thing that ever has.”

Organising an Environmental Campaign

It is the most effective tool to bring the attention of the national and international planners, decision makers and managers towards a particular issue. It is a very dynamic process in which you must constantly adapt to changing conditions. Some basic principles apply in most situations for organising the environmental campaign. An environmental campaign should be inclusive of all stakeholders, should benefit the common people, and should be backed by scientific knowledge.

Using the communication media to get your message out is an important part of the modern environmental campaign.

SAQ 4

Read the following sentences and write true (T) or false (F):

- i) Education for environmental awareness is essential only for younger generation. []
- ii) Real life situations bring people closer to the environment. []
- iii) At the primary level of education greater emphasis could be laid on awareness and conservation. []
- iv) Environmental engineering includes subject like architecture, civil engineering. []
- v) Ministry of Environment, Forest and Climate Change, Govt. of India has created an information system called ENVIS. []
- vi) It is doubtful that a small highly committed group of individuals can change the world. []

14.11 SUMMARY

Let us summarise what we have learnt so far:

- Many environmental problems that we face today are the result of our attitudes and cultural beliefs about environment and its management.
- Environmental degradation is considered as the result of western belief about environment according to which environment is only for human use. For most of human history, ethics has concentrated on human rights (anthropocentrism); it is only recently that ethics has formally begun to define the rights of animals, plants and other organism (biocentrism).
- Whatever our beliefs and attitudes may be, some mismanagement is done at policy and planning levels where basic condition of equity is not considered and discrimination on racial and class basis is common. Environmental justice seeks to eliminate those conditions in which communities on racial basis or on the basis of their low-income status are exposed to an inequitable share of pollution.

- It is clear from the study of teachings of different religions that every religion gives due worth to environment. Religions teach us that we should consider ourselves as trustees, not the master of environment. As trustees or stewards of environment, we can use the resources but we should not exploit them.
- For changing attitude of individuals, environmental education is an effective tool. However, individual efforts could do less for the environmental problems at international and global level.
- Student groups and environmental campaigns are effective collective actions, if organised properly.

14.12 TERMINAL QUESTIONS

1. What is Environmental ethics? Explain it.
2. Explain the importance of equity for environmental management.
3. How can we preserve, protect and sustain the environment and create appropriate relationship with nature while at the same time enjoying the benefits of industrial and technological developments.
4. What are the various religious teaching that speak about sacredness of the environment?
5. In what ways can environment groups and environmental campaigns serve as effective tools of disseminating environmental awareness?

14.13 ANSWERS

Self-Assessment Questions

1. i) e ii) d iii) a iv) c v) b
2. i) Environmental ii) Earth iii) Justice iv) Environmentalism
v) Minorities, Jobs
3. i) f ii) e iii) a iv) b v) c vi) d
4. i) F ii) T iii) T iv) T v) T vi) F

Terminal Questions

1. Refer to Section 14.2
2. Refer to Section 14.5
3. Refer to Section 14.6
4. Refer to Section 14.8
5. Refer to Section 14.9 and 14.10

14.14 FURTHER READING

1. Bharucha, E. (2005) *Textbook of Environmental Studies for*

Undergraduate Courses, Hyderabad: Universities Press (India) Private Limited.

2. Kaushik, A. 2nd Ed. (2004) *Environmental Studies*, New Delhi: New Age International (P) Limited.
3. Rajagopalan, R. 3rd Ed. (2015) *Environmental Studies*, New Delhi: Oxford University Press.

