

Chapter One: Introduction to Environment

1.1. Definitions of Environment

Before you start reading this topic, just look around and note the various things that surround you like clouds, paper, chair, friends, etc. It is impossible to be alone in this earth, isn't it? After all, no man is an island! Every organism in this earth is surrounded by a lot of things; say other organisms, plants, water, air, light, land etc. These surroundings of the organism, all the living and non-living things constitute its environment.

There are a lot of definitions for the word environment in the literal and scientific contexts, but the most acceptable definitions can be given as below.

1. Environment can be defined as the natural surroundings of that organism which directly or indirectly influences the growth and development of the organism.
2. Environment is defined as the surroundings in which an organization operates including air, water, land and natural resources, flora, fauna, humans and their inter relations”
3. Environment is the sum total of all living and non living factors that compose the surroundings of man. The word environment is derived from the French word “environ”. The meaning of the French word is somewhat related to “encompass” “encircle” etc. with environment being such a generalized term, its classification and an understanding of its composition becomes a necessity.
4. A person’s environment consists of the sum total of the stimulation which he receives from his conception until his death.’ It can be concluded from the above definition that Environment comprises various types of forces such as physical, intellectual, economic, political, cultural, social, moral and emotional. Environment is the sum total of all the external forces, influences and conditions, which affect the life, nature, behavior and the growth, development and maturation of living organisms.
5. The term environment is used to describe, in the aggregate, all the external forces, influences and conditions, which affect the life, nature, behavior and the growth, development and maturity of living organisms.’

1.2.Key related concepts

Environmentalism is a social movement or an ideology focused on the welfare of the environment and it seeks to protect and conserve the elements of earth's ecosystem. Environmentalism works to correct the damage as well as prevent future destruction, spawning numerous environmental groups in America and around the world. Even with the combinations of legislation and improved corporate behavior, nonprofit organizations still play a significant role in achieving environmental goals.

Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of **environmental** laws, regulations, and policies.

Environmental ethics is the discipline in philosophy that studies the moral relationship of human beings to, and also the value and moral status of the environment and its non-human contents.

Environmental economics is an area of economics that studies the financial impact of environmental policies. Environmental economists perform studies to determine the theoretical or empirical effects of environmental policies on the economy.

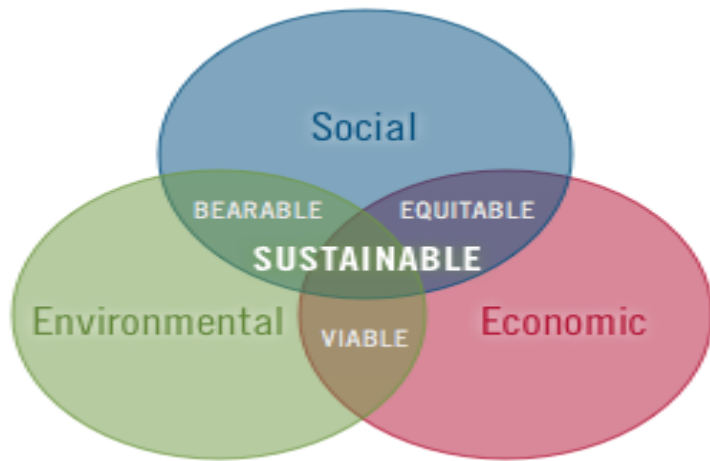
Environmental politics is The study of political theories and ideas related to the environment; The examination of the environmental stances of both mainstream political parties and environmental social movements

Environmental science is defined as a branch of biology focused on the study of the relationships of the natural world and the relationships between organisms and their environments. An example of environmental science is the study of the natural world and how it relates to recycling and mulching.

Environmental sustainability is the rates of renewable resource harvest, pollution creation, and non-renewable resource depletion that can be continued indefinitely. If they cannot be continued indefinitely then they are not sustainable. It is defined as “Meeting **the needs of the present without compromising the ability of future generations to meet their own needs**”. It recognizes three dimensions of sustainable systems (e.g. institutions, communities, regions, countries etc.). They must be:

1. Environmentally sound
2. Socially just
3. Economically viable

A consideration of the intersection between these dimensions is fundamental to both assessment and promotion of sustainability.



1.3.Component of Environment

The environment consists of four segments as under:

1. **Atmosphere:** The atmosphere implies the protective blanket of gases, surrounding the earth:

(a) It sustains life on the earth.

(b) It saves it from the hostile environment of outer space.

(c) It absorbs most of the cosmic rays from outer space and a major portion of the electromagnetic radiation from the sun.

(d) It transmits only here ultraviolet, visible, near infrared radiation (300 to 2500 nm) and radio waves. (0.14 to 40 m) while filtering out tissue-damaging ultra violates waves below about 300 nm. The atmosphere is composed of nitrogen and oxygen. Besides, argon, carbon dioxide, and trace gases.

2. **Hydrosphere:** The Hydrosphere comprises all types of water resources oceans, seas, lakes, rivers, streams, reservoir, polar icecaps, glaciers, and ground water.

(i) Nature 97% of the earth's water supply is in the oceans,

(ii) About 2% of the water resources are locked in the polar icecaps and glaciers.

(iii)Only about 1% is available as fresh surface water-rivers, lakes streams, and ground water fit to be used for human consumption and other uses.

3. **Lithosphere:** Lithosphere is the outer mantle of the solid earth. It consists of minerals occurring in the earth's crusts and the soil *e.g.* minerals, organic matter, air and water.

4. **Biosphere:** Biosphere indicates the realm of living organisms and their interactions with environment, via atmosphere, hydrosphere and lithosphere.

1.4.Element of Environment

Environment is constituted by the interacting systems of physical, biological and cultural elements inter-related in various ways, individually as well as collectively. These elements may be explained as under:

a. Physical elements

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

b. Biological elements

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

c. Cultural elements

Cultural elements such as economic, social and political elements are essentially manmade features, which make cultural milieu.

1.5. Global Environmental Problems

At the dawn of the third millennium, a powerful and complex web of interactions is contributing to unprecedented global trends in environmental degradation. These forces include rapid globalization and urbanization, pervasive poverty, unsustainable consumption patterns and population growth. Global environmental challenges require concerted responses on the part of the international community. Global climate change, the depletion of the ozone layer, desertification, deforestation, the loss of the planet's biological diversity and the transboundary movements of hazardous wastes and chemicals are all environmental problems that touch every nation and adversely affect the lives and health of their populations. All of these global environmental trends have long term effects on people and societies and are either difficult or impossible to reverse over the period of one generation. Unless effective global actions are taken early, we will end up plundering our future in an unprecedented way. This chapter describes some the major global environmental problems and points to the potential impact on society and future generations.

15.1. Climate Change

It is now widely recognized that global warming over the past 50 years is largely due to human activities that have released greenhouse gases into the atmosphere. The most recent assessment report by the Intergovernmental Panel on Climate Change (IPCC) concludes that the global average surface temperature has increased by about 0.6 o C during the 20th century. The seemingly small rise of mean temperature is already showing adverse effects. One of the consequences has

been a rise in the global average sea level. Another effect has been more frequent and intensified droughts in recent decades in parts of Asia and Africa. Additionally, in most mid and high latitudes of the Northern Hemisphere continents, precipitation has increased by 0.5 to 1.0 per cent per decade in the 20th century.

The world's emissions of greenhouse gases, notably carbon dioxide, continue to increase. The most recent estimates are that atmospheric concentrations of the greenhouse gas carbon dioxide (CO₂) will double or triple pre-industrial levels by the end of this century. As a result, global surface temperature is expected to increase by 1.4 to 5.8 degrees Celsius from 1990 to 2100.

The repercussions of climate change will disproportionately affect those who are least able to adapt – the poor and the most vulnerable sections of society. For example, Scientists project that this level of warming could, among other things:

- Greatly exacerbate the range, frequency and intensity of natural disasters, from flooding, to droughts, to torrential rains, ice-storms, tornadoes and hurricanes;
- Cause sea levels to rise by between nine and 80 centimeters by 2100, due to the expansion of warming waters and the melting of polar icecaps and other glaciers, which in turn may produce deadly flooding in many low-lying areas and small island States, displacing millions from their homes;
- Increase the number of environmental refugees resulting from weather-related disasters;
- Augment the risk of disease migration and disease outbreaks; and
- Render large areas of the world “uninsurable” due to the magnitude of property damage from disasters.

It is widely recognized that climate change, by altering local weather patterns and by disturbing life-supporting natural systems and processes, has significant implications for human health. While the range of health effects is diverse, often unpredictable in magnitude, and sometimes slow to emerge. Higher temperatures, heavier rainfall, and changes in climate variability would encourage vectors of some infectious diseases (such as malaria, schistosomiasis, dengue fever, yellow fever and encephalitis) to multiply and expand into new geographical regions, intensifying the already overwhelming threats to children from such diseases.

There is also evidence that El Niño – a vast natural climatic phenomenon that can bring intense floods and droughts in many parts of the globe – is becoming more frequent as a result of global

warming and could further aggravate health problems in many parts of the world. Excessive flooding is, for example, a prime cause of cholera and other water-borne and food-borne infections to which children are particularly susceptible. While heavy rains will become more frequent, there will also be more periods of drought and increased spreading of the deserts. Scientists predict that a lack of rain, warmer temperatures and increases in evaporation could have severe implications in terms of water availability and food security, reducing crop yields in Africa, further compromising child nutrition.

There are also numerous health effects, both in terms of disease and injury, associated with extreme weather events, such as heat waves, storms and floods. Extreme weather events can exacerbate health issues such as asthma and respiratory problems due to worsening air pollution, precisely those diseases that most significantly burden children.

15.2.Ozone Layer Depletion

Ozone in the atmosphere's upper layer, the stratosphere, protects humans, animals and plants from the damaging effects of UV-B radiation from the sun. Without it, all life on earth would cease to exist. However, the use of chlorofluorocarbons (CFCs) and other ozone-depleting substances (ODS) are slowly eating away at the stratospheric ozone layer, creating a major potential health hazard. While the concentrations of ODS in the lower atmosphere peaked in about 1994 and is now slowly declining due to worldwide efforts to phase out the use of CFCs and other damaging substances, significant health threats relating to ozone depletion persist. Past (and current) emissions of ODS result in increases of ultraviolet radiation reaching the Earth's surface which can pose several health effects:

- Increase of melanoma and non-melanoma skin cancers;
- Cause or acceleration of eye cataracts development;
- Reduce effectiveness of the immune system;
- Impact on nutrition (e.g. reduced plant yield);
- Damage to ocean ecosystems and reduced fish yield (by killing microbial organisms in the ocean).

Skin cancer is the most worrisome health impact of ozone depletion. Overexposure to the sun's harmful ultraviolet (UV) light may damage skin. In Europe, evaluations of ultraviolet-related skin cancers suggest that, despite the decline in ODS concentrations, skin cancer incidences will not begin to fall until about 2060. The international response to this issue is embodied in the

Convention for the Protection of the Ozone Layer, which was concluded in Vienna in 1985. The Vienna Convention set an important precedent because nations for the first time agreed in principle to tackle a global environmental problem before its effects were felt. The Convention's 1987 Montreal Protocol on Substances that Deplete the Ozone Layer has been remarkably successful. Production of the most damaging ozone-depleting substances was eliminated, except for a few critical uses, by 1996 in developed countries and should be phased out by 2010 in developing countries. Thanks to these measures, it is currently estimated the CFC concentration in the ozone layer is expected to recover to pre-1980 levels by the year 2050.

15.3.Desertification

Desertification, resulting in part from deforestation, is a significant threat to the arid, semi-arid and dry sub-humid regions of the world – which account for 40 per cent of the Earth's land surface. Throughout the world, dry lands still provide much of the world's food in the form of grain and livestock, yet close to 70 per cent of the world's dry lands are degraded, thus diminishing the productive land per capita and decreasing food security. The most common forms of unsustainable land use are over-cultivation, overgrazing, deforestation and poor irrigation practices. These susceptible soils – mainly located in the savannahs of Africa, the Great Plains and the Pampas of the Americas, the Steppes of southeast Europe and Asia, the outback of Australia and the margins of the Mediterranean – are particularly vulnerable due to the fact that they recover very slowly from disturbances and further deteriorate due to rain and wind erosion and chemical and physical deterioration of the soil structure. More than 250 million people are directly affected by desertification and 1 billion people in more than 100 countries are at risk.

These people include many of the world's poorest and most marginalized citizens. In Africa, land degradation is threatening economic and physical survival. Recurrent droughts increase soil degradation problems, which, in turn, magnify the effect of drought, both of which enhance the conditions that can cause widespread famines. The consequences of desertification include:

- Malnutrition and famine
- Changes of ecological ranges of infectious diseases
- Acute and chronic respiratory diseases and burning injuries
- Decreased agricultural productivity
- Increased water shortages
- Increased migration

- Increased forest and bush burning
- Loss of biodiversity
- Increased geographic isolation
- Increased poverty
- Reduction of the land's natural resilience to recover from climatic disturbances;
- Reduction of soil productivity;
- Damaged vegetation cover, such that edible plants can be replaced by non-edible ones;
- Increased downstream flooding, reduced water quality, sedimentation in rivers and lakes and siltation of reservoirs and navigation channels;
- Aggravated health problems due to wind-blown dust, including eye infections, respiratory illnesses, allergies and mental stress;
- Undermined food production; and
- Loss of livelihoods compelling affected people to migrate.

15.4.Deforestation

More than 110 million hectares of forest, about 11 million hectares a year, disappeared during the 1990s. Most of this loss was in developing countries. About 45 per cent of the world's original forests are gone. Major causes of deforestation and forest degradation lie outside the forest sector and include the need to create agricultural land and to harvest fuel wood for food and energy. Approximately half of the wood harvested in the world is used as fuel wood and charcoal, mostly in developing countries. In developed countries the main uses are for industrial products. The alarming rates of deforestation and the associated loss of environmental resources, social and cultural traditions – alongside the loss of the economic and productive capacity of forestland – account for the fact that forest preservation is now a major priority on the national, regional and global policy and political agendas.

The removal of trees decreases the ability of the soils to absorb and retain water; thus contributing to the depletion of the groundwater aquifers, which supply about one-third of the world's population. Aquifers are the sole source of water for many rural communities worldwide. Cleared lands stripped of their tree cover also are more susceptible to:

- Erosion, which degrades fertile lands and silts waterways, lakes, rivers and coastal waters, thereby degrades water quality for human consumption and disrupts ecosystem processes by choking fish hatcheries, coral reefs, etc.;

- Decreased groundwater recharge because the barren soils do not infiltrate water as effectively;
- Increased malaria transmission, bearing in mind that 90 per cent of the malaria disease burden is linked with underlying environmental factors; and
- Desertification and drought (see previous section).

Deforestation is also intrinsically linked to the loss of biodiversity as original rain forests host numerous species of precious fauna and flora.

15.5.Loss of Biodiversity

One hundred and fifty years ago, the Native American leader, Chief Seattle, is reported to have said we humans are but a thread in the web of life. He added, whatever we do to the web, “We do to ourselves.”

The web is unraveling at an increasing rate. Both plant and animal species have been disappearing at 50 to 100 times the natural rate, due to such factors as the large-scale clearing and burning of forests, over-harvesting of plants and animals, indiscriminate use of pesticides, draining and filling of wetlands, destructive fishing practices, air pollution and the conversion of wild lands to agricultural and urban uses. Recent studies suggest that this high rate of extinction will accelerate even faster, taking an increasing number of living plants and animals away from us forever. This species loss and ecosystem disruption is causing a complex range of circumstances with consequences to human health. In response, governments and communities worldwide are now concerned with the purification of air and water, maintenance of soil fertility, mitigation of floods and droughts, detoxification and decomposition of wastes, maintaining concentrations of vital gases and water vapor in the atmosphere, and controlling infectious agents in the environment. In addition, the loss of biodiversity obstructs the discovery of new medicines to treat various diseases.

15.6.Growing Population

A population of over thousands of millions is growing at 2.11 per cent every year. Over 17 million people are added each year. It puts considerable pressure on its natural resources and reduces the gains of development. Hence, the greatest challenge before us is to limit the population growth. Although population control does automatically lead to development, yet the development leads to a decrease in population growth rates. For this development of the women is essential.

1.5.7. Poverty

The vast majority of our people are directly dependent on the nature resources of the country for their basic needs of food, fuel shelter and fodder. Environment degradation has adversely affected the poor who depend upon the resources of their immediate surroundings. Thus, the challenge of poverty and the challenge environment degradation are two facets of the same challenge. The population growth is essentially a function of poverty. Because, to the very poor, every child is an earner and helper and global concerns have little relevance for him.

1.6. Evil Consequences of Urbanization

Urbanization and industrialization has given birth to a great number of environmental problems that need urgent attention. Hence, coping with rapid urbanization is a major challenge.

Air and water Pollution

Majority of our industrial plants are using outdated and pollution technologies and makeshift facilities devoid of any provision of treating their wastes. A great number of cities and industrial areas that have been identified as the worst in terms of air and water pollution. Acts are enforced in the country, but their implementation is not so easy. The reason is their implementation needs great resources, technical expertise, political and social will. Again the people are to be made aware of these rules. Their support is indispensable to implement these rules. Major impacts are:

1. A huge demands on land, water, housing, transport and employment
2. Not all people enjoy the same standard of living
3. Many urban people live in closely built shacks made of packing cases, sheets of plastic and corrugated iron
4. Some urban people have a good supply of water and electricity
5. waste from bathrooms and toilets goes directly into the city's sewers
6. Squatters, however, lack these benefits and are forced to use open drains and pit toilets. These can create health hazards

6.7. Importance of Environmental Studies

The environment studies enlighten us, about the importance of protection and conservation of our indiscriminate release of pollution into the environment. At present a great number of environment issues, have grown in size and complexity day by day, threatening the survival of mankind on earth. We study about these issues besides and effective suggestions in the Environment Studies. Environment studies have become significant for the following reasons:

1. Environment Issues Being of International Importance

It has been well recognized that environment issues like global warming and ozone depletion, acid rain, marine pollution and biodiversity are not merely national issues but are global issues and hence must be tackled with international efforts and cooperation.

2. Problems Cropped in the Wake of Development

Development, in its wake gave birth to Urbanization, Industrial Growth, Transportation Systems, Agriculture and Housing etc. However, it has become phased out in the developed world. The North, to cleanse their own environment has fact fully, managed to move ‘dirty’ factories of South. When the West developed, it did so perhaps in ignorance of the environmental impact of its activities. Evidently such a path is neither practicable nor desirable, even if developing world follows that.

3. Explosively Increase in Pollution

World census reflects that one in every seven persons in this planted lives in India. Evidently with 16 per cent of the world's population and only 2.4 per cent of its land area, there is a heavy pressure on the natural resources including land. Agricultural experts have recognized soils health problems like deficiency of micronutrients and organic matter, soil salinity and damage of soil structure.

4. Need for an Alternative Solution

It is essential, especially for developing countries to find alternative paths to an alternative goal. We need a goal as under:

- (1) A goal, which ultimately is the true goal of development an environmentally sound and sustainable development.
- (2) A goal common to all citizens of our earth.
- (3) A goal distant from the developing world in the manner it is from the over-consuming wasteful societies of the “developed” world.

5. Need to Save Humanity from Extinction

It is incumbent upon us to save the humanity from extinction. Consequent to our activities constricting the environment and depleting the biosphere, in the name of development.

6. Need for Wise Planning of Development

Our survival and sustenance depend on our environment. Resources withdraw, processing and use of the product have all to by synchronized with the ecological cycles in any plan of development our actions should be planned ecologically for the sustenance of the environment and development.

Chapter Three: Environmental Ethics: The Main Approaches

3.1 Introduction

Environmental crises, such as species extinction, global warming, air and water pollution, and wild land destruction, are some of the most important problems currently facing our society. How we deal with these problems largely depends on how we perceive our relationship with the environment. Do we view nature as property for us to use however we wish for our own benefit, or does nature have intrinsic value, value aside from its usefulness to humans?

Environmental ethics is based on the idea that morality ought to be extended to include the relationship between humans and nature. There are a number of different ways to understand an extension of moral consideration to nature. For example, is the extension individualistic or holistic? In other words are individual plants and animals given moral consideration, or is morality only extended to whole species or ecosystems?

Another distinction is whether the extension is rights based or responsibility based; in other words does nature have the right to be protected or do humans simply have a responsibility to protect nature? Perhaps the most important distinction is whether the moral extension is anthropocentric, ecocentric and biocentrism because this determines what is the focus of the environmental ethic humans or nature. Environmental ethics is the branch of ethics which deals with questions pertaining to man's relation to nature. This field is characterized by a wide variety of approaches, some of which will be discussed in the following paragraphs.

3.2 Anthropocentric Approach

The term 'anthropocentric' was first coined in the 1860s, amidst the controversy over Darwin's theory of evolution, to represent the idea that humans are the center of the universe . Anthropocentrism considers humans to be the most important life form, and other forms of life to be important only to the extent that they affect humans or can be useful to humans. In an anthropocentric ethic, nature has moral consideration because degrading or preserving nature can in turn harm or benefit humans. For example, using this ethic it would be considered wrong to cut down the rainforests because they contain potential cures for human diseases.

The essential feature of the anthropocentric dimension of the cosmological domain is the belief that humans are separate from and ethically superior to the rest of nature. As a result, humans consider themselves to be rightfully, the masters of nature subduing it for their own instrumental purposes. With the demystification of nature , through scientific and technological development, its manipulation and exploitation were assured and resulted in "the death of nature".

According to some commentators, our exploitative and destructive attitude towards nature originates in an 'anthropocentric' attitude, widespread in Western societies. Hence, they argue, we need a fundamentally new ethic in order to introduce a new way of interacting with nature.

In his famous article: *The historical roots of our ecologic crisis*, the historian Lynn White argues that Christianity bears a heavy responsibility for the environmental crisis because it has promoted the domination of nature. White is representative of the abovementioned 'anthropocentric' approach. He assumes that all species disturb their environment (and have done so in the past), but notes that since the 19th and 20th centuries, something fundamentally new has been occurring: a world-wide destruction of nature. The proximate cause of this development, according to White, is the interaction of modern science with technology in the 19th century.

But the origin and development of science and, particularly, technology, have been determined by a specific pattern of values, which he calls the typically Christian 'arrogant' attitude towards nature. White asserts that this arrogance is the result of a particular view of the relation between God, man and nature _ a view typified by the book of *Genesis*, the first book of the Bible.

Human centered technology – many critics of anthropocentrism will argue that much technology places human life above all other forms of life. The industrial revolution is a prime example. Humans felt the need to industrialize and modernize to better their lives, but at the cost of the environment and non-human animal life.

Human rights discourse – much of the human rights discourse assumes that human rights are the highest or most important thing in the world, trumping even non-human rights. More often than not negatives looking to run an anthro K will read your impacts to human rights looking for phrases like "Human rights must come before all else" and run the link arguing your discourse places human rights above non-human animal rights.

3.3 Biocentrism Approaches

In order to break radically with the anthropocentric ethics, non-anthropomorphic environmental ethical theories emerged - the biocentrism and ecocentric approaches. Biocentrism (literally 'life-centered') has been broadly defined as an ethical outlook in which it is asserted that moral standing can be derived from a particular biological characteristic of individual members of a species. Specific biocentric outlooks may result in different views on the characteristic that forms the basis of a morally-relevant value, or obligations arising from recognition of that value. Some proponents of biocentrism would argue that animals have moral standing by virtue of being able

to experience pleasure and pain (sentience), or due to self consciousness, while others would argue from the premise of the inherent worth or 'a good of their own' of all living things. A necessary consequence of all biocentric outlooks is a recognition that individual life forms other than humans can have value in themselves, and should be respected for what they are — not only because they affect the situation of humans. Since biocentrism is focused on individuals rather than the diversity of species, these various outlooks have also been described as an 'individualistic' environmental ethic. Biocentrism maintains that all life forms are 'moral patients' - entities to which we should accord moral consideration. We therefore have a duty towards all forms of life. It is their *telos* that gives each individual organism inherent worth and that all living organisms possess this worth equally because all individual living beings have a *telos* and a good of their own. The equal inherent worth of all living beings warrants equal moral status: therefore, we must respect all living organisms .

For biocentrists, being alive, rather than being sentient (or conscious, or having beliefs and desires), confers moral considerability upon an organism. Two important representatives of biocentrism are Kenneth Goodpaster and Paul Taylor. In his article *On Being Morally Considerable*, Kenneth Goodpaster contemplates the question 'what makes something morally considerable.' He argues that being a living thing is both a necessary and a sufficient condition for moral considerability. He links 'moral considerability' with 'having interests', for Goodpaster the prerequisite for having interests is not sentience but being alive.

In his argumentation on 'interests', Goodpaster distinguishes between 'preference interests' and 'welfare interests'. He maintains that an organism which lacks the psychological ability to *take an interest* in anything _ i.e., to have preference interests _ still has things which *are in its interests*, i.e. welfare interests. E.g., pot-plants don't take an interest in being watered; they don't have preference interests. But it is in their interests to be watered; they do have welfare interests.

According to Goodpaster, as far as moral considerability is concerned, it is welfare interests that matter, and plants as well as other non-sentient organisms have such welfare interests. They can be in better or worse states/conditions; they can be healthy or unhealthy, flourishing or not flourishing. It is in their interests to flourish, even if they can't take an interest in flourishing.

Another influential biocentrist approach to environmental ethics has been developed by Paul Taylor.

In his book *Respect for Nature*, Taylor develops a justification of human duties towards other living organisms. He advocates a human attitude of *respect* for nature. Such an attitude involves the recognition that humans are part of an interconnected and interdependent ecosystem to which they are not intrinsically superior; and that *all* living organisms are "teleological centers of

life, in the sense that each is a unique individual pursuing its own good in its own way". The term 'telos' is a Greek word meaning 'end' or 'purpose'. According to this view, all living beings pursue their own ends, their own good, and defend their own life. This provides the justification for the 'intrinsic value' or inherent worth of all living beings. The pursuit of their good, Taylor argues, is as vital to any living organism as the pursuit of a human good is to a human being. On this basis, Taylor defends a position of 'biocentric equality': all organisms, of whatever species, have the same inherent value and ought to be treated respectfully. Taylor states that:

1. Humans are members of a community of life along with all other species, and on equal terms.
2. This community consists of a system of interdependence between all members, both physically, and in terms of relationships with other species.
3. Every organism is a "[teleological](#) centre of life", that is, each organism has a purpose and a reason for being, which is inherently "good" or "valuable".
4. Humans are not inherently superior to other species.

Taylor develops four basic principles regarding human duties to the non-human natural world:

- Non-maleficence;
- Non-interference;
- Fidelity; and
- Restitutive justice

In brief, 'non-maleficence' refers to the duty not to harm any particular organisms. 'Non-interference' refers to the duty to refrain from constraining organisms and the duty to allow them to seek self-realization unimpeded.

'Fidelity' implies the duty not to break a trust placed by a wild animal in a human. Finally, 'restitutive justice' refers to the duty to undo wrongs done to individual organisms through human action – i.e. to undo violations of one of the abovementioned three duties. The main problem with Taylor's theory is: how could one possibly live a life in accordance with the principles he defends? E.g., how could one deal with disease, if dealing with disease implies killing millions of bacteria, which all have the same worth as a human life? Or how could one be allowed to construct buildings, as this would inevitably involve killing plants which previously occupied the site? Or what to do about eating; which things would one be allowed to eat? Taylor has tried to deal with some of these problems by developing a series of 'priority principles' for settling conflicts. These priority principles allow, e.g., for self-defense, which includes medicine, as well as the construction of buildings of great cultural significance even if this would cause the mass extinction of living organisms.

In general the four main pillars of a biocentric outlook are:

1. Humans and all other species are members of [Earth's](#) community.
2. All species are part of a system of interdependence.
3. All living organisms pursue their own "good" in their own ways.
4. Human beings are not inherently superior to other living things.

3.4 Ecocenterism Approach

Proponents of Ecocentrism (termed here 'ecocentrists') reject the assumption that morally relevant value can be derived only from some biological attribute of individual organisms. Ecocentrists affirm that diversity of species, ecosystems, rivers, mountains and landscapes can have value in themselves, even if they do not affect the welfare of humans or other individual members of non-human species. All ecocentrists attach particular value to the diversity, dynamics and interactions within a healthy ecosystem, but differ in their views on the cause of and solutions to modern environmental problems. Examples include humans' lack of proper respect for nature and their place within it; the social and economic structure of society; or the history of male dominance and sexist oppression of females. The general concern for the biotic and a biotic community as a whole leads to the alternative classification of the outlook as a 'holistic' environmental ethic.

Upon realization that biocentrism is not radical enough ecocentrism emerged and expands the definition of what is a 'moral patient' to include nature as a whole. This implies respect for our fellow members and respect for the community as such.

Ecocentrism focuses on the integrity of the ecosystem and the value of species. Under ecocentrism, we have the land ethic, deep ecology and the theory of nature's value. Aldo Leopold (1966) summarizes the land ethic in the maxim: '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'.

In an ecocentric ethic nature has moral consideration because it has intrinsic value, value aside from its usefulness to humans. Using this ethic, for example, one could judge that it would be wrong to cut down the rainforests because it would cause the extinction of many plant and animal species. Ecocentrism considers nature to have inherent value regardless of its usefulness to humans. Ecocentric theorists postulate that the current ecological crisis stems from this over inflated sense of value, or, the "arrogance of humanism."

Leopold suggests that throughout the history of ethics there has been an underlying theme of moral extensionism. From this, an ethic for nature (i.e., the Land) can evolve. This ethic would be philosophically based but also, importantly, ecologically based. Leopold says that

"An ethic, philosophically, is a differentiation of social from anti-social conduct." Some might think that this view is somewhat simplistic and perhaps presupposes a particular conception of morality, but the definition looks good enough for our purposes. Following this, though, we get Leopold's definition of an ethic understood from the ecological point of view, namely:

"An ethic, ecologically, is a limitation on freedom of action in the struggle for existence."

Leopold thinks that these are, in essence, definitions of the same thing, grounded in evolutionary modes of cooperation. Traditionally, ethics dealt with relations -- or more precisely, conflicts -- between individuals (and usually individual humans), and relations between individuals and society (i.e., politics). From this, within moral contexts, we can talk of both the individual good and the common good. Both need to be taken into account. Leopold's main concern is that there is no ethic dealing with the relations between individuals and the Land. Such an ethic is both an evolutionary possibility and an ecological necessity, according to Leopold.

This ethic is the "Land Ethic". It arises out of a criticism of the conventional way of viewing the Land -- i.e., in purely economic terms. The key problem, here, is that most members of the Land community do not have an economic value. Because of this, there is no grounding for prohibiting or even restricting their destruction. We see this reflected in a number of ideas and attitudes we commonly have towards various non-economic pieces of the environment. Wetland areas, dunes, deserts, etc., are considered 'wasteland'. Further, there is a problem with Conservationist attempts at dealing with environmental concerns. Conservation, again, will focus primarily on economically valuable natural resources, without any consideration for other things and the interconnections between these that enable sustainable biological production of the resources we use/need.

Opposed to this view of the Land, Leopold suggests we adopt the ecological outlook. That is, we should see the Land as a pyramidal system with interconnected chains -- "a fountain of energy flowing through a circuit of soil, plants, and animals." The ecological point of view recognizes that all species are ecologically valuable, and that we are likely to never fully understand the relations between things that enable ecological systems to be sustained. The fundamental principle of the Land Ethic is this:

"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."

With the Land Ethic, Humans' role is changed from conqueror to plain member or citizen of the biotic community. We see clearly that Leopold proposes a fundamental shift in the criterion of moral considerability, with the direct result of a considerable extension of the boundaries of the moral community. Further, that there is a move from an individualistic ethic to a holistic ethic.

Leopold thinks that once evolved the Land ethic is not likely to lead to ending of alteration, management, and use of 'natural resources' -- plants and animal included. However, it will lead to sustainable practices. Leopold was somewhat pessimistic of the likelihood of the establishment of the Land Ethic. An ethical relation to the Land requires love, respect, and admiration for the Land, and a high regard for its value (moral value, not economic value). But the likelihood of many people coming to have this view seems not great. We are separated off from nature -- both physically or geographically, and conceptually -- and so do not have the required connection to the Land. Also, there still remains the rather strong view that the Land must be conquered and put to use, if it not to be wasted. The development of the Land Ethic is an intellectual as well as an emotional process, and like all other similar things, it will take time.

Deep ecology: Contemporary radical school of environmental philosophy that is ecocentric. It focuses on the intrinsic value of nature and takes a holistic approach that emphasizes ecosystems, species, and the planet as a whole. It claims that the primary cause of the problem is anthropocentrism, which it opposes by asserting that humans are fully a part of the natural world and of equal value with all other species. The personal ideal is Self-realization, in which one realizes one's identification with all of nature. Wilderness untrammelled by humans has special value, as do hunter-gatherer societies living in harmony with nature.

4.6. Feminism and the Environment

Eco-feminism, which originated in the 1970s, is a diverse movement. It represents a wide range of perspectives from within the feminist movement and the environmental movement. The core shared idea of **ecofeminism** is that there is a link between the domination of nature and the domination of women and that both kinds of domination must be removed. According to some ecofeminists, the oppression of women and the natural world have the same cause.

It also asserts the close interrelationship between environmental and social issues. Androcentrism (male-centeredness, masculinism) is a fundamental problem that must be addressed if we are to end the subjugation of nature and women. The ideal involves a recognition of the value of the individual as part of a community, in which great value is placed on diversity, equality, and interrelatedness. The self is seen as embedded in a community, place, and the body.

The two most important variants of ecofeminism are 'cultural ecofeminism' and 'socialist ecofeminism'. **Cultural ecofeminism** maintains that women are essentially different from men, that they have a 'nature' which involves particular traits, e.g. nurturing, and that this nature makes women close to nature (in another sense of nature, i.e. the living world). **Socialist ecofeminism** does not accept such essentialist claims. It holds that, although it may be widely thought that women are closer to nature, this is a social construction. Some women *don't* have such characteristics, some men *do*, and everyone is capable of learning them.

- Ecofeminists have offered several criticisms of the mainstream approaches to environmental ethics. Their main points of criticism concern (1) the emphasis on rationality, (2) the emphasis on universalizability, and (3) the emphasis on criteria for moral considerability.
- Ecofeminists point out that many of the main approaches to environmental ethics stress rationality and denigrate feeling. E.g., Paul Taylor, the abovementioned biocentrist, argues that: The attitude of respect for persons ...is both a moral one and an ultimate one. It is a moral attitude because it is universalizable and disinterested. That is, each moral agent who sincerely has the attitude advocates its universal adoption by all other agents, regardless of whether they are so inclined and regardless of their fondness or lack of fondness for other individuals. Taylor clearly advocates disinterestedness, whereas ecofeminists emphasize the importance of feelings or emotions in our moral behaviour.
- Many mainstream approaches to environmental ethics are based on abstract principles of justice which are taken to apply to all people everywhere, i.e. which are universalizable and thus impersonal.
- Ecofeminists also criticize the fact that many environmental ethicists search for necessary and sufficient conditions for 'moral considerability'. They argue that ethics should not focus on looking for ever broader and more inclusive criteria, an approach which is typically individualist, but on changing the terms on which things come to matter _i.e. focusing on contexts and relationships, e.g. relationships between humans and individual animals or between animals of a particular species.
- Broadly speaking, a feminist issue is any that contributes in some way to understanding the oppression of women. Feminist theories attempt to analyze women's oppression, its causes and consequences, and suggest strategies and directions for women's liberation. By the mid-1970s, feminist writers had raised the issue of whether patriarchal modes of thinking encouraged not only widespread inferiorizing and colonizing of women, but also of people of colour, animals and nature.
- Not all feminist theorists would call that common underlying oppressive structure "androcentric" or "patriarchal". But it is generally agreed that core features of the structure include "dualism", hierarchical thinking, and the "logic of domination", which are typical of, if not essential to, male-chauvinism. These patterns of thinking and conceptualizing the world, many feminist theorists argue, also nourish and sustain other forms of chauvinism, including, human-chauvinism (i.e., anthropocentrism), which is responsible for much human exploitation of, and destructiveness towards, nature. The dualistic way of thinking, for instance, sees the world in polar opposite terms, such as male/female, masculinity/femininity, reason/emotion, freedom/necessity, active/passive, mind/body, pure/soiled, white/coloured, civilized/primitive, transcendent/immanent, human/animal, culture/nature. Furthermore, under dualism all the first items in these contrasting pairs are assimilated with each other and all the second items are likewise linked with each other. For example, the male is seen to be associated with the rational, active, creative, Cartesian human mind, and civilized, orderly, transcendent culture;

whereas the female is regarded as tied to the emotional, passive, determined animal body, and primitive, disorderly, immanent nature.

2.3 Why Environmental Ethics, and Why Now?

Ethics is a very ancient human preoccupation (older, perhaps, than philosophy itself). And yet, environmental ethics is very new. In view of the recent dramatic growth in knowledge and technology, it is not difficult to see why this is so. Ethics deals with the realm of imaginable human conduct that falls between the impossible and the inevitable -- that is, within the area of human capacity and choice. And now, even within our own lifetime (and ever more so with each year), we have acquired capabilities and thus face choices that have never been faced before in the course of human history -- indeed, we now face many capabilities and choices never contemplated or even imagined before. These include choices of birth, life, and death for our species and others; choices that are rapidly changing the living landscape forever.

When the ecosystem was not understood, or even recognized or appreciated as a system; when the earth and its wilderness were believed to be too vast to be damaged by voluntary human choice; at such a time, there was no environmental ethics. But in our own time we have revalidated the myth of Genesis, for in our own time, with knowledge has come power, and with both knowledge and power, we have lost our innocence.

This knowledge and this power are due, of course, to the scientific revolution. And therein resides a puzzle and a paradox: The scientists, steadfastly and correctly, claim that their content and methodology are "value neutral." In the narrow sense, they are right. As methodology, science is properly value-free and should be value-free (an evaluative reflection, you will notice). But this "properly value-free" methodology has opened up a bewildering array of capacities and choices to us evaluating creatures. And we are not equipped with the ethical insights and the moral restraints that are necessary to deal wisely and appropriately with these choices. Yet the choices are before us and we cannot evade them. "Not to decide is to decide."

The issues of environmental ethics are momentous, live and forced (to borrow William James' terms); that is to say, these issues involve moral choices of enormous importance that we can make and, even more that we must make. Our moral responsibility to nature and to the future is

of unprecedented significance and urgency, and it is a responsibility that we cannot escape. In our heretofore careless and capricious hands lies the fate of our natural environment, our brother species, and the generations that will succeed us.

The concept of environmental ethics brings out the fact that all the life forms on Earth have the **right to live**. By destroying nature, we are denying the life forms this right. This act is unjust and unethical. The food web clearly indicates that human beings, plants, animals, and other natural resources are closely linked with each other. All of us are creations of nature and we depend on one another and the environment. Respecting the existence of not just other humans but also the non-human entities, and recognizing their right to live is our primary duty. With environmental ethics, **morality** extends to the **non-human world**.

Another important point in relation to environmental ethics is of our moral responsibility to preserve nature for our **future generations**. By causing environmental degradation and depletion of resources, we are risking the lives of future generations. Is it not our duty to leave a good environment for them to live in? Non-renewable energy resources are fast-depleting and sadly, it isn't possible to replenish them. This means, they may not be available for the future generations. We need to strike a balance between our needs and the availability of resources, so that the forthcoming generations are also able to benefit from their use.

We are morally obliged to consider the needs of even the other elements of our environment. They include not just other human beings, but also plants and animals. It is only ethical to be fair to these elements and make a responsible use of natural resources. Environmental ethics try to answer the question of whether human beings have any moral obligation towards the **non-human entities** in nature. For the sake of development and convenience, is it morally right to burn fuels though pollution is caused? Is it morally right to continue with technological advances at the cost of the environment? Climate change is known to have a negative impact on plant diversity. It is a fact that the increasing pollution levels are hazardous for not only humans but also for plants and animals. Given this, isn't it our moral responsibility to protect the environment? We have certain duties towards the environment. Our approach towards other living entities should be based on strong ethical values. Even if the human race is considered as

the main constituent of the environment, animals and plants are in no way less important. They have a right to get a fair share of resources and lead a safe life.

2.4 The Challenge of Environmental Ethics

Suppose that putting out natural fires, culling feral animals or destroying some individual members of overpopulated indigenous species is necessary for the protection of the integrity of a certain ecosystem. Will these actions be morally permissible or even required? Is it morally acceptable for farmers in non-industrial countries to practice slash and burn techniques to clear areas for agriculture? Consider a mining company which has performed open pit mining in some previously unspoiled area. Does the company have a moral obligation to restore the landform and surface ecology? And what is the value of a humanly restored environment compared with the originally natural environment? It is often said to be morally wrong for human beings to pollute and destroy parts of the natural environment and to consume a huge proportion of the planet's natural resources. If that is wrong, is it simply because a sustainable environment is essential to (present and future) human well-being? Or is such behavior also wrong because the natural environment and/or its various contents have certain values in their own right so that these values ought to be respected and protected in any case? These are among the questions investigated by environmental ethics. Some of them are specific questions faced by individuals in particular circumstances, while others are more global questions faced by groups and communities. Yet others are more abstract questions concerning the value and moral standing of the natural environment and its nonhuman components.

In the literature on environmental ethics the distinction between *instrumental value* and *intrinsic value* (meaning “non-instrumental value”) has been of considerable importance. The former is the value of things as *means* to further some other ends, whereas the latter is the value of things as *ends in themselves* regardless of whether they are also useful as means to other ends. For instance, certain fruits have instrumental value for bats who feed on them, since feeding on the fruits is a means to survival for the bats. However, it is not widely agreed that fruits have value as ends in themselves. We can likewise think of a person who teaches others as having instrumental value for those who want to acquire knowledge. Yet, in addition to any such value,

it is normally said that a person, as a person, has intrinsic value, i.e., value in his or her own right independently of his or her prospects for serving the ends of others. For another example, a certain wild plant may have instrumental value because it provides the ingredients for some medicine or as an aesthetic object for human observers. But if the plant also has some value in itself independently of its prospects for furthering some other ends such as human health, or the pleasure from aesthetic experience, then the plant also has intrinsic value. Because the intrinsically valuable is that which is good as an end in itself, it is commonly agreed that something's possession of intrinsic value generates a *prima facie* direct moral duty on the part of moral agents to protect it or at least refrain from damaging it.

Many traditional western ethical perspectives, however, are *anthropocentric* or human-centered in that either they assign intrinsic value to human beings alone (i.e., what we might call anthropocentric in a *strong* sense) or they assign a significantly greater amount of intrinsic value to human beings than to any nonhuman things such that the protection or promotion of human interests or well-being at the expense of nonhuman things turns out to be nearly always justified (i.e., what we might call anthropocentric in a *weak* sense). For example, Aristotle (*Politics*) 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.

Generally, anthropocentric positions find it problematic to articulate what is wrong with the cruel treatment of nonhuman animals, except to the extent that such treatment may lead to bad consequences for human beings. Immanuel Kant (“Duties to Animals and Spirits”, in *Lectures on Ethics*), for instance, suggests that cruelty towards a dog might encourage a person to develop a character which would be desensitized to cruelty towards humans. From this standpoint, cruelty towards nonhuman animals would be instrumentally, rather than intrinsically, wrong. Likewise, anthropocentrism often recognizes some non-intrinsic wrongness of anthropogenic (i.e. human-caused) environmental devastation. Such destruction might damage the well-being of human beings now and in the future, since our well-being is essentially dependent on a sustainable environment.

When environmental ethics emerged as a new sub-discipline of philosophy in the early 1970s, it did so by posing a challenge to traditional anthropocentrism. **In the first place**, it questioned the assumed moral superiority of human beings to members of other species on earth. **In the second place**, it investigated the possibility of rational arguments for assigning intrinsic value to the natural environment and its nonhuman contents.

Environmental ethics is like the questioning post, it chooses to question the human race about certain key factors that are associated with environmental issues. They hope to make the human race aware that they are not the only ones who inhabit the planet and that there are other species as well that need to be looked after and taken into consideration before mindlessly hogging the entire planet for themselves. These are some of the key issues that have become a part of this mission:

- Is it important for us to preserve nature for the future generation? If so, are we even making an effort to do that?
- Is the human race alone important on the face of this earth? If not, then aren't our actions proving otherwise?
- What would happen if animals, plants, and other species are destroyed or there are more and more endangered species? Would we be affected or would we care?
- Are our future generations entitled to a clean and green environment? Do they even have a right?
- Should we be procreating and adding to the population growth?
- Is it right for us to be responsible for the extinction of certain species only for the sake of our consumption and greed?
- Is it our moral right to be clearing rain forests for the sake of human consumption?
- In spite of knowing that gasoline run vehicles lead to the destruction of natural resources, is it right for us to continue manufacturing and using them?
- Are the guidelines which are drawn to protect the environment and nature any effective? What is causing their failure?
- Is there a need to reform the way in which we deal with protection laws and clauses?
- What is environmental pollution and pollution of the air, soil and water doing to the world

Chapter Three: Ethics of Economic Development

5.1. Definition and Origins of Development Ethics

Development ethics aspires to show the road towards a new development paradigm that investigates development in light of fundamental ancient ethical queries on the meaning of the **good life**, the

foundation of **justice** in society and the human stance towards nature. The study of development ethics attempts to discuss and codify the aforementioned ethical quires borrowing scientific instruments from economists, political studies, anthropologists, philosophy, environmental scientists and others. To this effort, the contribution of Denis Goulet is distinctive. This chapter present Goulet's life tribute and particularly to his theory on development goals and strategic principles of achieving these goals as well as the concept of authentic development.

Development ethics can be considered, in one sense, as a field of attention, an agenda of questions about major value choices involved in processes of social and economic development. It is comparable then to business ethics, medical ethics, environmental ethics and other areas of practical ethics. Each area of practice generates ethical questions about priorities and procedures, rights and responsibilities. In this case the questions include: What is good or 'real' development? What is the good life which development policy should seek to facilitate, what really are benefits? How are those benefits and corresponding costs to be shared, within the present generation and between generations? Who decides and how? What rights of individuals should be respected and guaranteed? When—in for example the garment trade, the sex trade, the 'heart trade' in care services, and the trade in human organs—should 'free choice' in the market be seen instead as the desperation behavior of people who have too little real choice? Besides such issues of policy-level ethics comes the innumerable ethical issues, stresses and choices in the daily work and interactions of development professionals.

5.2. Ethical Goals and Strategic of Development

For development ethicists, development is perceived as a relative good which is subordinated to the meaning of life. Each society gives answers to the fundamental inquiries of 'what is good life' and 'what is good society' in a distinct and unique way which is chiefly determined by the value system wherein any society has adopted.

5.2.1. Ethical Goals of development

Despite the fact that development is a relative good in terms of value issues, Goulet (1975, 1995) argues that there are three common acceptable universal values, namely, *i) life-sustenance*, *ii) esteem*, and *iii) freedom* that societies and individuals ought to investigate within a value based context of the "good life". Theses universal accepted values compose the ethical goals of development.

1. ***Life-sustenance*** refers to the nurture of life. "one of development's most important goals is to prolong men's lives and render those men less 'stunted' by disease, extreme exposure to nature's elements, and defenselessness against enemies." The importance of life sustaining goods (e.g. food, shelter, healing or medicine) is generally acknowledged by all societies. Because of life-sustenance

as a value of universal significance, life-sustaining indices are also used as a measurement of development.

2. **Self Esteem:** All human beings in all societies feel the necessity for respect, dignity, honor and recognition. The discussion involves esteem values and material prosperity, and, particularly, how esteem contends with “development” (in a sense of high rate of well-being, economic and technological advance). The more the material prosperity becomes the centre task of the development of a society the greater is the subordination of esteem to material affluence. The reaction of a society to the aforementioned material approach to development and its need for esteem can lead these societies to opposite directions, either towards “development” or towards resistance of it. In the first case, society tries to gain esteem via “development”, while at the latter it try to protect its profound esteem from inward “development”. Both acts seek to gain esteem. Therefore, esteem is a universal goal whether “development” is accepted or not.
3. **Freedom** is valued both from developed and non-developed societies as one of the components of the “good life”. Development ought to free humans from all servitudes. Even though there is a vast philosophical discussion on the term and the claim that freedom is enhanced by development is not self-evident, freedom is widely accepted as something beneficial and desirable. The debate lies again between freedom and material well-being. In a consumer society it can be accepted that the degree of freedom rises by material expansion, and thus constitutes an increase of well-being. On the other hand, in traditional societies, the value system may adopt a completely different confrontation over needs and wants. In any case, the point is that the matter of opinion is freedom. Furthermore, in the discussion over freedom, a significant distinction should be made between freedom *from* wants and freedom *for* wants. The former refers to the situation where human needs are adequately met, while the latter to the case where the gestations of new wants are controlled and individuals possess multiplied wants.

5.2.2. Ethical Strategies of development

In development ethics, strategic principles are normative judgments which provide both the notional and practical framework under within which development goals should be discussed and policy recommendations over those goals ought to be formulated. Accordingly, three ethical strategic are targeted:

- a. **The abundance of goods:** in a sense that people need to have ‘enough’ in order to be more. In order to understand the notion of this principle, it becomes necessary to take into account the ontological nature of human beings. In an ontological sense, almost all organisms must go outside of them in

order to be perfect. Only fully perfect beings would have no needs at all. Totally imperfect beings on the other hand would be incapable of needing certain goods. Humans are perfect (or imperfect) to such a degree that “men have needs because their existence is rich enough to be capable of development, but poor to realize all potentialities at one time or with their resources...At any given time man is less than he can become and what he can become depends largely on what he can have”. Hence, men need ‘to have enough’ goods in order to be human. This must be investigated under the notion of a humanistic approach on how much is ‘enough’ for people in order to have a ‘good life’. There is not an absolute answer to the above issue. The response to the aforementioned inquiry is found in the historical relation among men and societies. Nevertheless, it is widely accepted that underdevelopment (poverty, misery, diseases, mass famine etc) diminishes humanity. Therefore, with regard to the strategic principle of the abundance of goods, three distinctive points are noteworthy. First, all individuals need to have ‘enough’ goods in order to realize themselves as human beings. Second, enough is not an absolutely relative measure but it can be defined in an objective basis. Third, both underdevelopment situations and superfluous wealth lead to dehumanization of life.

- b. ***Universal solidarity:*** It concerns an ontological and philosophical issue. It can be distinctive in three points. First, all people be in agreement that beyond differences (in nationality, race, culture, status etc) a common ‘human-ness’ is present. Second, the earth as a cosmic body is governed by identical laws (physical roles) and all men dwell on this planet. Humans share a common occupation of the planet. In spite of differences in geography or climate, all humans are linked directly or indirectly with other people due to the fact of cohabitation into this cosmic body. The third component of the universal solidarity is derived by the all humans’ unity to destiny. In contrast, the existing state of affairs over the notion of universalism is in the opposite direction. People have not yet realized the need of solidarity. Under the present worldwide conditions, solidarity can be achieved only through conflict against present rules and redefinition of the relations of power. Conflict is a prerequisite for solidarity. Here it is appropriate to state the importance of classes’ struggle and the institutional building role to the problem of development. Development ethicists assert that no universal solidarity exists to consolidate unfair social relations. The rebuilding of social relations and institutions in a basis of equality is more than necessary.
- c. ***Participation:*** Theories of participation possess an important issue in the study of development. In general, the elite theory claims that decision making into a society concerns a ‘job’ for specialists in

each particular field of life. Elite theory is made in a basis of “competence” that leads to an alleged efficiency within a society. For development ethics, participation is a matter for discussion. In Goulet (1995, p. 97) words, “participation is best conceptualized as a kind of moral incentive enabling before excluded non-elites to negotiate new packages of material incentives benefiting them”. Even though development ethicists espouse that different kinds of development require different forms of participation, they argue that non-elite participation in decision-making enables people to mobilize and gives them control over their social destiny.

5.3. The concept of the Authentic Development

For all people and any society in the world, authentic development ought to cover at least three objective aims that correspond to the aforementioned goals of development: Authentic development, namely sustainability and human development is at the center of discussion for the last decades. It is agreed that any definition of development should take into account at least the following six conceptual propositions:

- 1) Economic component, related with wealth, material life conditions (amenities), and their equal distribution of them.
- 2) Social ingredient, connected with social goods as health, housing, education, employment etc.
- 3) Political dimension, in a sense of the protection of human rights and political freedom.
- 4) Cultural elements, with accord to the idea that cultures cultivate people’s identity and self-esteem.
- 5) Ecological soundness, to promote a type of development that respects natural resources and forces for the restoration of the environment.
- 6) System of meaning, which refers to the way that a society perceives beliefs, symbols and values concerning the historical process and the meaning of life.

5.4. Ethical Dimensions of Economic Development

In simple terms, by *ethics* we mean moral principles. Economic development deals with the welfare of the people in terms of higher incomes and better standards of living. This may not be equally distributed within nations and across nations. **Ethical dimensions of economic development** deal with the promotion of morally desirable outcomes, such as equality of opportunity to individuals within the country and across the countries. It implies, in short, more equitable distribution of income, elimination of poverty, hunger, and discrimination of all sorts based on caste, class and gender and other stratification. Amartya Sen is welfare economist who has brought out the ethical dimensions of economic development more explicitly in recent years. Starting with *The Theory of Social Choice*, any of his writings that economic development should address the problems of deprivation of all kinds. He argues that, “welfare economics could be substantially enriched by paying more attention

to ethics.” However, as has been pointed out by him, it is difficult to explicitly separate the behaviour patterns of individuals that include ethical considerations from those which do not include them. These problems are inherently complex.

Hence, we cannot assume that economic development automatically leads to the ethically desirable sharing of prosperity. Equally important is the fact that economic prosperity has, on several occasions, led to desirable distribution of income and the elimination of extreme deprivation.

1. The traditional theory of economic development is based on the premise that an increase in per capita income and an economic shift from primary sectors to secondary and tertiary sectors will increase labour productivity in both agriculture and industry sectors.
2. Another important aspect has been that agricultural development has either preceded the shift to industrial development, as in the West, or taken place simultaneously along with industrial growth, as in the case of some countries of Southeast Asia. Such a situation removes the constraint of food shortages in the economy. Keeping food prices low and making food affordable has been crucial to the success of economic development. Hence, economic development represented by growth in Gross Domestic Product (GDP) per capita was assumed to be ethically correct. As a country gets richer everyone is expected to share in the prosperity. Per capita income may increase, and the GDP growth might be impressive, but many people may still remain poor, hungry, malnourished, and live without the minimum basic amenities of housing, sanitation and safe drinking water. Sometimes only the rich benefit, as the poor do not get to participate in income generating economic activities. Lack of education, skills and assets are the major handicaps of the poor. In addition, discrimination by class, race, caste, community and gender, widen the income differentials and perpetuate poverty and hunger.

A number of income transfers and social security measures, such as unemployment payments, free food, free housing, etc., which rich governments undertake on ethical grounds help in the reduction of income inequalities, poverty and hunger. Similarly, massive investments in conservation, and plantations of secondary forests, etc., take place to address problems of overexploitation of natural resources and environmental degradation. This has broadly been the experience so far.

Now a days Trans-national corporations have grown in strength. The ethical dimension of international trade has become important in the process. Thus, besides the deliberate policy direction given to economic development internally, the protection against external exploitation by respective governments has come to matter.

The ethical balance sheet of economic development has:

1. on the one side, reduction in poverty and inequality, improvement in living standards and larger freedom of mobility enjoyed by the factors of production, such as capital and labor, and the possibility of achieving growth and sustaining it despite a small domestic market demand.
2. The other side of the balance sheet has growing inequalities within a country and across countries, absolute deprivation and poverty of some who cannot participate in the growth process, increasing risk of domestic jobs and incomes fluctuating along with the global economic fortunes, and the preoccupation of governments with the magnitude of growth and not so much with the quality of life of millions of people.

Pure economic growth by itself may be neutral to rich and poor, but the way it is achieved, through domestic or export markets, the basic skill levels and educational endowments of the population, and the type of government interventions, could tilt the balance in favor of the poor, or away from the poor.

- Some countries have been pro entrepreneurs and
- Others have been equally sensitive to labour problems.
- Some countries liberalized slowly and took maximum advantage of the international markets through a managed currency regime.
- Others followed complete liberalization without caution and suffered when the currency was left freely floating.

5.4.1. Ethics of International Trade

The World Trade Organization (WTO) has facilitated international trade and improved the export performance of many countries. However, domestic protectionism still needs to be brought down. Under the WTO rules, member countries have to phase out non-tariff trade restrictions and provide a certain amount of market access to other countries. Still, as an international trade organization, WTO has not been able to provide a level playing ground to the **developing countries**. In the present context, we consider two important aspects in relation to the above:

1. Exporters from developed countries enjoy maximum subsidies, especially for farm products. This has been most unfair with respect to agriculture and primary products that constitute the bulk of the exports of developing nations. As per a WTO stipulation, developing countries can increase the aggregate measure of support to a stipulated percentage only from the level existing in 1990-91. At that time, the level of support for agriculture in developed nations varied from 30 percent in the USA to 65 percent in Japan. The support allowed for developing countries was still very low even after the full allowed quantity of support is taken.

2. In WTO terminology, subsidies in general are identified by “boxes,” which are given colors: green (permitted), amber (slow down – to be reduced), and blue (subsidies that are tied to programmes that limit production). In order to qualify for the “green box,” a subsidy must not distort trade, or at most cause minimal distortion. These subsidies have to be government-funded (not by charging consumers higher prices) and must not involve price supports. “Green box” subsidies are, therefore, allowed without limits, provided they comply with relevant criteria. They also include environmental protections and regional development programmes. The blue box is an exemption from the general rule that all subsidies linked to production must be reduced or kept within defined minimal levels. It covers payments directly linked to acreage or animal numbers, but also limits production by imposing production quotas or requiring farmers to set aside part of their land. With the introduction of the green box, blue box and amber box scheme, the developed countries have actually increased their support to agriculture. Countries using these subsidies, and there are only a handful, say they distort trade less than the alternative amber box subsidy supports available to farmers in developed countries, meaning that it is next to impossible for the developing countries to compete with the developed countries. Farmers in the developed world further enjoy non-tariff supports, such as those available in the green box, which are termed as non-trade distorting, and which include payments for not producing a commodity. Export subsidies are termed as trade distorting. Strictly speaking, all are trade distorting, but they claim to be non-distorting. Another important issue is the blocking of the actual import of goods from developing countries by bringing in non-trade related issues, such as environment-friendly goods and child labour free production, phyto-sanitary measures, etc. Several persons both from the developing and the developed world have criticized the unfair trade practices imposed under WTO.

In common Poor countries are supporting the rich. The poorest countries lose about 60,000 US dollars every second because of trade barriers. This is 14 times what they receive in aid! Poor countries would be better of giving aid to rich countries if these countries would open their markets to them.

The following are the negative effect of trade barriers:

- **An unrealized potential**

Trade has the potential to be a powerful catalyst for human and economic development. However, the potential remains unrealized due in large part to unfair trade rules. The world’s highest trade barriers are erected against some of the poorest countries.

- **Trading out of poverty**

“We are asking for the opportunity to compete, to sell our goods in western markets. In short we want to trade our way out of poverty”. (President Museveni of Uganda).

- **Something has gone completely wrong**

Developed countries spend just over 1 billion US dollars a YEAR on aid for agriculture in poor countries, and just under 1 billion dollars a DAY subsidizing agricultural overproduction at home.

- **It would make a difference**

The elimination of trade rules which favor rich countries could lift 300 million people out of poverty.

5.4.2. *Ethics and Inequity*

The UN Millennium Development Goals aim at working towards creating a more just world economic order by 2015 in terms of reducing poverty, child and maternal mortality, gender disparity, disease and improving literacy and environmental sustainability. The Asia-Pacific region houses countries that are way behind the target in terms of addressing these issues of equity with regard to children, adults and future generations, and in terms of environmental sustainability. Even within many of the countries there is substantial disparity. Inequity at Birth, Inequity in Adult Life and Intergenerational Equity, as well as the ethical issues associated with them. The process of economic growth that has been adopted by most countries has been at the cost of economic development and the human factor. Although there might be an apparent reduction in percentage terms, the numbers remain large in absolute terms. For instance, an often heard critique of the process of planned development in India is that many of the plans and programmes have by-passed the people who were to be the beneficiaries.

An ethical approach to development demands that each individual is able to lead a life of dignity, wherein his/her basic minimum needs of food, clothing, and shelter are fulfilled. Inequity in terms of unequal access and exploitation on the grounds of gender, caste and class are untenable in such a framework. Birth in poverty means being born with the handicap of low health capacity in terms of being underweight. This manifests in early childhood as stunting and wasting, and inhibits the ability of a child to compete on a level playing field due to no fault of the child.

Despite advances in science and technology, numerous declarations and plans, and programmes later, the scourge of poverty continues and the benefits of economic development have not reached out to all. This is observable in disparities between nations – the developed and less developed, high income and low-income countries, and disparities within nations – apparent in pockets of hunger and malnutrition in the midst of plenty, and in discrimination on the grounds of caste, creed, gender and religion. The roots of such behaviour may perhaps be traced to a desire to dominate on the part of the powerful, to get the best for oneself at any cost and not bother about others. Something of this can be seen in the individual and also in the larger social context of the group. In pure economic terms, a typical example would be the developed countries protecting the interests of their people under the guise of minimum support while objecting to subsidies for the poor in developing countries, thereby

creating an uneven playing ground. Within a nation, the example of a large multipurpose power project constructed by displacing thousands from their land, overrunning the forest and land resources, to serve the needs of industry and urban areas without any proper rehabilitation and resettlement mechanism in place, raises to question the very essence behind such development efforts, efforts that both exacerbate present inequities and affect intergenerational equity, as well effect loss of precious natural resources.

a) Inequity at Birth

Inequity at birth has its roots in the inability of the mother to have adequate and proper nourishment due to poverty and lack of purchasing power, thereby resulting in a low birth weight baby. Left un-addressed, it perpetuates inequity in later life, by reducing cognitive abilities and the capacity to compete. Child malnutrition is a major cause for child mortality in the Asia-Pacific region.

Almost a third of all babies in South Asia are born with low birth weight. Given that eighty percent of brain development is completed before the age of two, depressed physical and mental ability that accompanies low weight at birth has a major negative impact on a nation's economy. Such children suffer handicaps; even at birth their mental development is affected as well as their cognitive ability.

Seventy percent of the world's malnourished children reside in the region. In areas of high under-nutrition, malnourished women or adolescent girls give birth to babies that are born stunted and with low birth weight (LBW). Under-nutrition is, thus, handed down from one generation to another.

Denying the child an opportunity for mental and physical development even at the fetal stage is the cruelest form of inequity. Thus, "bridging the nutritional divide is the first requisite for a more equitable and humane world."

The problems of low weight at birth, stunting and wasting, affect performance and productivity of the individual, placing them at a disadvantage vis-à-vis normal healthy individuals, due to no fault of their own. From an ethical perspective, the onus falls on society at large to see to it that such inequity is not allowed to exist and that the environment is favourable for the birth of healthy babies, thus, paving the way for a healthy population. Addressing the issues of alleviating hunger and malnutrition, and giving special attention to the health and nutritional needs of pregnant and nursing mothers, therefore, needs to be on the top of the agenda in the Asia-Pacific.

b) Inequity in Adult Life

Children born with low weight, and affected by malnutrition during childhood, grow into unhealthy adults who remain caught in a vicious circle of poverty, illiteracy, unemployment, and low productivity. About two-thirds of the world's hungry people are in Asia and are chronically undernourished. The hungry are also the poor.

The effect of malnutrition on adult earnings and productivity is estimated at 10 percent for stunting, 4 percent for childhood anemia and 10 percent on average per child born to a mother with goitre.

Besides calorie and protein malnutrition, micronutrient deficiencies are severe in Asia, causing serious health and development problems. Nutritional deficiencies of iron, iodine, and vitamin A are major concerns in South and Southeast Asia, although rickets and zinc and selenium deficiencies are additional concerns in certain areas. Iodine deficiency in Southeast Asia exceeds that in all other regions of the world.

Public action to reduce malnutrition is both a moral imperative and an investment towards a healthy population. Economic growth per se will alone not be sufficient. Malnutrition calls for direct nutrition intervention. Nutrition fuelled growth will reduce income inequality and accelerate poverty reduction by raising productivity and reducing private and public health care expenditures. Thailand put nutrition on its national development agenda in the seventies and made nutrition improvement one of the priority goals closely linked to poverty alleviation in the National Economic and Social Development Plans and achieved remarkable results in a short time through community-based approaches.

c) Intergenerational Equity

The concept of intergenerational equity has to come about due to the importance we place on sustainability. There is a need to renew and maintain genetic resources so that they exist during the time of our grandchildren. Legacy does not come on its own; people have to work to leave behind a legacy. The development process has to be sustainable over the long term and it must be equitable. The World Commission on Environment and Development has defined Sustainable Development as “Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” The report highlights that the continued flagrant use of natural resources, worsening level of pollution and waste, and unabated poverty will lead to a noticeable decline in the quality of life. It prescribed the adoption of a development path that would enable us to meet our needs without compromising the ability of future generations to meet theirs. South, Southeast, and East Asia face the challenge of fighting hunger and poverty in a scenario where agriculture-led broad-based economic growth has to take place under settings where the natural bases of production resources, such as land, water, and biodiversity, have shrunk, leading to widespread environmental and agro-ecological deterioration. Signs of degradation of bread baskets, such as the fatigued rice-wheat system in the Punjab in India, and other parts of South Asia, and irresponsible fishing and aqua culturing in the region, demand urgent attention.

Developing countries should critically examine the extant international initiatives and evolve their country-specific systems for judicious and integrated use and management of water. Climate change, global warming and their impact on agriculture, and vice versa, have emerged as new threats and challenges. Expected sea-level rise, estimated to be 15-94 cm during the next century, will adversely affect the coastal ecosystem.

Anticipatory research, including conservation, characterization, and utilization of topical genetic resources, and use of biotechnology and other cutting-edge sciences to meet the challenges of global warming and climate change need to be initiated. The countries likely to be negatively impacted by

climate change should collaborate not only in strengthening their relevant research and technology development, but also in their negotiations at various international forums. With regard to biodiversity conservation, and due to economic and population pressures, genetic biodiversity resources are eroding fast. Moreover, their availability is getting increasingly restricted due to their propriety protection under several systems. The issues related to this aspect have been dealt with.

5.5. The Debate of Ethics of Aid

Foreign aid mean economic, technical, military aid given by one nation to another purpose of relief and rehabilitation for for economic stabilization or mutual defense .it may be given by individuals, private organizations, or governments. The general aim of foreign aid is to provide in each developing country a positive incentive for maximum national effort to increase its rate of growth.

List of Advantages of Foreign Aid

1.Save Lives.

At the onset, foreign aid is there to save lives particularly during calamities and disasters, like in the case of natural disasters.

2. Rebuild Livelihoods.

Foreign aid helps rebuild lives by providing livelihoods and housing right after a disaster so that victims can start over.

3. Provide Medicines.

Medical missions are there to offer free medical and healthcare products and services where they are needed the most.

4. Aids Agriculture.

Foreign support directed towards agriculture helps farmers and increase food production, which leads to better quality of life and higher quantity of food.

5.Encourage Development.

Industrial development projects supported by foreign aid create more jobs, improve infrastructure and overall development of the local community.

6. Tap Natural Resources.

Some less developed countries do not have the ability to maximize their otherwise rich natural resources, but with foreign support, this is possible.

7. Promote Sanitation.

Less privileged communities benefit from foreign aid aimed at providing clean water and sanitation facilities, which reduces risk of contracting infections and diseases.

List of Disadvantages of Foreign Aid

- 1. Increase Dependency.**
Less economically developed countries (LEDCs) may become increasingly dependent on donor countries, and become heavily indebted.
- 2. Risk of Corruption.**
There is likelihood that foreign financial support do not reach their rightful recipients, but go to the hands of corrupt political officials.
- 3. Economic/Political Pressure.**
A donor country may place economic and political pressure on the receiving country, forcing them to return the favor.
- 4. Overlook Small Farmers.**
Foreign support may only benefit large-scale agricultural projects, and not the less privileged, small farmers who need help the most.
- 5. Benefit Employers.**
Most development may only benefit large corporations and already-wealthy employers, and not the people who do not have jobs or proper livelihoods.
- 6. Hidden Agenda of Foreign-Owned Corporations.**
Foreign aid is sometimes given to a country or recipient to benefit foreign-owned corporations and entities. So the help is not actually directed to the less fortunate, but to its own people.
- 7. More Expensive Commodities.**
When there is development and progress, there is inflation, which causes prices of commodities to increase, making the poor people more deprived. Giving help to LEDCs is a noble thing, but nations must properly monitor and manage the flow of foreign aid so that they reach the people who need it, and not go right into the pockets of corrupt and greedy entities.

5.6. Brief overview of environmental problems in Ethiopia

Ethiopia has a high-level strategy to pursue agriculture-based industrialization to achieve middle income country status by 2025 with no net increase in carbon emissions. As an economy currently heavily dependent on agriculture and forest resources, and with a historical legacy of widespread, severe environmental degradation, environmental issues are a significant consideration for the successful achievement of this high-level goal. Moreover, the historical – and ongoing – destruction and degradation of the soil and forest resources on which this development strategy depends represents a major policy and practical challenge. With the exception of climate change, the major environmental issues affecting

Ethiopia are: soil erosion and land degradation, deforestation and forest degradation, water scarcity, biodiversity loss, and various types of pollution. The impacts of agriculture and deforestation—especially on soils—have been severe and increase the vulnerability of many people to food and water insecurity. A range of other environmental issues also present significant—and in many cases increasing—challenges for policy and management.

5.6.1. Brief historical review of environmental policies in Ethiopia during the imperial and Dergue regime

The challenges of national food production have long been a policy concern in Ethiopia. One of the central aims of the large-scale integrated rural development projects that dominated the Ethiopian rural development scene from the late 1960s, was increasing yields through the supply of new crop varieties and inorganic fertilizers. The Chilalo Agricultural Development Unit (CADU) project was the first and most prominent of these efforts, started with much fanfare in 1967 and run with Swedish support for eight years.

The main elements of the conservation policy of the Derg were heavily biased in favor of physical structures which were constructed on- or off-farm using food for work (FFW) as an inducement. The paradigm seems shifted from the frontier economy to environmental conservation. In this period Program implementation relied on a top-down approach, without careful planning, and foreigner's expert advises which refused to consider the merit of indigenous land user's conservation practices. The Derg implement the collectivization and villegizations taking the wrong advice of the expatriate resettled the community from the northern parts of Ethiopia to the south western part which was new frontiers to the settlers. Consequently the resettled community starts to degrade the land and deforest the forest for farms and fuel consumption. The assumption was to maximize the agricultural productivity to feed the urban community without considering limited natural resource.

Derg's most far-reaching was the radical land reform of article 31/1975 which confiscated the property of the landed classes, placed all land, including all forests under public ownership, and distributed land to peasants organized in Peasant Associations. Land reform extinguished private as well as customary ownership of land and forests

5.6.2. Post-1991 environmental policy in Ethiopia and the issue of mainstreaming environment ethics

The overall environmental policy (1997) goal is to improve and enhance the health and quality of life of all Ethiopians and to promote sustainable social and economic development through the sound management and use of natural, human-made and cultural resources and the environment as a whole so as to meet the needs of the present generation without compromising the ability of future generations to meet their own needs.

The Key Guiding Principles of the policy are:

- A. Every person has the right to live in a healthy environment;
- B. Sustainable environmental conditions and economic production systems are impossible in the absence of peace and personal security. This shall be assured through the acquisition of power by communities to make their own decisions on matters that affect their life and environment;
- C. The development, use and management of renewable resources shall be based on sustainability;
- D. The use of non-renewable resources shall be minimized and where possible their availability extended (e.g. through recycling);
- E. Appropriate and affordable technologies which use renewable and non-renewable resources efficiently shall be adopted, adapted, developed and disseminated;
- F. When a compromise between short-term economic growth and long-term environmental protection is necessary, then development activities shall minimize degrading and polluting impacts on ecological and life support systems. When working out a compromise, it is better to err on the side of caution to the extent possible as rehabilitating a degraded environment is very expensive, and bringing back a species that has gone extinct is impossible;
- G. Full environmental and social costs (or benefits foregone or lost) that may result through damage to resources or the environment as a result of degradation or pollution shall be incorporated into public and private sector planning and accounting, and decisions shall be based on minimizing and covering these costs;
- H. Market failures with regard to the pricing of natural, human-made and cultural resources, and failures in regulatory measures shall be corrected through the assessment and establishment of user fees, taxes, tax reductions or incentives;
- I. Conditions shall be created that will support community and individual resource users to sustainably manage their own environment and resources;
- J. As key actors in natural resource use and management, women shall be treated equally with men and empowered to be totally involved in policy, programme and project design, decision making and implementation;

- K. The existence of a system which ensures uninterrupted continuing access to the same piece(s) of land and resource creates conducive conditions for sustainable natural resource management;
- L. Social equity shall be assured particularly in resource use;
- M. Regular and accurate assessment and monitoring of environmental conditions shall be undertaken and the information widely disseminated within the population;
- N. Increased awareness and understanding of environmental and resource issues shall be promoted by policy makers, by government officials and by the population, and the adoption of a "conservation culture" in environmental matters among all levels of society shall be encouraged;
- O. Local, regional and international environmental interdependence shall be recognized;
- P. Natural resource and environmental management activities shall be integrated laterally across all sectors and vertically among all levels of organization;
- Q. Species and their variants have the right to continue existing, and are, or may be, useful now and/or for generations to come;
- R. The wealth of crop and domestic animal as well as micro-organism and wild plant and animal germplasm is an invaluable and inalienable asset that shall be cared for; and
- S. The integrated implementation of cross-sectoral and sectoral federal, regional and local policies and strategies shall be seen as a prerequisite to achieving the objectives of this Policy on the Environment.

The emphasis of environmental policy(1997 e.c):

1. Soil Husbandries and Sustainable Agriculture
2. Forest, Woodland and Tree Resources
3. Genetic, Species and Ecosystem Biodiversity
4. Water Resources
5. Energy Resource
6. Mineral Resources
7. Human Settlements, Urban Environment and Environmental Health
8. Control of Hazardous Materials and Pollution From Industrial Waste
9. Atmospheric Pollution and Climate Change
10. Cultural and Natural Heritage

11. Population and the Environment

The Ethiopian environmental policy has contains three environmental principles to safeguard the environment from the environmental degradations. These are:

- **Precautionary principles:** Rio declaration 1992, principle 15 “Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.” The precautionary principle contains: 1. taking preventative action in the face of uncertainty; 2. shifting the burden of proof to the proponents of a development; 3. exploring a wide range of alternatives to try and avoid unwanted impacts; 4. Increasing public participation in decision making.
- **Polluters pay principles:** Over the last 30 years or so there has been a shift from ‘develop now, clean up later’ to ‘avoid causing problems’. In which the burden of problems being borne by those affected, to it being shouldered by the public in general, but, according to Principle 16, Rio Declaration “National authorities should endeavor to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution.” . However, Penalties for pollution are still often hard to enforce and relatively light, especially in developing countries.
- **Life cycle treatment of wastes:** Policy elements which have link with clean fuel use are: Energy resources, renewable energy sources and reduce the use of fossil energy resources and control of Hazardous Materials and Pollution from Industrial Waste.

5.6.3. Climate Resilience and Green Economy and Climate Changes

Ethiopia explicitly recognizes that environment is a vital and important pillar of sustainable development, and states that “building a ‘Green Economy’ and ongoing implementation of environmental laws are among the key strategic directions to be pursued during the plan period” of GTP on water, forests, climate change, and biodiversity conservation for sustainable use (FDRE, CRGE, 2011). In addition, Ethiopia has made important decisions and taken various measures to minimize the effects of climate change. It is party to both the UNFCCC (ratified in 1994) and the Kyoto Protocol (ratified in 2005).

The CRGE strategy focuses on four pillars that will support Ethiopia’s developing green economy:

1. Adoption of agricultural and land use efficiency measures

2. Increased GHG sequestration in forestry, i.e., protecting and re-establishing forests for their economic and ecosystem services including carbon stocks
3. Deployment of renewable and clean power generation
4. Use of appropriate advanced technologies in industry, transport, and buildings.

However, the CRGE, as Ethiopia green economy strategy has been focused on the mitigation which necessitates global analysis and global collective action to climate change. The attractiveness of developing a green economy plans lies in the substantial contributions it can make to economic advancement by offering a new organizing principles by laying the foundation of new and sustainable models of development and by mobilizing international capital to fund the necessary investments and projects in which Ethiopia's ambition to reach middle income status before 2025(FDRE, CRGE, 2011).Consequently, adaptation 2 (climate resilience) which local community and eco system (avoiding further degradation, restoring service that has disappeared) based of indigenous local knowledge got less emphasis where local funds required for implementing.

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| Mitigation of climate change is an approach by which countries are committed to reduce the amount of greenhouse gases emitted to the atmosphere through their industries, deforestation and land degradation. |
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| Adaptation “adjustment in practice, process, or structure to take in to account changing climate change, to moderate potential damage or to benefit from opportunities associated with climate change |
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Generally the past regime was highly supported and misguided by the expatriate experts without considering the local context. As a result of mismanagement of resource, land and property right cases and proclamations and laws and policy forests are being destroyed at an alarming rate. In addition, the absence of land use planning has become the root cause of conflict between government and peasants especially during the imperial and Derge regime and even in some places currently

also are challenging the environment. Absence of popular participation in resource management has resulted in the rejection of government policies formulated and implemented from the centre, policies such as collectivization, villagization, and resettlement, campaigns for reforestation and soil conservation, and prohibition of tree cutting. The frequent reallocations of land by peasant associations all over Ethiopia during the past regime created a strong feeling of tenure insecurity among land users. As a result the Derge conservation policy was emphasis on the construction of bunds and terraces, which were believed to be effective measures against soil erosion, was failed. Moreover, Efforts at expanding the infrastructural and industrial base of the country have had negative consequences on the environment. The expansion of irrigation schemes has led to the spread of vector-borne diseases and the displacement of small fanning and pastoralist communities. Unlike the resources in domesticated plants, the genetic resource of their wild

relatives comprising genetic resources of medicinal plants, forest resources, microbial resources, naturally occurring plants and also wild animals have not been given sufficient attention and as a result there is continuous loss of biodiversity.

After Kyoto protocol, Ethiopia explicitly recognizes that environment is a vital and important pillar of sustainable development and incorporates in the development planning like the CRGE and to reduce the effects of climate change on water, forests, climate change, and biodiversity conservation for sustainable use.

5.7. Environmental and Development: The Basic Issues

There are seven basic issues define the environment of development. The seven issues are (1) the concept of sustainable development, and linkage between the environment and (2) population and resources, (3) poverty, (4) economic growth, (5) rural development, (6) urbanization, and (7) the global economy. We briefly discuss each in turn.

5.7.1. Sustainable Development

Development economists have adopted the term *sustainability* in an attempt to clarify the desired balance between economic growths on the one hand and environmental preservation on the other. Although there are many definitions, basically sustainability refers to “meeting the needs of the present generation without compromising the needs of the future generations” Implicit in this statement is the fact that future growth and overall quality of life are critically dependent on the quality of the environment. The natural resource base of a country and the quality of its air, water, and land represents a common heritage for all generations. To destroy that endowment indiscriminately in the pursuit of short-term economic goals penalizes both present and, especially, future generations. It is therefore important that development planners incorporate some form of “environmental accounting” into their policy decisions. For example, the preservation or loss of valuable environmental resources should be factored into estimates of economic growth and human well-being. Alternatively, policymakers may set a goal of no net loss of environmental assets. In other words, if an environmental resource is damaged or depleted in one area, a resource of equal or greater value should be regenerated elsewhere.

In light of rising consumption levels worldwide combined with high rates of population growth, the realization of sustainable development will be a major challenge. We must ask ourselves the question, what are realistic expectations about sustainable standards of living? From present information concerning rapid destruction of many of the world’s resources it is clear that meeting the needs of a world population that is projected to grow by an additional 3.7 billion in the next 30 years will require radical and early changes in consumption and production patterns.

5.7.2. Population, Resources, and the Environment

Much of the concern over environmental issues stems from the perception that we may reach a limit to the number of people whose needs can be met by the earth’s finite resources. This may or

may not be true, given the potential for new technological discoveries, but it is clear that continuing on our present path of accelerating environmental degradation would severely compromise the ability of present and future generations to meet their needs. A slowing of population growth rates would help ease the intensification of many environmental problems. However, the rate and timing of fertility declines, and thus the eventual size of world population, will largely depend on the commitment of governments to creating economic and institutional conditions that are conducive to limiting fertility.

Rapidly growing Third World populations have led to land, water, and fuel-wood shortages in rural areas and to urban health crises stemming from lack of sanitation and clean water. In many of the poorest regions of the globe, it is clear that increasing population density has contributed to severe and accelerating degradation of the very resources that these growing populations depend on for survival. To meet expanding Third World needs, environmental devastation must be halted and the productivity of existing resources stretched further so as to benefit more people. If increases in GNP and food production are slower than population growth, per capita levels of production and food self-sufficiency will fall. Ironically, the resulting persistence of poverty would be likely to perpetuate high fertility rates, given that the poor are often dependent on large families for survival.

5.7.3. Poverty and the Environment

Too often, however, high fertility is blamed for problems that are attributable to poverty itself. For example, China's population density per acre of arable land is twice that of India, yet yields are also twice as high. Though it is not clear that environmental destruction and high fertility go hand in hand, they are both direct outgrowths of a third factor, absolute poverty. For environmental policies to succeed in Third World countries, they must first address the issues of landlessness, poverty, and lack of access to institutional resources. Insecure land secure rights, lack of credit and inputs, and absence of information often prevent the poor from making resource-augmenting investments that would help preserve the environmental assets from which they derive their livelihood. Hence, preventing environmental degradation is more often a matter of providing institutional support to the poor than fighting an inevitable process of decay. For this reason, many goals on the international environmental agenda are very much in harmony with some of the objectives of development articulated in chapter one.

5.7.4. Growth versus the Environment

If, in fact, it is possible to reduce environmental degradation by increasing the incomes of the poor, is it then possible to achieve growth without further damage to the environment? Evidence indicates that the worst perpetrators of environmental degradation are the billion richest and billion poorest people on earth. It has even been suggested that the bottom billion are the more destructive than all 3.2 billion middle-income people combined. It follows that increasing the economic status of

the poorest group would provide an environmental windfall. However, as the income and consumption levels of everyone else in the economy also rise, there is likely to be a net increase in environmental destruction. Meeting increasing consumption demand while keeping environmental degradation at a minimum will be no small task.

5.7.5. Rural Development and the Environment

To meet the expanded food needs of rapidly growing Third World populations, it is estimated that food production in developing countries will have to double by the year 2010. Because land in many areas of the Third World is being heavily overtaxed by existing populations, meeting these output targets will require radical changes in the distribution, use, and quantity of resources available to the agricultural sector. And because women are frequently the caretakers of rural resources such as forests and water supplies and provide much of the agricultural supply of labor, it is of primary importance that they be integrated into environmental programs. In addition, poverty alleviation efforts must target women's economic status in particular to reduce their dependence on unsustainable methods of production.

The increased accessibility of agricultural inputs to small farmers and the introduction (or reintroduction) of sustainable methods of farming will help create attractive alternatives to current environmentally destructive patterns of resource use. Land-augmenting investments can greatly increase the yields from cultivated land and help food self-sufficiency.

5.7.6. Urban Development and the Environment

Rapid population increase accompanied by heavy rural-urban migration is leading to unprecedented rates of urban population growth, sometimes at twice the rate of national growth. Consequently, few governments are prepared to cope with the vastly increased strain on existing urban water supplies and sanitation facilities. The resulting environmental ills pose extreme health hazards for the growing numbers of people exposed to them. Such conditions threaten to precipitate the collapse of the existing urban infrastructure and create circumstances ripe for epidemics and national health crises. These conditions are exacerbated by the fact that under existing legislation, much urban housing is illegal. This makes private household investments risky and renders portions of urban populations ineligible for government service.

Congestion, vehicular and industrial emissions, and poorly ventilated household stoves also inflate the tremendously high environmental costs of urban crowding. Lost productivity of ill or diseased workers, contamination of existing water sources, and destruction of infrastructure, in addition to

increased fuel expenses incurred by people's having to boil unsafe water, are just a few of the costs associated with poor urban conditions. Research reveals that the environment appears to worsen at a faster rate than urban population size increases so that the marginal environmental costs of additional residents rises over time.

5.7.7. The Global Environment

As total world population grows and incomes rise, net global environmental degradation is likely to worsen. Some trade-offs will be necessary to achieve sustainable world development. By using resources more efficiently, a number of environmental changes will actually provide economic savings, and others will be achieved at relatively minor expenses. However, because many essential changes will require substantial investments in pollution abatement technology and resource management, significant trade-offs between output and environmental improvements will occasionally become necessary. The poorer the country, the more difficult it will be to absorb these costs. Yet a number of issues, including biodiversity, rainforest destruction, and population growth, will focus international attention on some of the most economically strapped countries in the world. In the absence of substantial assistance to low-income countries, environmental efforts will necessarily have to be funded at the expense of other social programs, such as education, health services, and employment schemes, that themselves have important implications for the preservation of the global environment.

Exactly what sacrifices need to be made and who should make them will continue to be matters of great controversy. Nowhere was this more evident than at the second United Nations Conference on Environment and Development (UNCED)-the so called Earth Summit-held in Rio de Janeiro in June 1992. Most cumulative environmental destruction to date has been caused by the First World. However, with high fertility rates, rising average incomes, and increasing inequality in the Third World, this pattern is likely to reverse sometime in the next century. It is thus unclear how the costs of global reform should be divided. Apportionment of responsibility for reducing environmental damage essentially hinges on the manner in which the question is framed. For example, if a limit is placed globally on levels of per capita pollution emissions, the approach would clearly favor lower-income countries that have much lower per capita consumption levels. Conversely, if international pressures try to limit the growth rate of per capita emissions or even to impose limits on the growth of national emissions, any movement in that direction would tend to freeze Third World incomes at a small fraction of those of their First World counterparts.

Rural and Urban Development and the Environment

Frequently, 70% to 80% of the poor in LDCs reside in the agricultural sector, where economic necessity often forces small farmers to use resources in ways that guarantee short-term survival but reduce the future productivity of environmental assets. Unsustainable patterns of living may be imposed by economic necessity. In periods of prolonged and severe food shortages, desperately

hungry farmers have been known to eat the seeds with which they would have planted the next year's crop, knowingly paving the way for future disaster. Because it happens more slowly, the tendency of impoverished peoples to degrade agricultural resources on which they depend for survival is less dramatic, but is motivated by similar circumstances.

The cause and consequences of rural environmental destruction vary greatly by region. However, persistent poverty is frequently the root cause. The majority of the poor in developing countries survive on the meager yield obtained from cultivation of small plots of land whose soil may be too shallow, too dry, or too sandy to sustain permanent cultivation. If the land is not in some way replenished through either shifting cultivation or the use of manufactured fertilizers, it becomes exhausted, and yields decreased with successive harvest. But the poor generally do not have the wherewithal to increase the productivity of the land by allowing it to lay fallow or by making on-farm investments in irrigation and fertilizer. In addition, where fertility rates are high and children provide a vital economic contribution through the wages or on-farm labor, population and the intensity of cultivation are likely to increase over time, speeding the rate at which the soil becomes exhausted.

One immediate result of this type of environmental pressure is soil erosion. With little plant cover to protect it from wind and water, precious topsoil may be blown or washed away, further reducing the productivity of the land. This process of environmental degradation leads to persistent declines in local per capita food production and may eventually lead to desertification. This phenomenon is likely to spur increases in rural-to-urban migration and may force the remaining local population onto even less fertile land, where the same process is repeated.

Another factor in the cycle of rural poverty and environmental destruction is deforestation. The vast majority of wood cut in the Third World is used as fuel for cooking. Loss of tree cover has two potentially devastating environmental implications for predominantly poor rural populations. Deforestation can lead to a number of environmental maladies that, over a period of time, can greatly lower agricultural yields and increase rural hardships. On a day-to-day basis, however, the increasing scarcity of firewood means that women must spend large portions of the day in search of fuel, diverting time from other important activities such as income generation and child care. In the worst cases, fuel shortages are sufficient to require the burning of biomass or natural fertilizers, such as manure, which are important on-farm inputs for maintaining crop yields.

Environmental degradation that begins on a local scale can quickly escalate into a regional problem. For example, clearing of vegetation at high elevations may increase the exposure of cultivated lands at lower altitudes. Soil that has been carried away by heavy rains may silt rivers and pollute drinking water. Plants help retain rainfall, which percolate down through the soil into underground reserves called groundwater. The water is in turn tapped by a variety of plants during dry seasons in arid regions. A loss of vegetation leads to a decrease in the rate at which

groundwater is replenished. The subsequent drop in the water level leads to the death of plants with shallow root systems, including young trees. This self-perpetuating process can spread the malady to previously unaffected regions. Not surprisingly, the increase in natural disaster associated with environmental degradation, including floods, droughts, mudslides, can have a devastating impact on both the local and the regional agricultural economy. India and Bangladesh provide prime examples of this phenomenon.

Urban development and environment,

The ecology of urban slums

In some ways, life among the poor in urban slums is similar to that of the poor in rural villages: Families work long hours, income is uncertain, and difficult trade-offs must be made between expenditures on nutrition, medical care, and education. Though on average, urban dwellers are likely to have higher incomes, the poorest are frequently at greater risk of being exposed to dangerous environmental conditions.

The urban centers of the developing world will absorb over 80% of future increases in world population. Much of the intensification of urban congestion, however, will result from heavy rural–urban migration. It is expected that by 2010, the rural population of developing countries will stabilize at 2.8 billion, at which point rural-urban migration will be sufficient to counter any additional population growth. The rapid expansion of urban centers has placed increasing strain on the resource of developing-country governments attempting to provide adequate infrastructure and services to their inhabitants.

Though the health implications of environmental degradation are currently highest in rural areas, due to rapid urbanization the vast bulk of future increases in human exposure to unsafe conditions will occur in the cities. Unsanitary environmental conditions exacerbated by rapidly increasing urban congestion and industrial emissions pose severe health hazards.