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ENVIRONMENTAL SUSTAINABILITY & DEVELOPMENT

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ABSTRACT:

The environment is very important for supporting life, absorbing waste and providing inputs for production. Concern about environmental degradation that began in the industrialized countries in the 1960s and 1970s extended to the less developed countries by the 1980s. It has been argued that economic growth has caused serious environmental damages and the current state of environment will constrain future economic development. The poor in developing countries are often dependent on the natural environment for their livelihood, and even for their continued existence. The environmental problems differ substantially between developed and less developed countries. Thus, since 1990 international agencies such as World Bank, IMF, WTO and UN have began giving importance to environmental sustainability and sustainable development.

Keywords: Sustainable Development, Economic Development, Environmental Sustainability

INTRODUCTION:

Sustainable development refers to a pattern of resource use that aims to fulfil human needs while preserving the environment so that these needs can be met not only in the present, but also for the future generations. The Brundtland Commission defined sustainable development as development that "meets the needs of the present without compromising the ability of future generations to meet their own needs."

Sustainable development does not focus only on environmental issues. According to United Nations 2005 World Summit there are three interdependent and mutually reinforcing pillars of sustainable development, viz., economic development, social development and environmental protection. Thus, sustainable development involves cross-sectoral coordination and the integration of environmental and social concerns into all development processes. In other words, sustainable development involves simultaneous pursuit of economic prosperity, environmental quality and social equity.

The term green development is differentiated from sustainable development on the ground that the

proponents of green development prioritize environmental sustainability over economic and social considerations.

OBJECTIVES OF RESEARCH PAPER:

The objectives of the research paper are as follows:

1. To define sustainable development
2. To define Enviourmental sustainability
3. To measure the effects of economic development on Enviourmental Sustainability
4. To study the relationship between Economic development and Enviourmental Sustainability
5. To study the policies of International agencies in the context of Sustainable Enviourmental development.

RESEARCH METHODOLOGY:

The research is based on the secondary data as various reference books, Google websites etc.

MEANING OF ENVIRONMENTAL SUSTAINABILITY:

Environmental sustainability is a process of making sure current processes of interaction with the environment are pursued with the idea of keeping the environment as pristine as naturally possible. When natural capital (i.e. the sum total of nature's resources) is used up faster than it can be replenished it will lead to an 'unsustainable situation', i.e., environmental degradation. Theoretically, the long-term result of environmental degradation is the inability to sustain human life.

Environmental sustainability is the ability to maintain the qualities that are valued in the physical environment. For instance, most people want to sustain (maintain) the following qualities of environment:

(i) Human life

(ii) The capabilities that the natural environment has to maintain the living conditions for people and other species (e.g., clean water and air, a suitable climate).

(iii) The aspects of the environment that produce renewable resources such as water, timber, fish, solar energy, etc.

(iv) The functioning of society, despite the depletion of non-renewable resources.

(v) The quality of life for all people, the livability and beauty of the environment.

Threats to these aspects of the environment mean that there is a risk that the above mentioned qualities will not be maintained. For instance, the large scale extraction of non-renewable resources such as minerals, coal, oil, etc. or damage done to the natural environment can create threats of decline or destruction or extinction of life for people.

Some of the important environmental sustainability problems are:

(i) Destruction of the living environments (habitats) of native species.

(ii) Discharge of polluting chemicals and other materials into the environment.

(iii) Emission of greenhouses gases into the atmosphere that can cause climate change.

(iv) Depletion of low cost oil and other fossil fuels.

The above problems are associated with the process of economic growth and economic development. Thus, it has been argued that economic growth has caused serious environmental damage.

Thus, environmentalist uses the term sustainability to clarify the desired balance between economic growth on the one hand and environmental preservation on the other.

The above analysis shows that future growth and overall quality of life are, 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. If we destroy this endowment indiscriminately for the sake of short-term economic goals it will penalize both present and especially, future generations. It is therefore necessary to emphasize on environmental sustainability.

FUNCTIONS OF ENVIRONMENT:

Environment is essential for economic activity and growth. At the same time economic activity and growth will also affect the environment. According to A.D. Thirlwall the four important functions of environment are (i) life-supports, (ii) supply of natural resources, (iii) absorption of waste products and (iv) supply of amenity services.

(i) Life-support: The environment provides a biological, chemical and physical system that enables human life to exist. This system includes the atmosphere, river systems, the fertility of the soil and the diversity of plant and animal life. These environmental services are consumed by households and are essential to life. Large reductions in these services, through major damage to the environment, could have severe consequences for life.

(ii) Supply of natural resources: The environment provides raw materials and energy for economic production and household activity. These natural resources are either renewable or non-renewable. Renewable resources such as forests, fisheries, etc. can be used in a sustainable manner. However, excessive use or mismanagement can lead to the complete loss of the renewable resources. On the other hand the use of non-renewable resources such as minerals reduces the stock of the resources forever.

(iii) Absorption of waste products: Environment helps to absorb the waste products of economic and household activity. This sink function allows large part of waste to be disposed of safely. However, there are certain wastes that are difficult or impossible for the environment to dispose of safely. These wastes are long-lived radioactive materials, heavy metals, etc. Other measures will have to be taken for the disposal of these wastes. Further, the ability of the environment to absorb waste is not infinite. The disposal of effluents in the sea and rivers will not give rise to serious pollution as long as the discharges are below threshold levels. The discharges above the threshold levels will give rise to rapid increases in pollution.

(iv) Supply of amenity services: The environment also provides amenity services such as natural beauty and space for outdoor pursuit. These amenities are consumed but they are also crucial to the continued existence of life.

Some parts of the environment may serve more than one function and thus overlap. For instance, the oceans are important in determining the life-support systems of climate. Oceans are also sources of many minerals and other resources. Oceans absorb many different wastes and provide the space and opportunity for marine pastimes. The functions of the environment may be competitive as well as complimentary. For example, excessive discharge of waste materials into the oceans will reduce their capacity to provide a habitat for fish

(v) Providing aesthetic value: The environment provides scenic beauty that enhances the quality of human life.

(vi) Sustaining life: The environment provides essential ingredients for life, like air, water, soil, and the sun.

ECONOMIC GROWTH AND THE ENVIRONMENT:

Environment is essential for economic growth. At the same time Erconstrained economic growth will lead to the exhaustion of non- unconstre resources and environmental degradation that will affect economic production and the quality and existence of life.

According to Grossman and Krueger in the early stages of economic development the level of environmental degradation increases, but after this phase the environment improves with economic development. The World Development Report of 1992 also held the same view.

According to this Report, if environmental pollution and degradation were to rise with the rise in output there would be appalling environmental pollution and damage. Tens of millions more people would become sick or die each year from environmental causes. Water shortages

would be intolerable and other natural habitats would decline to a fraction of their current size. However, such an outcome need not occur, nor will it if sound policies and strong institutional arrangements are put in place.

The resources of the earth as well as the absorptive capacity of the earth are limited. Whether these limitations will affect the growth of human activity will depend upon the scope for substitution, technical progress and structural change. According to World Bank some resources such as water, forests, and clean air are under siege, while other resources such as metals, minerals and energy are not. The reason for this is that the scarcity of the latter group is reflected in market prices and thus the forces of substitution, technical progress and structural change are strong in this case. On the other hand, the first group is characterized by open access, and hence there are no incentives to use them sparingly. Therefore, policies and institutions are necessary to force decision makers, namely, corporations, farmers, households, and governments, to take account of the social value of these resources in their actions. According to the World Bank, when environmental policies are publicly supported and firmly enforced, the positive forces of substitution, technical progress and structural change can be very powerful as in the case of marketed inputs such as metals, minerals and energy. Thus, the environmental debate has rightly shifted away from concern about.

EFFECTS OF RISING ECONOMIC ACTIVITY ON ENVIOURMENT:

Effects of rising economic activity on Enviourment are as follows:

(i) Some environmental problems decline as income rises: As income rises the population without safe water, adequate sanitation and rural electricity declines. This is because increasing income provides the resources for public services such as sanitation, safe water and rural electricity. When individuals no longer have to worry about day-to- day survival, they can devote resources to profitable investments in conservation. These positive synergies between economic growth and environmental quality should not be underestimated.

(ii) Some environmental problems initially worsen but then improves as income rise: Most forms of air and water pollution and some types of deforestation and encroachment on natural habitats come under this category. Improvements in these do not occur automatically. but occur only when countries deliberately introduce policies to ensure that additional resources are devoted to dealing with environmental problems.

(iii) Some environmental problems worsen as incomes rise: Emissions of carbon and of nitrogen oxides and

municipal wastes come under this category. In most countries individuals and firms have few incentives to cut back on wastes and emissions. Thus until incentives through regulations, charges, or other means are put into place emissions and wastes will continue to increase.

(iv) Environmental Kuznets curve: some environmental problems such as inadequate urban sanitation tend to improve as income rises, others such as urban air pollution initially worsen but then improve as income rise, and still others such as carbon dioxide emissions tend to worsen steadily with increasing income. The tendency of many forms of environmental degradation to follow an "invented U" when plotted against income has been named the "environmental Kuznets curve". The middle row of Fig. 2.1 clearly shows that two types of air pollution first increase and then decrease with the rise in per capita income. The environmental Kuznets curve

(v) Increased consumption: When people have more income, they tend to consume more goods, which can deplete natural resources and create pollution.

(vi) Carbon emissions: Economic growth can lead to increased energy use and carbon emissions, which contribute to climate change and environmental degradation.

(vii) Biodiversity loss: Increased carbon dioxide levels, ocean acidification, and habitat loss can contribute to a loss of biodiversity.

(viii) Health issues: Climate change can worsen air quality, which can increase exposure to hazardous wildfire smoke and ozone smog. This can harm human health, especially for people with pre-existing illnesses.

(ix) Economic impact: Poor environmental quality can negatively impact economic growth and well-being by limiting the availability of resources and causing health issues.

(x) Poverty and inequality: Climate change can disproportionately affect the poorest and most vulnerable populations.

CONSEQUENCES OF ENVIRONMENTAL DEGRADATION IN DEVELOPING COUNTRIES:

It is often the poorest who suffer most from the consequences of pollution and environmental degradation. Unlike the rich, the poor cannot afford to protect themselves from contaminated water. In cities, the poor are likely to spend much of their time on the streets breathing polluted air. In rural areas the poor are more likely to cook on open fires of wood or dung inhaling dangerous fumes and their lands are most likely to suffer from soil erosion.

The important environmental problems in developing countries in the next few decades will be caused by poverty. These will include health

hazards created by lack of access to clean water and sanitation, indoor air pollution from biomass stoves, and deforestation and severe soil degradation. World Development Report of 1992 summarized the important health and productivity consequences of environmental damage in the developing countries in Table 2.1. It divides the environmental damages into seven categories, i.e., (i) water pollution and water scarcity, (ii) air pollution, (iii) solid and hazardous wastes, (iv) soil degradation, (v) deforestation, (vi) loss of biodiversity and (vii) atmospheric changes.

Some of the important environmental problems that impose serious costs for health and productivity are explained below.

1. Lack of clean water and sanitation: According to World Bank forthe 1 billion people in developing countries who do not have access to clean water and the 1.7 billion who lack access to sanitation, these are the most important environmental problems of all. They are major contributors to the 900 million cases of diarrheal diseases every year, which cause the deaths of more than 3 million children. Cholera, typhoid, and paratyphoid also continue to affect human welfare. Providing access to sanitation and clean water would not eradicate all these diseases, but it would help to alleviate human distress.

2. Air Pollution: Emissions from industry and transport and from domestic energy consumption impose serious costs for health and productivity. In the second half of the 1980s about 1.3 billion people worldwide lived in urban areas that did not meet the standards for airborne dust and smoke set by the World Health Organisation (WHO) They thus faced the threat of serious respiratory disorders and cancers High levels of lead, primarily from vehicles emissions, have been identified as the greatest environmental danger in a number of large edies in the developing countries. For hundreds of millions of the world's poor people, smoke and fumes from indoor use of biomass fuel (such as wood, straw and dung) pose a greater health risks than any outdoor pollution.

3. Soil degradation: Soil degradation is the cause of stagnating or declining yields in parts of many countries. Erosion is the most visible symptoms of this degradation. Soil depletion leads to productivity losses amounting to be between 0.5 and 1.5 percent of GDP annually.

4. Deforestation and loss of biodiversity: Forests, coastal and inland wetlands and other ecosystems are declining at a very high rate. The loss of forests has severe ecological and economic costs such as cost watershed protection, local climate change, lost coastal protection and fishing grounds. This affects people's lives.

5. Greenhouse warming: The buildup of carbon dioxide and other green house gases will raise average temperatures on earth. According to the International Panel on climate change the average world temperature may rise by 3º celsius by the end of next century. This may lead to sea-rise which may create many damages. However, the consequences will depend upon the policies taken by countries to reduce emissions.

POLICIES FOR ENVIRONMENTAL SUSTAINABILITY:

The economic growth and development has good and bad impact on the environment. World Development Report of 1992 has identified the conditions under which policies for efficient income growth can compliment those for environmental protection. The most important of these relates to poverty reduction. Attacking poverty is not only a moral obligation, but it is also essential for environmental management. Some of the important policies that improve both economic efficiency and the environment are:

(i) Eliminating subsidies for the use of fossil fuels and water.

(ii) Giving poor farmers property rights on the land they farm.

(iii) Making heavily polluting state-owned companies more competitive.

(iv) Eliminating rules that reward with property rights to those who clear forests.

(v) Investing in better sanitation and water and improved research and extension services.

In addition to above policies it is also essential to have strong public institutions and policies for environmental protection. Strong environmental policies compliment and reinforce development.

Important policies to attack the underlying causes of environmental damage are explained below.

1. Policies that build on the positive links between development and environment: Policies that encourage efficiency lead to less waste, less consumption of raw materials and more technological innovation. To achieve this the following measures will have to be taken.

(a) Removing Distortions: Government policies such as distorted prices in general and subsidised input prices contribute to air pollution. The removal of all energy subsidies would not only produce large gains in efficiency and in fiscal balances but would also sharply reduce local pollution and cut worldwide carbon emissions from energy use.

(b) Providing Property Rights: When people have open access to forests, pasture land, or fishing grounds, they tend to overuse them. Providing land titles to farmers can help to reduce

damage to forests. Providing security of tenure can help to reduce soil erosion. Thus, giving property rights can lead to sound management of natural resources.

2. Targeted policies to change behaviour: The removal of subsidies and the property rights may not be sufficient to end environmental damages such as air, water pollution, loss of biodiversity and so on. Thus, specific policies are required to induce the resource users to take into account the spillover effects that their actions have on the rest of the society.

Policies designed to change behaviour can be divided into 2 broad categories:

(i) The first category is based on incentives (i.e. market based policies). They tax or charge polluters according to the amount of damage they do to the environment.

(ii) The second category is based on quantitative restrictions (ie command and control policies). They consist of regulations regarding use of technologies in specific industries and so on.

While adopting policies designed to change behaviour, the following principles should be taken into consideration for the success of policies

(a) Standards should be realistic and enforceable.

(b) Controls must be consistent with the overall policy framework.

(c) A combination of policies will often be required to tackle environmental damage caused by different reasons.

3. Reviewing public expenditures: Public expenditures can have a remarkable effect on the environment. In the past numerous public investments, often supported by development agencies including the World Bank, have caused damage by failing to take environmental considerations into account or to judge the magnitude of the impacts. Thus, recently most countries and aid agencies have introduced environmental assessment procedures relating to public expenditures.

4. Removing impediments to action: In order to improve the effectiveness of policies it is necessary to counteract political pressures, improves information, strengthen institutions and to involve local people.

(i) Counteracting political pressures: Stopping environmental damage often involves taking rights away from people who may be politically powerful. Industrialists, farmers, and fishermen fiercely defend their rights to pollute or to exploit resources. Those who are hurt when the environment is damaged, and who stand to gain most from sound policies, are often the poor and the weak. They are

likely to be less politically powerful than the polluters whom governments must challenge.

(ii) Improving information: Ignorance is a serious impediment to finding solutions to environmental problems. Countries can get large benefits from investments in basic environmental data on exposure to emission and unsanitary conditions, soil and water depletion, land capability and loss of forests and natural habitat. Understanding the causes and effects of environmental damage **and the costs and benefits of action can also help in avoiding environmental damages.**

(iii)Involving local people: Making choices between economic andsocial benefits and environmental costs often requires subjective judgements and detailed local knowledge. The governments and aid agencies are not equipped to make judgements about how local people value their environment. A participatory process will help to improve the decision making process. According to World Bank, local participation will yield high economic and environmental returns in implementing programs of afforestation, soil management, park protection, water management, and sanitation, drainage and flood control.

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