

A Study on Natural Resource Management and Environmental Protection

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ABSTRACT

Nature has provided bountiful resources surrounding us for sustenance of a better life. Thus, any part of our natural environment such as land, water, air, minerals, forest, grassland, wildlife, fish or even human population that man can utilize to promote his welfare, may be considered as Natural Resources. These resources, along with human resources and capital, play a crucial role for expansion to national output which ultimately drives towards economic development. Hence, the existence or the absence of favorable natural resources can facilitate or retard the process of economic development. Natural resources include land, forests, wildlife resources, fisheries, water resources, energy resources, marine resources, and mineral resources. These resources are usually known to man. But nature possesses more in its bosom which is still undiscovered. For example, the vast resources of solar, wind, tidal and geothermal energy are yet to be fully discovered and utilized. Man is required to develop scientific techniques for their proper utilization. Out of all those natural resources, some are exhaustible or nonrenewable type such as minerals and oils which can be used only one time. Once exhausted, they are depleted completely. But some others, like land, water, fisheries and forests are renewable or non-exhaustible in nature. If proper care is taken, they can be utilized endlessly.

1. INTRODUCTION

Natural Resource Management refers to the management of natural resources such as land, water, soil, plants and animals, with a particular focus on how management affects the quality of life for both present and future generations. (Stewardship) Natural resource management deals with managing the way in which people and natural landscapes interact. It brings together land use planning, water management, biodiversity conservation, and the future sustainability of industries like agriculture, mining tourism, fisheries and forestry. It recognizes that people and their livelihoods rely on the health and productivity of our landscapes, and their actions as stewards of the land play a critical role in maintaining this health and productivity.

Natural resource management specifically focuses on a scientific and technical understanding of resources and ecology and the life supporting capacity of those resources. Environmental management is also similar to natural resource management. In academic contexts, the sociology of natural resources is closely related to , but distinct from, natural resource management.

ENVIRONMENTAL RESOURCE MANAGEMENT

Environmental resource management is the management of the interaction and impact of human societies on the environment. It is not, as the phrase might suggest, the management of the environment it self. Environmental resources management aims to ensure that ecosystem services are protected and maintained for future human generations and also maintain

ecosystem integrity through considering ethical economic and scientific variables. Environmental resource management tries to identify factors affected by conflicts that rise between meeting needs and protecting resources. It is thus linked to environmental protection and sustainability.

SCOPE

Environmental resource management can be viewed from a variety of perspective. Environmental resource management involves the management of all components of the biophysical environment, both living and non-living. This is due to the interconnected and network of relationships amongst all living species and their habitats. The environment also involves the relationships of the human environment, such as the social, cultural and economic environment with the biophysical environment. The essential aspects of environmental resource management are ethical economical social and technological. These underlie principles and help in making decisions.

ECONOMIC

The economy functions within and is dependent upon goods and services provided by natural ecosystem. The role of the environment is recognized in both classical economics and neoclassical economics theories, yet the environment held a spot on the back-burner of economic policies from 1950 to 1980 due to emphasis from policy makers on economic growth. With the prevalence of environmental problems, many economists embraced the notion that, “If environmental sustainability must coexist for economic sustainability, then the overall system must identification of an equilibrium between the environment and the economy. As such, economic policy makers began to incorporate the functions of the natural environment – or natural capital – particularly as a sink for wastes and for the provisions of raw materials and amenities. Debate continues among economists as to how to account for natural capital, specifically whether resources can be replaced through the use of knowledge and technology or whether the economy is a closed system that cannot be replenished and is finite. Economic models influence environmental resource management, in that management policies reflect beliefs about natural capital scarcity. For someone who believes natural capital is infinite and easily substituted, environmental management is irrelevant to the economy. For example economic paradigms based on neoclassical models of closed economic systems are primarily concerned with resource scarcity, and thus prescribe legalizing the environment as an economic externality for an environmental resource management strategy. This approach has often been termed “Command-and-control. Colby has identified trends in the development of economic paradigms, among them, a shift towards more ecological economics since the 1990s.

INTEGRATED NATURAL RESOURCE MANAGEMENT

Integrated natural resource management (INRM) is a process of managing natural resources in a systematic way which includes multiple aspects of natural resource use (biophysical, socio-political, and economic) meet production goals of producers and other direct users (e.g., food security, profitability, risk aversion) as well as goals of the wider community (e.g., poverty alleviation, welfare of future generations, environmental conservation). It focuses on sustainability and at the same time tries to incorporate all possible stakeholders from the planning level itself, reducing possible future conflicts. The conceptual basis of INRM have evolved in recent years through the convergence of research in diverse areas such as sustainable

land use, participatory planning, integrated watershed management and adaptive management. INRM is being used extensively and been successful in regional and community based natural management.

There are various frameworks and computer models developed to assist natural resource management.

BIODIVERSITY CONSERVATION

The issue of biodiversity conservation is regarded as an important element in natural resource management. What is biodiversity? Biodiversity is a comprehensive concept, which is a description of the extent of natural diversity. Gaston and Spicer point out that biodiversity is the variety of life and relate to different kinds of “biodiversity organization”. According to Gray the first widespread use of the definition of biodiversity, was put forward by the United Nations in 1992, involving different aspects of biological diversity.

PRECAUTIONARY BIODIVERSITY MANAGEMENT

The “Threats” wreaking havoc on biodiversity include; habitat fragmentation, putting a strain on the already stretched biological resources; forest deterioration and deforestation; the invasion of “alien species” and “climate change”. Since these threats have received increasing attention from environmentalists and the public, the precautionary management of biodiversity becomes an important part of natural resources management. According to Cooney, there are material measures to carry out precautionary management of biodiversity in natural resource management. Concrete “Policy tools”

LAND RESOURCES

The total land area of india is of 32,262 sq.kms. But statistical information is available for only 93 per cent of total area. Out of this the productive or cultivable land is only 47 per cent. Rest 19 per cent comes under forest, 9 per cent as fallow lands, 11 per cent as cultivable waste land and others. Figures of availability of arable land per capita reveal that India is not favorably placed in this respect.

When India accounts for 15 per cent of world population, it possesses only 2.4 per cent of the land surface of the world. Hence efforts should be taken to increase cultivable area. Now it is trying to add fallow lands and cultivable waste lands which account for 20 per cent to net area sown and to increase the area under double cropping using modern scientific techniques.

FOREST RESOURCES

Forests are an important renewable natural resources that contribute substantially to economic development. They provide raw materials to number of important industries, namely, matchboxes, paper, newsprint, rayon, furniture, construction, tanning etc. Apart from timbers and woods, forests are rich sources of varieties of valuable plants for medicine, spices, dyes, bamboo, grasses lac ,gums, tanning etc. From checking of wood and soil erosion to wild life protection, rainfall, human recreation, water sheds and balance of nature, forests play a major role in enhancing quality of environment.

The total area under forest is of 752.9 lakh hectares which is 19 per cent of the total geographic area. This area is gradually decreasing year after year due to deforestation. On the basis of legal status forests are classified into (i) reserved (53%) (ii) protected (30%) and (iii) unclassified (17%) forests. Forest area is concentrated in few states like Assam, Madhya Pradesh, Orissa and a few union territories, but it is deficient in northern India. There is a need to develop forest areas in the entire country.

Conservation concerns man's safeguarding and preservation of natural resources and his responsibility for improving the environmental conditions in which he lives. An important task of conservation is the prevention of waste-waste of forests, Soil, minerals, wildlife and human life.

Trees help to preserve land because their roots bind the soils and retain water. Without trees, heavy rains will cause soil erosion and the remaining land becomes poor and worthless. Terrible floods often occur in the areas where trees are cut down in great quantity. Forest conservation also means the prevention of bush fires and the attention to planting and looking after new, young trees.

Not only should man preserve forests but he should also realize the importance of wildlife protection. Unless governments have a good system of control or pass laws restricting the hunting, fishing and eradicating of rare animals and plants they slowly disappear. Natural resources such as coal, gas and mineral ores are limited but the need for them is growing day by day. As they may not last for a century man should use them wisely on the one hand and look for alternative fuels on the other hand.

Another serious problem threatening human life is the dirtying and poisoning of air and water. This pollution is mainly caused by the fumes, chemicals and wastes from automobiles, industries and homes.

CLIMATE CHANGE AND ENVIRONMENT

Climate change and environmental degradation pose threats to the global economy and to the well-being of citizens in every country. These interacting processes have the potential to undermine development investments and recent gains in poverty alleviation, food and water, security and human health, particularly in the most vulnerable developing countries. Though the poorest countries historically have been least responsible for climate change and ecosystem degradation, they face the most severe consequences of its effects (ranging from altered rainfall, reduced crop yields and increased weather-related disasters, to rising sea levels and exacerbated diseases).

Asia's natural resources are among the richest and most diverse in the planet. The region holds 20% of the world's biodiversity, 14% of the world's tropical forests, and 34% of global coral resources, including the greatest number of marine species in the world. Asia's natural ecosystems and biodiversity provide numerous social and economic benefits, providing local livelihoods, supporting food, water and energy security, and regulating the global climate.

However, rapid economic development, poor management and corruption have had a large destructive impact on the region's ecological systems. In the last 40 years ecosystems in the region have declined at twice the global average.

SUSTAINABILITY

The concept of sustainable economic growth is the key to striking the balance between conserving the environment and maintaining prosperity in the developed world while achieving economic development in underdeveloped countries.

A basic distinction is drawn between notions of sustainable growth, based on the premise that under certain conditions future economic growth is feasible, and sustainable development. This is broadly based notion encompassing ethical norms pertaining to the (future) survival of living matter and to institutions responsible for ensuring that such rights are fully taken into account in policies. The second part of the book provides methods and examples, drawn from both developed and developing economies, to illustrate how the theory can be applied and monitored.

Sustainability and environmental resource management involves managing economic, social and ecological system within and external to an organizational entity so it can sustain itself and the system it exists in. In context, sustainability implies that rather than competing for endless growth on a finite planet, development improves quality of life without necessarily consuming more resources. Sustainably managing environmental resources requires organizational change that instills sustainability values that portrays these values outwardly from all levels and reinforces them to surrounding stakeholders. The end result should be a symbiotic relationship between the sustaining organization, community, and environment.

Many drivers compel environmental resource management to take sustainability issues into account. Today's economic paradigms do not protect the natural environment, yet they deepen human dependency on biodiversity and ecosystem services. Ecologically, massive environmental degradation and climate change threaten the stability of ecological systems that humanity depends on. Socially, an increasing gap between rich and poor and the global North-South divide denies many access to basic human needs, rights, and education, leading to further environmental destruction. The planet's unstable condition is caused by many anthropogenic sources. As an exceptionally powerful contributing factor to social and environmental change, the modern organization has the potential to apply environmental resource management with sustainability development with environmental resource management an organization should coincide with sustainability principles, such as; social and environmental accountability, long-term planning a strong, shared vision; a holistic focus; devolved and consensus decision making broad stakeholder engagement and justice; transparency measures; trust; and flexibility, to name a few

PRESERVING OUR ENVIRONMENT THROUGH CONSERVATION

Conservation is the main source that we need to focus on more to preserve our environment. Conservation includes developing and utilizing natural sources such as water, soils wildlife, minerals and other natural resources. Both economic and social issues contribute to the welfare of our environment negatively and positively. Because of our selfish behaviors, our actions have driven out wildlife animals from their natural habitat in order to satisfy our needs.

As technology advanced during the century, population growth has increased in the central coast of California. The growth of population has caused many wildlife animals to be forced out of their habitat for the availability of houses. An example would be the city of Santa Maria. During the post five years new homes have taken over farmlands, and many areas that were

once homes to wildlife animals. Now many areas that were once homes to wildlife animals. Now many of the dirt roads have been turned into cement and concrete in preparation for housing construction.

2. CONCLUSION

The policy making is dependent on “evidences”, relating to “high standard of proof” the forbidding of special “activities” and “information and monitoring requirement”. Before making the policy of precaution, categorical evidence is needed. When the potential menace of “activities” is regarded as a critical and “irreversible” endangerment, these “activities” should be forbidden. About 45 percent of the world’s plant species occur in tropical rainforests (Charles M. Peter, “Rainforests”). There are over 250 species of trees inhabiting small areas of Asia and S. American rainforests. The orderly cycles of nature with their simple economy cannot manage such vast quantities of man-made waste (William o’ Douglas, “No Waste in Nature”). Many animals such as reptiles, birds, mammals, and a good majority of insects make up the habitat of tropical rainforests and small land areas around the country. Plants and animals are connected to each other in a system called the food chain. The plants and animals depend on one another for survival. Many of the plants depend on insects and birds to pollinate the flowers, and in return, other animals revive the nectar of the flower. Animals are also depended to disperse the trees seeds (Charles M. Peter, “rainforests”). Ecologists believe that complexity is in part responsible for the stability of..

3. REFERENCES

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