



Challenges of the Emerging Global Environment: A Review

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ABSTRACT

Many organisations have looked into the emerging global environmental challenges and crises, both nationally and globally. These organisations include the World Health Organisation (WHO), the United Nations Environment Programme (UNEP), and the European Environmental Agency (EEA). Research findings disclosed the dynamic nature of environmental issues, their aftermath, and potential approaches to alleviate them. Examples include land degradation and deforestation in Africa, air pollution from automobile exhaust and uncontrolled mining activities in both developed and developing countries, desertification, soil erosion, pollution from developing countries' agriculture, and the overall effects of climate change. Regulating and sequestering carbon, afforestation, and the use of clean, friendly, and renewable energy sources are some of the strategic measures and regulations currently in place to address these issues. The global population growth, urbanisation, and increased demand for food and energy, especially on the African and Asian continents, have an impact on the sustainability of these policies, on the other hand. Therefore, when evaluating new global environmental challenges, the state must take these factors into account.

Key words: Emerging global environment, EEA, UNEP, Environmental challenges, Strategic measures

1. INTRODUCTION

1.1. New environmental issues in the twenty-first century

Institutions dedicated to national and international environmental protection face new challenges as a result of the accumulation of newly discovered environmental issues over the past few decades. It is quite instructive to look back at the history of the environmental issues that developed societies faced from the 1950s to the 1970s [1,2]. Globalisation is bringing about new economic, social, and technological developments at the same time. In both developed and developing nations, new political, environmental, and social movements are emerging that support innovative approaches to sustainable development [2].

The last fifty years have seen the identification of some of the most pressing and difficult environmental issues of the past few decades, raising awareness of the urgent need for proactive action. Examples include damaging acid rain incidents in the lakes of Scandinavia, deforestation of vast tracts of valuable tropical forests and loss of biodiversity, water pollution from agricultural runoffs and microplastics, soil erosion and desertification, industrial and municipal sewage wastewater in developed countries, and the stratospheric ozone layer depletion in Antarctica. Certain conditions required expensive remediation interventions, and in certain cases, the solutions were extremely hard to implement [4].

2. AN UNPARALLELED ENVIRONMENTAL EMERGENCY

Many environmental issues have arisen as a result, such as anthropogenic climate change (also known as "global warming"), the ozone hole (also known as "ozone hole"), acid rain (also known as "acid rain"), the destruction

of tropical forests, the extinction and depletion of species, and the abrupt decline in biodiversity [4]. Even though all of these issues have tangible (environmental) manifestations, human attitudes, beliefs, values, needs, desires, expectations, and behaviours are always at the root of these issues and could be addressed by them. Because they are fundamentally human issues that are closely tied to the question of what it means to be human, the symptoms of the environmental crisis cannot be understood as merely physical issues that need to be resolved by environmental "specialists." [5].

2.1 Global Environmental Issues: Emerging and Challenging

It is critical to note that opinions regarding the scope and character of the current environmental crisis are diverse and that there is strong disagreement on a number of these points. Still, most people agree that the following are the main issues that are part of the environmental crisis:

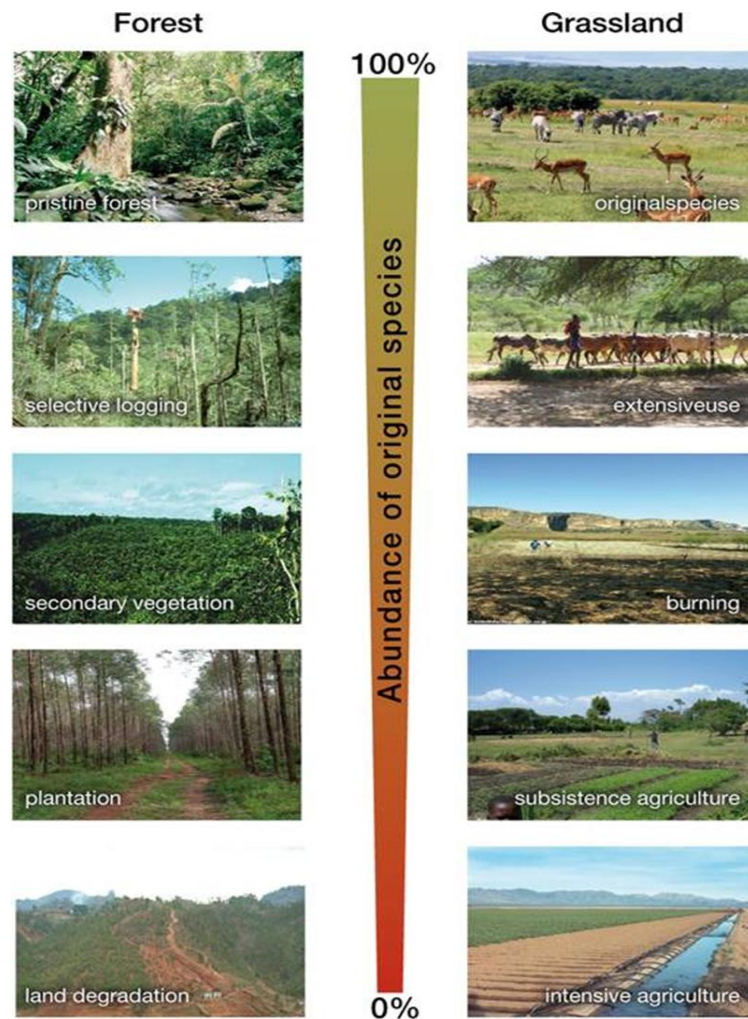


Figure 1: The impact of land use change on forest and grassland environments

- Climate change:** One of the main environmental problems facing the world today is anthropogenic climate change, which is caused by the atmosphere being polluted by greenhouse gases and other pollutants. It is mostly caused by the burning of fossil fuels, emissions from pastoralism and agriculture, and changes in land use that come along with clearing, burning, and destroying forests. Predicted effects of climate change could lead to significant changes in global mean surface temperature, sea level, ocean circulation, precipitation patterns, climatic zones, species distributions, and ecosystem function. These changes would compound the already noticeable ecological and social effects of climate change [4,6].
- Deforestation:** It is estimated that humans have cleared about half of the world's mature forests. Deforestation can occur for a number of reasons, but the main ones nowadays are the clearing of

tropical forests for pastoralism and agriculture; other causes include the felling of trees for the production of charcoal and the selective logging of forests for timber. Tropical forests are a vital component of the global ecosystem and the biosphere, even though they only make up about 6% of the planet's surface. They prevent soil erosion, help control climate, and serve as habitats for a wide variety of plant and animal species. 90% of all species on Earth, according to one estimate, are found in tropical forests [5,6].

- **Biodiversity loss:** Due to disease transmission, habitat destruction and degradation, and direct exploitation, many plant and animal species are in danger of going extinct. A quarter of the world's mammal species and about a tenth of the world's bird species were estimated by [7] to be at serious risk of going extinct. Threats to biodiversity are not limited to ecosystems on land; pollution, overexploitation, and acidification of oceans and seas have sparked grave worries about the future of marine and coastal wildlife species.

2.2.1 Causes of Environmental Crises and Challenges

Considerable discussion has centred on the causes of the environmental catastrophe. Still, the following are now recognised as its primary causes:

- **Technological developments** over the course of human history - and particularly since the Industrial Revolution - which have allowed humans to exert a greater influence over natural resources and ecosystems
- **Rapidly increasing human population** which has led to significant increases in human population density in many parts of the world [8]
- **Dramatic increases in resource and energy consumption** - particularly since the Industrial Revolution, and especially since around 1950 - which have accompanied economic growth and rising standards of living in some parts of the world as illustrated in Fig. 2.

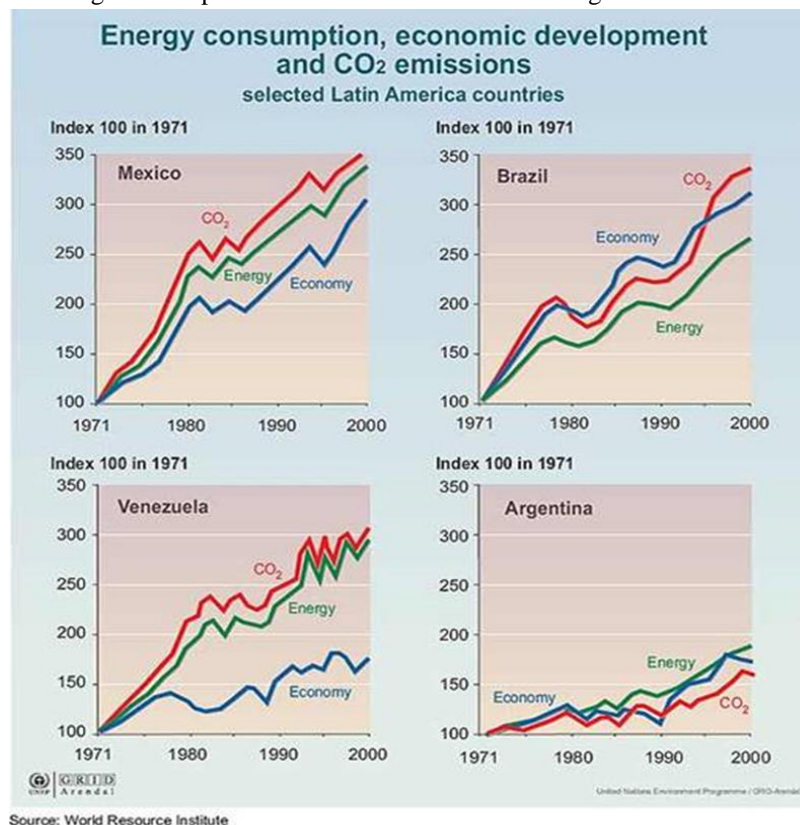


Figure 2: Energy consumption, economic development and CO₂ emissions; selected Latin America countries [3,4].

- **The emergence and development of the capitalist world economy** in which increasing flows of people, resources, products, energy and waste have occurred, together with increasing environmental impacts [8,9].

- **Utilitarian attitudes towards the environment** which have allowed the unrestricted exploitation of natural resources and ecosystems
- **Short-term patterns of decision-making** exhibited by many governments, companies and individuals, which place greater emphasis on short-term profit maximization (or value maximization) than on environmental protection.

The sustainability of ecosystems and poverty are closely related to issues of resource security and political stability. Global environmental challenges include biodiversity loss, climate change's effects, excessive use of natural resources, and health and environmental problems. This increases pressure and uncertainty in the overall competition for natural resources, which could become more intense due to rising demand, falling supply, and declining supply stability. In the end, ecosystems around the world are under more stress as a result, particularly their ability to maintain food, energy, and water security. In recent years, it has become clear how fragile the world's food, water, and energy systems are. For instance, from 0.43 ha in 1962 to 0.26 ha in 1998, the amount of arable land per person decreased globally [9,10].

2.3. Global Ecological Environment and Human Wellbeing

Through the interaction and interdependence of the environmental and economic systems, the ecological environment offers a variety of services to humanity. The benefits of the economic-environmental system include these services, which include support, supply, regulation, and cultural services. Supply service is the term used to describe the range of product resources that can be derived from the natural world, including non-material resources like biological inheritance and material resources like food, raw materials, and energy sources [4,7]. The term "regulation service" describes the benefits that result from controlling the ecological environment. These benefits include maintaining air quality, controlling temperature and moisture, controlling erosion, purifying water, disposing of waste, controlling and regulating human diseases, biological control, pollination, and storm protection. The notion of human wellbeing is intricate and comprises various components and elements, such as the essential material conditions needed to sustain a life of high quality, freedom and autonomy, health, positive social interactions, safety, and security. The components of wellbeing are intricately linked to their immediate surroundings and can provide insight into the state of the region's ecology, culture, and geography [9,10]. Driving forces are those elements, whether natural or man-made, that altered the ecological environment directly or indirectly. A number of interrelated driving forces may have an impact on changes in the ecological environment system services, and these changes will also have a feedback effect on the driving forces.

2.4. The Common Understanding of Environmental Protection

Due to the widespread occurrence of environmental pollution and environmental problems that transcend national borders, it has been determined that protecting the environment is a shared responsibility of all people, not just of developed nations or single organisations [10]. The vast majority of developing and underdeveloped nations must actively participate in negotiations regarding international environmental issues and carry out global collaboration. Environment conferences have been held all over the world since the 1960s in an effort to strengthen environmental protection. These conferences have approved numerous environmental declarations and conventions and have resulted in a thorough understanding of the issues at hand. Seven major global environment conferences stand out among them and should receive special attention: A global environmental governance pattern of intergovernmental cooperation and coordinated actions both inside and outside the UN system was established by the 1972 United Nations Conference on Human Environment, which was held in Stockholm, Sweden, and passed a Declaration of the Conference [7,8]. This marked the first time that the issue of the global environment was brought before the world. The Rio Declaration on Environment and Development, Agenda 21, and Statement of Forest Principles are three documents of principle that were produced by the United Nations Conference on Environment and Development, which took place in Rio de Janeiro, Brazil, in 1992. This conference resulted in the United Nations Framework Convention on Climate Change, the world's first international covenant addressing the issue of climate change, with the goals of combating the detrimental effects of global warming on human economy and society [2,3,7].

3. CONCLUSION

Recent years have seen a significant shift in the nature of environmental issues and new global challenges in the twenty-first century. Environmental pollution issues brought on by new pollutants and the effects of climate change have put humanity under extreme pressure. Anthropocene environmental change is primarily driven by human activity, as the last several decades have shown, and this is supported by a wealth of evidence. As non-renewable energy is used more frequently, food is consumed and wasted more frequently, and natural resources are exploited more and more, modern human societies have become more disruptive. Significant alterations in the water cycle, imbalances and deterioration in terrestrial and marine ecosystems, acidification of the oceans, and devastation of forested areas were brought about by overpopulation and urbanisation. For these and other reasons, the environmental crisis poses a formidable challenge to decision-makers in government as well as to numerous other groups and individuals who need to come up with innovative solutions to these problems. Ideally, these solutions will fall within a larger framework of policies that supports a robust enough version of sustainable development.

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