

VOICES FOR THE EARTH: LAW, SOCIETY, AND ENVIROMENT: DEVELOPMENT VS. CONSERVATION: THE DILEMMA OF MODERN STATES

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ABSTRACT

The paper primarily focuses on the challenges faced by modern states or developing nations in the form of conflicts between economic development and conservation. We will be discussing both the aspects and their need. Also citing the reports of some credible institutions, such as IPCC, over issues such as climate change. While discussing the reasons for conflicts, this paper focuses on certain relevant laws, International Treaties and policies affecting both. The paper also recommends some steps, as well as citing some proven methods used by different countries, to reduce the conflict and achieve the target of a sustainably developed economy.

The states that are still in their developing phase of economy have to face another challenge of conservation during the process, raising various issues such as environmental damage, social instability, political and legal challenges, along with international treaties and laws. The economic development for the states is a need of the hour, but should be achieved only through sustainable development. In this paper, we will also be focusing on the recent developments and judgments within the country in terms of policy and law, such as the Supreme Court of India's adoption of a new definition of the Aravali Hills, which sparked a lot of controversy, leading the Honourable Court to make a temporary stay on its own judgment.

The paper emphasises a sustainable model of development that helps such states achieve their target of economic development but without any compromise on conservation of forests, environment, natural resources and tribes. The paper considers a stronger legal framework, transparent decision-making and incorporating the common people in an open dialogue with the concerned authorities as a remedy. This methodology will not just reduce the conflict, but also help the state to achieve sustainable development along with economic prosperity.

While maintaining a holistic approach, this paper introspects the challenges of both aspects, the economic development and conservation. Both these are two facets of the same coin for any developing nation; ignoring either cannot be affordable. While in the course of economic development, the conservation of lands, rivers, minerals, tribes and other natural resources should also be considered.

Keywords: Conservation, Economic Development, Sustainable development, climate change, legal framework.

Introduction

The pursuit of economic development has long been a central objective for modern states,

particularly developing nations striving to improve living standards, reduce poverty, and integrate into the global economy. However, this pursuit often comes at a significant cost to the

environment, leading to a growing conflict between development and conservation. Rapid industrialization, urbanization, and exploitation of natural resources have contributed to environmental degradation, climate change, and loss of biodiversity.

Developing countries face a unique dilemma. On one hand, economic growth is essential to address socio-economic challenges such as unemployment, inequality, and infrastructure deficits. On the other hand, environmental conservation is critical for ensuring long-term sustainability and the well-being of future generations. This dual challenge has intensified in recent decades, particularly with global attention on climate change and environmental protection.

The concept of sustainable development, which gained prominence through global discussions and international agreements, seeks to reconcile these competing priorities. It emphasizes development that meets present needs without compromising the ability of future generations to meet their own needs.

This paper examines the conflict between economic development and conservation, explores the legal and policy frameworks governing this relationship, analyzes challenges faced by developing nations, and suggests sustainable solutions based on global best practices.

Conceptual Framework: Conservation and Development

The word "conservation" denotes the protection of environment. Conservation includes preservation, maintenance, Sustainable utilization, restoration and enhancement of the natural environment. Conservation is generally held to include the management of human use of natural resources for current public benefit and sustainable social and economic utilization.

Conservation is the careful maintenance and upkeep of a natural resource to prevent it from disappearing. A natural resource is the physical supply of something that exists in nature, such

as soil, water, air, plants, animals, and energy. The Natural Resources Conservation Service recognizes that we don't want these things to diminish or disappear altogether, and that we must make an effort to protect and maintain natural resources.

Economic development is the process whereby simple, low income national economics are transformed into modern industrial economies. The terms 'economic growth' and 'economic development' may appear similar, but they differ in meaning. Economic growth refers to a quantitative increase in a country's output, whereas economic development is a qualitative improvement in overall living standard.

The term has been used frequently in the 20th and 21st centuries, but the concept has existed in the West for far longer. "Modernization", "Globalization", and especially "Industrialization" are other terms often used while discussing economic development.

Economic development is a broader concept that encompasses sustained improvements in the material well-being of society. It goes beyond mere income increases to include social, cultural, and institutional changes that contribute to overall progress.

Nature of conflict between Development and Conservation

The conflict between development and conservation is a fundamental tension between accelerating economic growth and protecting natural ecosystems. Development drives habitat loss, resource depletion, and pollution through urbanization and industrialization, while conservation limits these activities to preserve biodiversity and ecosystem services. This clash pits immediate human livelihood and industrial demands against long-term ecological sustainability.

Rapid urbanization, mining, and agriculture (deforestation) consume natural habitats, leading to biodiversity loss. UN-backed report by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem

Services, revealed that 1 million animal and plant species are currently threatened with extinction from human activity.

The report, compiled by 145 authors from 50 countries, is the most comprehensive look at humanity's imprint on nature ever to be completed, having tracked the relationship between economic development and the impact on the planet over the last 50 years.

It found that almost 75 per cent of the world's freshwater was being devoted to agriculture and livestock; that approximately 60 billion tons of renewable (freshwater and biomass) and non-renewable resources (oil, gas and minerals) are extracted globally every year; that urban areas have more than doubled since 1992 at the expense of forests and wetlands; and that fertilizer has produced more than 400 dead zones in the oceans, equaling an area greater than the size of the United Kingdom.

"Nature makes human development possible but our relentless demand for the Earth's resources is accelerating extinction rates and devastating the world's ecosystems," said Joyce Msuya, Acting Head of UN Environment.

The report "highlights the critical need to integrate biodiversity considerations in global decision-making on any sector or challenge, whether it is water or agriculture, infrastructure or business," she added. In response to a growing population—projected by the UN to reach 9.8 billion by 2050 —intensive agriculture, overfishing, energy production and the extraction of raw materials have "significantly altered" three quarters of Earth's land and over half of the oceans, said the report.

It is clear from the report that at the current rate of development, negative impacts to nature are predicted to continue to 2050 and beyond, with the Aichi Biodiversity Targets for 2020 expected to be missed. That is why the report's authors highlight the need for a "system-wide reorganization," across technological, economic and social realms so that nature can be restored and conserved.

Challenges Faced by developing nations

Developing nations face unique and significant challenges when attempting to conserve the environment, often because they must balance ecological protection with urgent poverty alleviation, rapid industrialization, and economic growth. Conservation efforts frequently collide with the immediate survival needs of local populations who rely directly on natural resources.

Here are the key challenges faced by developing nations due to environmental conservation:

1. Conflict Between Development and Conservation

Prioritizing Growth: Many developing nations view environmental regulations as obstacles to industrialization, which is deemed necessary to create jobs and boost economies.

Resource Dependency: Economies heavily reliant on agriculture, mining, and logging struggle to restrict these activities for conservation, as it directly impacts their GDP and export income.

The "Poverty-Environment Nexus": Poverty and environmental degradation are linked; rural populations may rely on fuelwood or clearing forests for survival, making enforcement of conservation laws difficult.

2. Economic and Financial Constraints

Lack of Funds: Conservation requires substantial investment in infrastructure, monitoring, and technology, which these nations often lack.

High Upfront Costs: Transitioning to green technologies (e.g., renewable energy) requires high initial capital, which is unavailable in resource-constrained environments.

External Debt: Many developing countries must prioritize servicing debt over investing in long-term environmental protection.

3. Institutional and Structural Weaknesses

Weak Enforcement: While some developing nations have robust environmental laws, they

often lack the manpower, technical expertise, or political will to enforce them, leading to illegal logging or dumping.

Lack of Data: Developing countries frequently lack the technology needed for environmental monitoring, air quality data, or mapping, making it difficult to create effective policy.

Corruption: Political interference and bribery can allow industrial actors to bypass environmental standards.

4. Technological and Infrastructure Gaps

Outdated Technology: Reliance on old, polluting industrial processes is common because modern, cleaner technology is expensive to import.

Intermittency of Renewables: Shifting to renewable energy (solar/wind) is complex, as these nations may lack the storage solutions or grid infrastructure to handle variable energy sources.

5. Social and Political Hurdles

Displacement of Communities: Protected areas or conservation projects can sometimes lead to the displacement of indigenous or local communities, causing social instability.

Population Pressure: Rapidly growing populations place added strain on water, land, and energy resources.

Low Awareness: A lack of public awareness regarding the long-term benefits of conservation can lead to resistance against new environmental policies.

6. External Pressures

Disproportionate Climate Change Impact: Despite contributing least to global emissions, developing nations are often the most vulnerable to climate change-induced disasters (floods, droughts).

Trade Inequities: Developed nations often demand raw materials, driving unsustainable exploitation in developing countries, while sometimes restricting imports based on

environmental standards that developing nations struggle to meet.

Role of international institution

International organizations play a pivotal role in fostering sustainable development on a global scale. These organizations provide a platform for collaboration, coordination, and the implementation of policies and initiatives that address the interconnected challenges of economic growth, social equity, and environmental protection.

Setting Global Standards and Frameworks

United Nations Sustainable Development Goals (SDGs): The UN has established 17 SDGs to guide countries towards a more sustainable future. These goals provide a comprehensive framework for addressing global challenges such as poverty, inequality, climate change, and environmental degradation.

International treaties and agreements: Organizations like the United Nations Framework Convention on Climate Change (UNFCCC) and the Convention on Biological Diversity (CBD) have developed international treaties that set standards for environmental protection and sustainable resource management.

Intergovernmental panel on climate change (IPCC): The IPCC plays a critical role in sustainable development by providing authorized scientific assessments that link climate change mitigation and adaptation to poverty eradication, food security, and healthy ecosystems. Its reports guide global policymakers on balancing development goals with necessary emission reductions.

Case study of sustainable practice

Case study 1: Germany – Renewable Energy Transition (Energiewende)

Germany's Energiewende, meaning "energy transition," is a comprehensive policy initiative aimed at transforming the country's energy system from dependence on fossil fuels and nuclear power to renewable and sustainable sources. The roots of this transition can be

traced back to the late 20th century, but it gained significant momentum in the early 2000s with the introduction of progressive energy laws. A major turning point came after the 2011 Fukushima nuclear disaster, when Germany decided to accelerate the phase-out of nuclear energy and intensify its commitment to renewable energy. The Energiewende reflects Germany's broader goal of achieving environmental sustainability while maintaining economic growth and energy security.

The central objectives of the Energiewende include reducing greenhouse gas emissions, increasing the share of renewable energy in the total energy mix, improving energy efficiency, and ensuring a reliable energy supply. Germany has set ambitious climate targets, aiming to significantly cut carbon emissions and eventually achieve climate neutrality. Renewable energy sources such as wind, solar, biomass, and hydropower form the backbone of this strategy. Over the years, Germany has emerged as a global leader in renewable energy, particularly in wind and solar power generation.

One of the most important policy instruments supporting this transition is the feed-in tariff system, introduced through the Renewable Energy Sources Act (EEG). This system guarantees fixed payments to producers of renewable energy for the electricity they generate and supply to the grid. It has encouraged widespread participation from households, farmers, and private investors, leading to the decentralization of energy production. As a result, many citizens have become "prosumers," simultaneously producing and consuming energy. This democratization of energy production is a distinctive feature of Germany's approach.

Another key aspect of the Energiewende is the gradual phase-out of nuclear power, which has been largely completed. At the same time, efforts have been made to reduce reliance on coal, although this transition has been more gradual due to economic and employment

concerns. Germany has also invested heavily in improving energy efficiency, promoting energy-saving technologies, and developing smart grid infrastructure to manage the variability of renewable energy sources.

The Energiewende has had significant environmental, economic, and social impacts. Environmentally, it has contributed to a substantial reduction in carbon emissions and a significant increase in the share of renewables in electricity generation. Economically, it has created new industries and employment opportunities in the renewable energy sector. Socially, it has increased public awareness and participation in sustainable practices. However, the transition has not been without challenges. High costs, rising electricity prices, and the intermittent nature of renewable energy sources have posed difficulties. Additionally, the need for advanced storage technologies and grid expansion remains a critical issue.

Despite these challenges, the Energiewende is widely regarded as a successful model of sustainable development. It demonstrates that a country can pursue environmental goals while maintaining economic stability and social participation. For developing countries like India, the German experience highlights the importance of strong policy support, technological innovation, and public involvement in achieving a sustainable energy future.

Case study 2: India – Chipko Movement (Forest Conservation)

The Chipko Movement was a landmark environmental movement in India that emerged in the early 1970s in the Himalayan region of present-day Uttarakhand. The word "Chipko" literally means "to hug" or "to cling," reflecting the unique method adopted by villagers—especially women—who embraced trees to prevent them from being cut down by contractors. The movement began as a response to large-scale deforestation caused by commercial logging, which threatened local livelihoods, increased soil erosion, and led to

ecological imbalance. It gained prominence in 1973 in the village of Reni, where villagers, led by Gaura Devi, resisted tree felling by physically protecting the forests. The movement was further supported and popularized by environmental activists such as Sunderlal Bahuguna, who emphasized the importance of ecological conservation and sustainable development.

The Chipko Movement highlighted the close relationship between local communities and natural resources. Forests were not merely a source of timber but essential for fuel, fodder, water conservation, and soil stability. The movement brought attention to the idea that environmental protection is directly linked to social and economic well-being, especially for rural and tribal populations. It also emphasized the role of women as key stakeholders in environmental conservation, as they were the most affected by the depletion of forest resources.

As a result of sustained protests and national attention, the movement led to significant policy changes, including a ban on commercial tree felling in the Himalayan region for several years. It also influenced India's forest policies by promoting community participation and sustainable resource management. The Chipko Movement became a symbol of non-violent environmental activism and inspired similar movements across the world.

In conclusion, the Chipko Movement stands as a powerful example of grassroots environmentalism and sustainable practice. It demonstrates that local community action, when combined with awareness and non-violent resistance, can effectively protect natural resources and influence policy decisions. This case is highly relevant in the context of sustainable development, as it shows how ecological conservation and human well-being are deeply interconnected.

Sikkim (India) – 100% Organic Farming State.

Sikkim has emerged as a global model of sustainable agriculture by becoming the first fully organic farming state in the world. This transformation began in 2003 when the state government took a bold policy decision to eliminate the use of chemical fertilizers and pesticides and promote organic alternatives. Over the years, the government implemented a phased approach by banning the sale and use of synthetic agrochemicals, training farmers in organic practices, and supporting them with subsidies, certification processes, and market access. By 2016, Sikkim was officially declared a 100% organic state, marking a significant achievement in sustainable development.

The transition to organic farming involved adopting eco-friendly agricultural methods such as composting, green manure, crop rotation, and biological pest control. Farmers were encouraged to rely on natural inputs, which improved soil fertility and reduced environmental degradation. The shift also helped in preserving biodiversity and protecting water resources, as chemical runoff into rivers and soil was eliminated. In addition, the government promoted organic branding and eco-tourism, which increased the demand for Sikkim's agricultural products both domestically and internationally.

The impact of this transformation has been largely positive. Environmentally, it has led to healthier soil, cleaner water, and increased biodiversity. Economically, farmers have benefited from premium prices for organic products and new market opportunities. Socially, the initiative has improved public health by reducing exposure to harmful chemicals. However, the transition also posed challenges, such as an initial decline in crop yields and the need for continuous training and awareness among farmers.

Overall, Sikkim's organic farming model demonstrates that sustainable agriculture is achievable through strong government policy, community participation, and long-term

commitment. It serves as an important case study for other regions aiming to balance economic development with environmental conservation, making it highly relevant for research on sustainable development.

Strategies for balancing development and conservation focus on sustainable practices that harmonize economic growth with ecological protection. Key approaches include transitioning to renewable energy, implementing circular economies, strengthening environmental impact assessments, and adopting green infrastructure. Effective strategies emphasize integrated planning, community involvement, and valuing ecosystem services.

Strategies for Balancing Development and Conservation:

Sustainable Urban Planning & Infrastructure: Utilize green infrastructure, such as green roofs and permeable pavements, and implement smart city technologies like data-driven zoning and environmental sensors.

Renewable Energy Transition: Shift away from fossil fuels by investing in solar, wind, and hydropower to meet energy demands while reducing carbon emissions.

Circular Economy & Waste Management: Minimize resource extraction by adopting circular economy frameworks (reduce, reuse, recycle) and implementing strict waste management policies.

Environmental Governance and Regulations: Strengthen environmental impact assessments (EIAs) with public participation, independent panels, and robust monitoring of compensatory afforestation.

Payment for Ecosystem Services (PES): Implement PES programs to provide economic incentives, paying landowners and communities to protect ecosystems that provide essential services like clean water and carbon sequestration.

Sustainable Agriculture & Land Use: Adopt precision farming, agroecology, and soil health management to improve yields while minimizing water pollution and conserving biodiversity.

Community-Led Conservation: Engage local communities in decision-making and utilize indigenous knowledge for effective, culturally conscious conservation.

Green Financing: Encourage investments in sustainable projects through green banking and bonds, encouraging businesses to adopt environmentally friendly practices.

Conclusion

The conflict between economic development and conservation is one of the most pressing challenges faced by modern states, particularly developing nations. While economic growth is essential for improving living standards and reducing poverty, it cannot come at the cost of environmental degradation and resource depletion.

Sustainable development provides a viable solution by integrating economic, environmental, and social objectives. Strong legal frameworks, effective governance, technological innovation, and community participation are essential for achieving this balance.

Both development and conservation are indispensable and must be treated as complementary rather than opposing goals. A holistic and inclusive approach will enable nations to achieve long-term economic prosperity while preserving the environment for future generations.

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