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Environmental Governance and Infrastructure Development in Protected Areas: Rethinking the Balance between Conservation and the Right to Development

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Abstract

Infrastructure development and environmental protection has emerged as one of the most intricate policy debate issues in modern environmental politics. Although the protected areas are key for biodiversity conservation and ecological sustainability, the balance between the necessity of economic growth and infrastructure development and environmental sustainability is a major challenge are facing by the developing countries. Sometimes, the strict environmental policies can restrain development opportunities in the developing countries where infrastructure development is desperately required to promote economic transformation and social justice. This article explores the theoretical and legal basis of environmental governance with regard to developments in the protected areas. It is a critical analysis of the changing relationship between environmental governance, sustainable development, the right to development in the international environmental law. The article asserts that the protected areas are not supposed to be regarded as taboo zones in terms of the development activities. Rather, the environmental governance ought to embrace a more malleable regulatory framework that enables the infrastructure development that are regulated and at the same time ensure ecological integrity. The paper also looks at the international legal principles like sustainable development, environmental justice and the common but differentiated responsibilities. The article propose a balance approach which will allow the infrastructure development within the protected areas under environmental governance measures.

Keywords

Environmental governance, Environmental justice, Infrastructure development, Protected areas, Right to development, Sustainable development.

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1. Introduction

The issue of environmental governance and economic development are normally understood as mutually exclusive policy goals. The governments over the world are under mounting pressure to balance economic development with the sustainability of the environment. This is very critical in developing nations where infrastructural development is crucial to boost the economic growth and by such measure to alleviate poverty. The national development requires roads, hydropower facilities, transport networks and communication systems but these development projects often overlap ecologically sensitive areas.

Protected areas are known to be one of the most important tools of protecting biodiversity. Wildlife reserves, conservation areas, and national parks are important in the conservation of ecosystem, biodiversity and ecological stability. Nonetheless, stringent conservation law and policy can create hurdles for the development activities in developing nations where economic growth is urgently needed. Previously, preservationist strategies have shaped conservation policies in favor of ensuring that human activities be barred within the protected areas for the ecological preservation. That strategy was mostly evolved in developed nations where industrialization had already been achieved in high levels by the time major issue of environmental protection became a policy issue.¹ In the cases where the same conservation models were adopted in developing countries, it would sometimes result in tensions arising between the environmental protection and the need to develop the nation.

The third world countries are frequently in a twofold predicament. On the one hand, they are compelled to achieve economic growth so as to alleviate poverty and enhance the living standards of the people. On the other hand, they are supposed to adhere to international environment standards that focus mainly environmental protection. Such a conflict raise critical questions of environmental justice and global equality in terms of economic prosperity.

The international environmental law has been appreciating the necessity of maintaining a balance between environmental protection and economic development. Sustainable development was developed as one of the efforts to balance both these goals. The principle implies that development must be geared

towards satisfying the needs of the present generation without prejudice to the future generations to satisfy their needs.²

However, the effective application of sustainable development is still a challenge especially where the development activities are initiated in the protected area. The schemes of environmental governance should thus achieve avenues through which development can be encouraged and ecological sustainability can be realized at the same time.

This paper discusses the concept of environmental governance based on its legal and theoretical framework with reference to development projects in the protected areas. It claims that the protection of the environment and the infrastructure development should not be regarded as the opposite goals. In its place, governments ought to implement holistic governance methods that would enable development projects to take place within a balanced framework of environment protection mechanism.

2. Objectives of the Study

This study is guided by the following three principal objectives:

1. To examine the theoretical, legal and governance frameworks relating to environmental protection, sustainable development and the right to development in the context of protected areas.
2. To analyze international legal standards and global practices concerning infrastructure development within protected areas and the challenges of balancing conservation and development objectives.
3. To evaluate contemporary environmental governance approaches and propose recommendations for harmonizing biodiversity conservation with developmental aspirations and environmental justice.

3. Research Methodology

This study adopts a doctrinal and analytical approach to legal research. The research is primarily based on the examination of international legal instruments, soft-law documents, judicial principles, policy frameworks and scholarly literature relating to environmental governance, sustainable development, protected areas, biodiversity conservation and the right to development. Relevant international treaties, declarations, conventions and environmental policy instruments have been critically analyzed to identify the legal and normative principles governing development activities within protected areas.

The study further employs a normative and comparative approach to evaluate the evolving relationship between conservation objectives and developmental imperatives. Comparative references to international experiences and global practices have been utilized to understand different governance models adopted for infrastructure development in environmentally sensitive areas. Particular attention has been given to environmental impact assessment, the precautionary principle,

sustainable use of natural resources, community-based conservation, environmental justice, and the principle of common but differentiated responsibilities.

The research is qualitative in nature and relies exclusively on secondary sources, including international legal instruments, reports of international organizations, academic books, journal articles, policy documents and other relevant literature. Through critical analysis and synthesis of these materials, the study seeks to develop a balanced framework for reconciling conservation objectives with the right to development within the broader paradigm of environmental governance.

4. Concept of Environmental Governance

Environmental governance is a set of legal frameworks, institutions, policies and decision making procedures that govern human activities in relation to the natural environment. It includes domestic and global systems that facilitate environmental sustainability. This idea came into the limelight of the late twentieth century when environmental concerns started to become more global concern. The problems of climate change, biodiversity degradation, and deforestation proved that the environmental problems cannot be dealt with at the national level only.

Environmental governance thus entails collaboration of the governments, international organizations, civil societies institutions and local communities. The United Nations Environment Programme (UNEP) defines Environmental governance as policy, rules and norms that regulate the human behaviour and it also concerns those with decision making, decision making process, scientific information to make the decisions and the role of the public and key stakeholders in the decision making.³

One of the main aspects of the contemporary environmental governance is the inclusion of the environmental concerns into the economic development policies. Governments are coming to appreciate that environmental sustainability should be integrated in development planning as opposed to environmental protection being a distinct area of policy. Accountability, transparency and participation in the decision making process are also highlighted in environmental governance. The involvement of people especially in matters of the environment is crucial since the policies that govern the environment usually have a direct impact to the society.

Institutional coordination, legal framework and scientific knowledge is hence necessary to achieve effective environmental governance. These aspects can contribute to the assurance of the policies on development with ecological sustainability.

5. Sustainable Development as a Governing Principle

Sustainable development has emerged as one of the key concepts of international environmental law. The contemporary definition of sustainable development came in the 1987 on the report 'Our Common Future' also called as

Brundtland Report published by the World Commission on Environment and Development.⁴ The report defined sustainable development as development that satisfies the needs of the present generation without impoverishing the capacity of the future generations to satisfy their needs. This concept gives more focus to environmental protection through economic and social development.

Sustainable development was subsequently reiterated in Rio Declaration on Environment and Development (1992) which defined some principles of environmental governance.⁵ These principles are precautionary principle, public participation, environmental impact assessment and integration of environmental protection into the development processes.

Despite the fact that sustainable development offers a theoretical platform through which the issue of development and environmental conservation can be balanced, the application of the concept in reality is normally fraught with complicated policy making. The governments are left to figure out the possibility of advancing economic growth and also ensuring that environmental degradation is irreversible.

Sustainable development in the framework of the protected areas must be a balanced measure of providing development activities under regulatory framework.

6. The Right to Development

Right to development is another principle that is pertinent to environmental governance. The concept has been introduced in international law to curb the imbalances in the world economies between the developed and developing nations. In 1986, the United Nations general assembly passed the declaration on the right to development, which acknowledged development as a basic human right.⁶ The declaration underscores the fact that every country is entitled to engage in, contribute, and benefit economic, social, cultural, and political development.

The right to development has considerable implications to developing countries. Poverty, low infrastructure development and dependency on the economy remain an issue in such countries. The presence of restrictive environmental policies that reduce the opportunities of development may, therefore, create some concerns regarding equity and economic justice.

The right to development implies that the environmental governance must not deny the ability of third world countries to pursue the development goals. Rather, sustainable development should be achieved through international cooperation, which may be in terms of financial aid, technology transfer and capacity building.

This view supports the principle that development activities in the protected areas are not to be automatically banned. Instead, they need to use 'governance' frameworks that permit responsible development and safeguard ecological systems.

7. International Legal framework Relating to Protected Areas and Environment.

7.1 International Environmental Law and Protection of Biodiversity

The international environmental law has evolved greatly over the last few decades following increased concerns on environmental degradation and loss of biodiversity. The advent of global environmental governance indicates the appreciation that environmental issues cannot be solved by individual nations alone and thus have to be addressed by the international community.

The growing importance of conservation of biodiversity as a priority in the international arena has been one of the most important changes in international environmental law. Biological diversity is crucial in ensuring ecological balance and human well being. Some of these services that are critical in ecosystems include climate regulation, water purification, soil fertility and food production.⁷

Biodiversity, though very important, is becoming a threatened species due to deforestation, destruction of habitats, climate change, and unsustainable developmental activities. These problems have led the international community to embrace legal tools that are meant to safeguard biodiversity and to encourage sustainable exploitation of natural resources.

The Convention on Biological diversity (CBD) is one of the most significant international treaties in this field that was adopted in the United Nations Conference on the environment and development in 1992.⁸ The convention comes up with three main goals: preservation of biological diversity, sustainable utilization of its elements, and equitable and fair distribution of the benefits that come from genetic resource.

The CBD acknowledges the sovereignty of states over their natural resources but it pushes them to enact policies that would encourage conservation and sustainable use. Notably, the convention does not ban development activities but only focuses on the fact that these activities must be carried out in a way that would reduce the amount of environmental damage and would be sustainable. To the developing countries, the CBD recognizes the need to balance conservation and the development requirements. Article 20 of the convention urges developed nations to render financial resources to help the developing nations adopt biodiversity conservation policies.⁹

Therefore, the international environmental law does not give an absolute restrictions to the development activities in the protected areas. Rather, it urges states to embrace regulatory framework that meet the combine goal of conservation and socio-economic development.

7.2 International Environmental Policy Relating to Protected Areas

Protected areas have been largely regarded as a tool of biodiversity conservation. These are national parks, wildlife reserves, conservation areas and

marine protected areas which are set up to preserve ecosystems and species. The idea of the protected areas has been changing considerably over the years.

The original models of conservation were founded on stringent preservation strategies which did not allow human activities to be incorporated in the landscapes. Nevertheless, current conservation approaches have realized the importance of incorporating conservation in sustainable development.

International Union of Conservation of Nature (IUCN) has come up with a generally accepted standard on how to classify and manage the areas of protection.¹⁰ Under the IUCN framework, the protected areas can be classified into various types of management as nature reserve to a place where sustainable use of resources can be undertaken.

This strategy indicates the realization that conservation policy should be modified to suit different socio-economic situations. In third world countries, protected areas are usually surrounded by human settlements and economic activities. Thus, the conservation policies should take into account the interests of local communities and the national development priorities.

7.3 International Law of Environmental Impact Assessment

Environmental Impact Assessment (EIA) is one of the most significant instruments that have been incorporated to consider environmental issues in the course of development planning. EIAs make decision-makers consider the environmental impact of the proposed projects prior to their approval.

The concept of environmental assessment was internationally accepted by the Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention) in 1991.¹¹ The convention provides the methods of evaluating the environmental effects of projects, which may have as affected several countries.

The concept of EIA has gained a wide implementation across the globe despite the fact that the Espoo Convention mainly deals with transboundary environmental impacts. In most countries, environmental impact assessment has become an aspect of environmental governance.

EIAs are especially useful when it comes to governing development projects in the sensitive environment. The EIA process can help governments to determine whether the infrastructure projects will be harmful to the ecology, and what mitigation strategies can be used. The environmental assessments also facilitate transparency and involvement of the people in the environmental decision making. During the assessment process, stakeholders are usually allowed to make their input such as local communities and environmental organizations.

Nevertheless, the success of EIA systems is mostly determined by institutional ability of governments and quality of scientific analysis. Weak environmental investigations or poor enforcement mechanism may be unable to prevent environmental degradation.

7.4 Precautionary Principle and Environmental Governance

The precautionary principle is another significant principle in the international environmental law. This rule implies that environmental protection should be put in place even where scientific certainty of environmental damage has not been completely proved. Principle 15 of the Rio Declaration on Environment and Development (1992) expressed the precautionary principle.¹² In this principle, lack of absolute scientific certainty cannot be taken as an excuse to delay the initiation of cost-effective interventions to avert the degradation of the environment.

Many international environmental agreements and domestic environmental laws have included the precautionary principle. It is generally considered as an important element of contemporary environmental governance. The precautionary principle however should be applied to balance development requirements. Excessive application of the principle can deter infrastructure development in areas where the economy is in dire need of development.

Thus, the policymakers should be very cautious of the potential high environmental risks of the development projects as well as the social and economic advantages that the development projects could bring.

7.5 Sustainable use of Natural Resource

Sustainable use of natural resources is a concept that is gaining a lot of focus in international environmental law. This notion acknowledges that natural resources can be used in the economic development as long as this use does not affect the long-term ecological sustainability. A number of international documents such as the Convention on Biological Diversity and other regional environmental treaties show the reflection of the principle of sustainable use of natural resources. It encourages states to use the management strategies that can preserve the ecological balance but make the use of the natural resources economically.

Sustainable use of natural resources in the context of protected areas might involve ecotourism, forestry, sustainable agriculture and development of infrastructure that does not have a significant negative impact on ecosystems.

In the case of developing countries, the sustainable use of natural resources approach is a viable way of aligning conservation and development goals. Sustainable use of natural resources policies should not ban economic activities in the name of environmental protection, but promote cautious use of natural resources.

7.6 The Role of International Institution

International institutions are significant in influencing the environmental governance and providing sustainable development projects. Financial resources, technical and policy advice are provided by many international organizations like the United Nations Environment Programme (UNEP), the World Bank, and regional development banks for environmental management.

Such institutions usually set environmental protection policies that govern development projects that are funded by the international sources. As an

illustration, the World Bank Environmental and Social Framework stipulates environmental impact assessment and consultation with stakeholders of infrastructure projects funded by the organization.¹³

These protective measures seek to make sure that the development projects financed by the international institutions meet the environmental standards and also encourage sustainable economic growth. Meanwhile, the international institutions also offer both the financial and technological assistance to the developing countries to put up the measures of environmental protection. This support is especially valuable to nations that have low resources and technical capability.

Therefore, the foregoing discussion has established that the international environmental law has established an intricate structure of dealing with the issue of environmental protection and economic development. The Convention on Biological Diversity, environmental impact assessment systems, and principles of sustainable use of natural resources are all instruments that show that environmental regulation does not inherently forbid development activities.

Rather, the international law frameworks promote the countries to take moderate strategies that combine conservation goals and socio-economic development. The conservation of biodiversity is crucial to the existence of the protected areas; however, the management of these areas should address the developmental requirements of the country.

In the case of the developing countries, environmental governance should thus aim at designing regulatory mechanisms that will enable development activities and at the same time ensure ecological sustainability. Such balance approach is an expression of universal goals of sustainable development and ecological equity.

8. Global Practices Relating to Development Activities in Protected Areas

8.1 Evolution of Conservation Policies

Over the past century there has been a tremendous change in the policies relating to the management of protected areas. The initial concept of conservation relied on the main principles of strict preservation where human activities were excluded on the landscapes under protection to preserve the ecological integrity. The concept were greatly influenced by the conservation efforts in nations like the United States. The Yellowstone National Park which was formed in the United States in 1872 is widely considered the start of the modern national park movement.¹⁴ This model encouraged the notion that some natural zones need to be left without human intervention.

This preservationist model was formulated in a context where large portions of land were not densely populated and industrialization was already well established. However, when the same model was subsequently introduced in developing countries, it tended to create conflicts between conservation policies and the requirements of the development activities for the economic prosperity of such countries.

In the course of time, researchers and policy makers started to understand that the rigid preservation policies were not necessarily in line with the socio-economic realities in all parts of the world. Consequently, conservation policies slowly changed to less rigid measures that enable some forms of sustainable development in the protected areas.

8.2 Integrated Approaches of Conservation and Development

The concept of Integrated Conservation and Development Projects (ICDPs) is one of the most powerful policy innovations in the contemporary conservation policy. These policies aim at connecting biodiversity conservation and socio-economic development of the local population.

ICDPs developed in the 1980s and 1990s when conservation organizations started to be more aware of the fact that conservation policies should serve the economic needs of the local people. Unless the communities residing around the protected area are given a chance to develop, they might have minimal reasons to promote conservation.¹⁵ Conservation policies under the ICDP model are integrated with development programs like livelihood support, community infrastructure and sustainable management of resources. These projects are meant to ease the strain on the natural resources and help the local population in terms of economic growth.

Even though the effectiveness of ICDPs has been questioned, the strategy is a significant step towards more inclusive conservation policies. It acknowledges the fact that environmental protection and development goals can be complementary to each other as opposed to conflicting.

8.3 International Experiences on infrastructure Development in Protected Areas

A number of countries have introduced policies that permit infrastructure development within protected area. These policies are informed by the fact that some infrastructure projects can be required as a result of national development or even management of the protected areas.

The United States is one example of countries that have national parks equipped with different types of infrastructure such as roads, visitor facilities, research stations, and transportation networks. Although there are environmental regulations of such infrastructure construction, there is no ban on development activities.¹⁶

Equally, many European nations permit development projects in protected areas under environmental protection measures. The European Union has been able to come up with the Natura 2000 network that focuses on conserving biodiversity with the aim of permitting sustainable economic activities within the protected areas.¹⁷

Under the Natura 2000, development initiatives can be carried out within the conservation areas on the condition that they do not have a significant negative impact on the conservation goals of the site. The environmental assessments have to be done to analyze possible effects, and mitigation measures should be taken where they are needed.

Many infrastructural development activities have been occurred within the protected areas such as world Heritage Sites, National Park, wildlife sanctuary and Conservation over the world. The protected areas can be used as a contributor to national development objectives, especially watershed protection for hydropower, and as a reservoir for timber and non-timber forest products and tourism.¹⁸ It is estimated that there are 984 protected areas containing one or more large dams, amounting to 1,249 large dams and 278 that are primarily used for hydropower.¹⁹

Many countries such as Canada, Costa Rica, Iceland, Sarawak (Malaysia) and Tasmania (Australia) have implemented hydropower project within the protected areas.²⁰ Similarly, Germany has established multi-purpose dam and pumped storage projects within the Kellerwald-Edersee national park which is not only a protected area but also a world heritage site of European Beech forests.²¹ Again, Albania has implemented many hydropower projects in pristine river which flows within the protected areas of Valbona valley national park.²² Likewise, there are 1,970 hydropower plants that are established²³ within the protected areas of Balkans regions.²⁴

In addition to this, Unac hydropower plant in the Una National Park²⁵ of Bosnia and Herzegovina,²⁶ the 1,960 MW Rishiganga hydropower project of Chandoli National Park and Nanda Devi National Park in India,²⁷ Theun 2 Hydropower project of Nakai Nam Theun national park which has 400,000 hectares of forest in Lao PDR,²⁸ the Hulu Terengganu Hydroelectric Project (HTHEP) in Tembat Forest Reserve and Petuang Forest Reserve in Malaysia,²⁹ the 800 megawatts Manapouri hydro power station within the Fiordland National Park, which has UNESCO World Heritage status as part of Te Wāhipounamu in New Zealand,³⁰ Mahaweli Development Project, a multi-purpose development scheme designed for the hydroelectricity, irrigation, and water supply lies within four National Parks—(1) Maduru Oya National Park (2) Wasgamuwa, (3) Flood Plains, and (4) Somawathiya in Sri Lanka³¹ are other notable examples of the infrastructure development those are implemented within the protected areas.

At the same way, the infrastructure development for irrigation have been established within the protected areas in many countries over the world. For example: in Dominican Republic, the Madre de las Aguas Conservation Area protects the source of 17 rivers that provide water supply for domestic consumption and irrigation for over half population of the country.³² The Bogani Nani Wartabone National Park has a major irrigation project designed to increase rice production in Sulawesi Island of Indonesia.³³ Ankarafantsika National Park supplies water to the region of Marovoay plains, and the Lac Alaotra watershed, a Ramsar site, serves about 80,000 hectares of rice farms in Madagascar.³⁴ Hub Dam (in Sindh) is situated in the Kirthar National Park and the area of Wildlife Sanctuary, place for bird watching in Pakistan.³⁵ About 20% of irrigated lands depend on protected areas for water and habitat protection in Venezuela.³⁶ Further, the World Heritage Sites shows that 57 sites have water infrastructure, and 16 sites are renewable energy facilities.³⁷

Thus, in many nations, the protected areas which has the infrastructure projects has been found crucial in the economic growth of respected countries. The governments in these countries have been embracing more policies that permit development activities within protected areas.

The above examples have demonstrated that the development activities are permitted within the protected areas with environmental consideration. That's why it is important to focus environmental governance through regulating development activities instead of banning such activities within the protected areas. This enables nations to be economically developed and ecologically sustainable.

These international experiences prove that the protected areas do not necessarily have to be viewed as absolute taboo areas that should not be developed. Rather, infrastructure projects can be well-managed and exist together with environmental governance.

8-4 Community Based Conservation

The participation of the community has taken central point in the contemporary environmental governance. Community based conservation programs aim at engaging the local people in the administration of the conservation areas and natural resources.

This approach acknowledges that local communities in most cases have good knowledge concerning ecosystems and natural resources management. Furthermore, communities can be engaged in conservation programs to enhance the level of adherence to environmental laws and minimize the confrontation between conservation agencies and local communities.

Community conservation has been a popular concept that has been used in different regions across the world. Community conservancies in a number of African nations enable local people to enjoy an economic gain of conservation activities like ecotourism and wildlife management.³⁸ Such initiatives show that conservation policies may create economic opportunities as well as biodiversity protection. Community based programs may be used to enhance environmental governance by developing incentives to environmental conservation.

Nonetheless, there are also problems with community based conservation. To be implemented well, it needs proper institutional arrangements, clear systems of governance and a fair allocation of benefits to the local people.

8-5 Environmental Governance and Development Planning

Environmental governance is now a critical concept to governments and international institutions to include in the development planning. Environmental issues are playing an increasing role in the development strategies and plans of infrastructure development in the countries.

Environmental governance tools like the environmental impact assessment, strategic environmental assessment and the regulatory licensing system are useful in ensuring that developmental projects are in line with the environmental governance.

Moreover, there is growing use of landscape level planning that takes into account ecological systems over the large geographical regions by governments. This method has the benefit of minimizing habitat fragmentation and ensuring ecological connectivity.

Integrated planning is especially crucial in the case of infrastructure development in protected areas. The development activities be formulated in a manner that will reduce ecological interference while achieving the economic goals. As an illustration, the transportation infrastructure can be made in sensitive areas of habitats, include wildlife corridors by employ engineering solutions that makes less effects in the environment.

8.6 Balancing Between Conservation and Development Activities

As the experiences of various countries show that the process of conservation and development must be balanced through the flexible systems of governance. Tough restrictions on development activities might not be suitable especially in the developing nations those are struggling with serious economic needs.

Governments should instead adopt systems of regulation that consider the development proposals on a case-to-case basis. The Environmental impact assessment, the public participation process, and scientific monitoring may be used to reduce the environmental degradation that caused by the development activities.

Sustainable development is a valuable concept that offers a framework on how this can be achieved. Governments can ensure that ecological sustainability is promoted by incorporating the environmental protection in the economic planning.

After all, the problem facing policymakers is how to make the systems of environmental governance that would address the needs of ecological balance with the requirement of socio-economic development of the country.

9. Environmental Justice, the Right to Development and Global Environmental Governance

9.1 Environmental justice and Global Inequality

Environmental governance is not only a technical or ecological phenomenon; it is also closely related to the issues of justice and global inequity. Environmental policies tend to have varying impacts on the nations based on their economic status, technological development, and their contribution to environmental degradation.

The industrialization of developed nations was extremely fast in the nineteenth and twentieth centuries with the strong dependence on fossil fuels, intense extraction of natural resources, and massive development of infrastructure. These activities were the leading causes of global environmental degradation that resulted climate change, reduction of biodiversity, and environmental pollution.³⁹

However, developing countries have not contributed much in historical environmental degradation but are still bearing the worst effects of environmental problem. Developing nations tend to suffer in climate change and extinction of

biodiversity in uneven proportions since they have no sufficient resources to adapt and mitigate the effects.

This disproportionate allocation of environmental risks has caused theorists to highlight the issue of environmental justice. Environmental justice attempts to make sure that the environmental policy does not unequally harm vulnerable communities or nations.

In the international environmental law, environmental justice must take into account the developmental needs of the poorer countries. Such policies that limit development opportunities in the developing countries yet fail to take into consideration global inequalities can be of great concern regarding issues of fairness and legitimacy.

9·2 The Principle of Common but Differentiated Responsibilities

One of the most significant principles in international environmental law that focuses on the global environmental inequality is the principle of common but differentiated responsibilities (CBDR). CBDR principle acknowledges that all the countries have a role to play in ensuring the safety of the global environment, but their responsibilities should vary depending on their contribution to the destruction of the environment in the past and their economic capabilities.

This principle was officially declared in Rio Declaration on Environment and Development (1992) according to which the developed countries recognize their responsibility due to the demands of their societies on the global environment and technologies and financial resources they possess.⁴⁰

Some international environmental agreements have also included the CBDR principle such as the United Nations Framework Convention on Climate Change and the Paris Agreement. Within these frames, the developed countries are supposed to be on the frontline in solving the environmental problems and help the developing nations in terms of financial aid, technological transfer as well as capacity-building.

The principle thus acknowledges that environmental protection must not cause equal burdens to the countries which have not contributed equally towards environmental problems. To developing countries, this principle supports the point that environmental governance must not halt them to undertake the development activities that they need to undertake, especially when the activities are necessary to reduce poverty and transform their economy.

9·3 Infrastructure Development and the Right to Development

One of the most significant factors of economic growth and social development of developing countries is infrastructure development. The transport, energy, communication networks and water management projects are needed to enhance the living standards and contribute to economic growth of such countries.

International law has realized the right to development as one of the basic human rights. The Declaration on the Right to Development states that all human

beings and all peoples have a right to engage in, contribute to and enjoy economic, social, cultural, and political development.⁴¹

The fulfillment of the right to development involves massive infrastructure investments for developing countries. Nevertheless, infrastructures may overlap with environmentally sensitive landscapes, such as forests, wetlands and protected areas.

When the environmental laws prohibits development activities in the protected land, they have the effect of inadvertently restricting the capacity of the developing nations to embark on their development goals. This brings a very critical normative issue, to what extent does environmental protection limit development in nations where infrastructure is necessary to reduce poverty and transform the economy?

It is believed by many scholars that environmental governance must consider adaptive methods that would permit responsible development to be undertaken and ecological sustainability.⁴²

9.4 Environmental Governance: North-South Divide

Environmental protection and economic development sometimes creates the conflict referred as the "North-South divide" in global environmental politics. This is the case where developed nations in the Global North give priority to environmental protection since they have already attained high standards of economic growth and infrastructure development. On the contrary, the Global South countries tend to be focused on economic growth and poverty alleviation.

Such type of disparity in priorities may lead to tensions in global environmental negotiations. The developing countries often claim that the rigid environmental policies can cripple their economic growth and continue to cause inequality in the world. Meanwhile, industrialized nations are insisting on the importance of robust environmental regulations to solve such ecological issues as global warming and the loss of biodiversity.

The only way to solve this tension is through collaborative international strategies that would acknowledge both environmental and developmental interests. Developing countries can be assisted financially, in terms of technology transfer and capacity building programs, for sustainable development considering environmental governance.

9.5 Development Activities within Protected Areas: Normative Issues

The controversy related to development activity in the protected areas demonstrates the larger conflict between the protection of the environment and economic growth.

It is necessary to have the protected areas to conserve biodiversity and ecological balance. In most third world countries though, these regions fall in areas where the infrastructure development is of utmost need.

Bans on development activities can thus pose a huge socio-economic problem. As an example, the economic opportunities of remote communities may be restricted due to the limitations to transportation infrastructure, and the industrial growth may be slowed down due to the limitations in energy development.

A moderate approach to environmental governance should thus consider development projects in the protected area on the criteria of environmental governance and economic need.

Instead of enforcing bans, the regulatory systems need to permit developmental projects that will include environmental governance.

9-6 Balancing Environmental Governance

To make the balance between the environmental protection and development, practical governance structures that incorporate ecological, economic, and social factors should be implemented. These frameworks must contain a number of important elements: First, the development projects ought to be considered by environmental assessment mechanisms to examine the potential ecological impact of the development projects. Second, governments are supposed to embrace mitigation initiatives that reduce environmental degradation which includes wildlife corridors, habitat restoration programs and sustainable development of infrastructure. Third, local communities and stakeholders must be included in the decision-making processes in order to be transparent and accountable. Fourth, the international cooperation ought to assist the developing countries in terms of monetary aid, technology and institutional capacity building.

Through these strategies, environmental governance will be able to achieve conservation and development goals.

10. Conclusion and Recommendations

10-1 Conclusion

The connection between infrastructural development and the environmental protection is one of the most important policy and legal issues of the modern world. Although conservation of the environment is important towards ensuring ecological equilibrium and biodiversity, the developing countries are usually under pressure to develop infrastructure to ensure that they attain economic prosperity, alleviate poverty, and enhance the living standards of the people. This conflict between these two aims is especially vivid in the management of the protected areas.

Traditionally, the concept of protected areas presupposes that the activities of people in those areas are severely prohibited to preserve biodiversity and ecological systems. The initial conservation policies were mainly founded on the strict conservation models that aimed at keeping the environmentally sensitive areas of the environment free of development activities.⁴³ Nevertheless, such models were mostly created in the industrialized countries where the economic development was well-underway when the conservation of the environment became a key policy concern.

When the same conservation models are implemented in the developing countries, they may generate serious problems. To have a sustainable economic growth, many developing countries need to develop infrastructure such as transport infrastructure, hydropower, communication infrastructure and energy infrastructure. Bans to development activities in the protected areas can thus reduce chances to socio-economic development especially in those developing countries that possess great natural resources in the conservation areas.

The international environmental law does not provide total limitations to development activities in the protected zones. Rather, the international environmental governance systems focus on the merging of environmental protection with sustainable development goals. The instruments like the Convention on Biological Diversity acknowledge the value of conserving biodiversity as well as the right of the countries to use their own natural resources according to their own environmental and developmental policies.⁴⁴

In the same line, the concept of sustainable development makes it clear that economic growth and environmental preservation must be integrated. The idea is expressed in the 'Our Common Future' where it is indicated that development should address the needs of the current generation in a manner that will not interfere with the capacity of the future generation to achieve their needs.⁴⁵ This strategy does not imply that development activities should be abandoned, but, on the contrary, they should be carried out in a responsible and sustainable way.

The concept of 'common but differentiated responsibilities' also acknowledges the fact that the developed and developing nations have not contributed equally to environmental degradation in the past. The developed nations achieved economic development by highly industrializing and developing infrastructure which is usually not accompanied with strict environmental rules. The developing nations, on the other hand, are still experiencing serious developmental problems and hence need policy flexibility in their quest to achieve economic growth.⁴⁶

In that sense, the concept of environmental governance cannot be viewed as a tool that is limiting development in poorer countries and at the same time, enables developed countries to preserve their economic privileges. In its place, environmental governance ought to promote the developmental directions that are economically productive and environmentally accountable.

It should not be assumed that development activities in the protected areas should not be allowed. Instead, they should be appraised using holistic environmental governance mechanisms that will ensure the sustainability of the environment besides allowing the required infrastructure development.

Environmental governance must, however, be balanced between regulation, mitigation and sustainable management, as opposed to prohibition. The assessment of environmental impacts, monitoring by scientists, and participation in

decision-making can be used to ensure that the development projects in the protected areas do not cause serious ecological damage.

Finally, policymakers must find a way of balancing conservation goals and development demands such that they will result in environmental sustainability and socio-economic development.

10.2 Recommendations

In order to have a balanced between development and conservation in the protected areas, following policy measures ought to be put into consideration:

A. Embracing Flexible Environmental Governance Frameworks:

The systems of environmental governance must not dwell on the dogmatic conservation systems that only do not allow any development activities within the protected areas. Rather, the regulatory frameworks ought to permit development activities considering mitigation measures of environmental degradation.

Governments are supposed to be open to policies that consider development activities on a case by case basis with consideration of ecological sensitivity, economic necessity and mitigation measures available.

B. Effective Environmental Impact Assessment Mechanisms: One of the best tools of balancing development and environmental protection is the environmental impact assessment (EIA). Governments ought to make sure that every significant development project that is implemented within the protected areas is evaluated in relation to environmental aspects.

These evaluations must include scientific evaluation, stakeholder involvement, and open decision makings to make sure environmental hazards are appropriately identified and countermeasures put in place.⁴⁷

C. Integration Between Conservation and Development Planning:

The management of the protected areas must be part of the national development strategies. The land-use management, infrastructure planning, and conservation policies must be aligned in such a way that conflicts arising between the development and environmental protection are reduced.

One of the ways through which ecological disruption can be avoided is through integrated landscape planning approaches that can enable infrastructure development to be undertaken.

D. Encouraging Community involvement in environmental governance: Protected areas are usually directly related to local communities, which might rely on natural resources as their means of living. Such mechanisms of community participation in decision-making should be therefore contained in environmental governance frameworks.

The community participation can enhance environmental surveillance, increase adherence to conservation rules, and sustainable use of resources.

E. International Cooperation: The concept and practice of international cooperation should be enhanced and put into place to address the

problem of the modern world. The developed nations and international institutions should assist the developing countries for sustainable development. Such assistance can be in the form of financial aid, technology, and capacity building initiatives so as to enhance environmental governance.

This kind of cooperation demonstrates the greater goals of international environmental agreements and the idea that the protection of the environment must be sought on a global cooperation.

10.3 Final Reflection

Governance of the protected areas is a difficult policy issue, which involves a balancing between environmental protection and economic development. Although, conservation is important in order to conserve biodiversity and ecological systems, development is required in all countries.

The environmental governance should thus encourage responsible development and not a ban on development activities within the protected areas. Through embracing elastic regulatory frameworks, enhancing environmental assessment systems, and promoting involvement of the community, governments will be able to make sure that development operations in the protected areas will be undertaken in a manner that does not seriously endanger ecological sustainability but promotes socio-economic development.

Only a balanced and pragmatic approach to environmental governance will allow developing countries to follow development goals keeping in mind the environmental dimension on which the long-term prosperity will eventually rely.

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