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India's Role in Ethical Environmental Cooperation in South Asia

Divyaraj Singh Solanki[1,*], Hemant Sunder Saurabh Singh[2]

Abstract

South Asia is one of the most vulnerable ecosystems in the world, facing serious environmental challenges, such as climate change, deforestation, loss of biodiversity, water shortage and transboundary pollution. These threats have had considerable and far-reaching consequences that relate to the countries in question. The best way forward for regional environmental governance is therefore a mix of national and regional collaboration. In addressing these challenges, India is the largest and most powerful country in South Asia and has great potential to help address these challenges. But there are still questions about India's responsibility, how much she can do for it, and how national interests might conflict with regional sustainability. This paper investigates India's role in ethical environmental cooperation in South Asia, its commitments, weaknesses and policy efforts, as well as the environmental issues in South Asia, the need for collaborative action, and India's legal, historical and international obligations encumbered in the field of sustainability. It also discusses the ethical challenges facing India's role in biodiversity conservation, climate finance and transboundary implications for the environment, and assesses India's participation in regional environmental agreements, its leadership in renewable energy diplomacy, and the frictions created by political and economic rivalry – particularly with China. Since India does both a moral and a strategic duty of leading sustainability in regional environmental co-operation, to achieve sustained development a fair burden-sharing mechanism and inclusive governance mechanism must be established. Ethical diplomacy and scientific/economic collaboration can play an essential role in achieving the long-term sustainability of the environment in South Asia and the paper suggests policy recommendations for strengthening India's role as a responsible environmental leader while maintaining fair and effective cooperation with neighboring states.

Keywords: South Asia, environment, ethical dilemmas, biodiversity, climate change

INTRODUCTION

South Asia comprises a vast population (nearly two billion people) but is among the most environmentally vulnerable areas in the world. Areas, such as climate change, deforestation, environmental pollution, water scarcity and biodiversity loss pose numerous threats to the environment, including global warming, drought and extreme weather events, as well as the erosion of ecosystem services, livelihoods and regional stability. Several countries in the region: India, Pakistan, Afghanistan, Bhutan, Maldives, Nepal, Sri Lanka and Bangladesh are closely linked in its environmental protection issues but have found it difficult to reach an effective cooperation because of political tensions, economic differences and governance problems [1].

Among these countries, India can do more. India is the largest economy in the world and one of the most important geopolitical actors. With vast natural resources, extensive technological

***Author for Correspondence**
Divyaraj Singh Solanki
E-mail: solanki.divyaraj.04@gmail.com

[1,2]Student, Department of Political Science, Delhi University, Delhi, India

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capabilities, and an outright commitment to sustainability worldwide, India has the potential to be a driving force for regional inter-regional cooperation in environmental matters. India has led the way in emerging renewable energy initiatives, such as the International Solar Alliance (ISA), as well as bilateral agreements on water sharing and disaster management.

One of the main challenges facing India is how to balance economic growth with environmental responsibility. While India has made considerable efforts to be sustainable, rapid industrial development and urbanization have increased emissions and resource consumption. Yet one other challenge is how to deal with problems associated with transboundary environmental issues, such as air pollution that evaporates and falls across borders, water disputes between neighboring countries and problems of deforestation, which affect many countries. It raises important ethical questions: How much should India be responsible for the environmental issues on the regional level? How should the costs and benefits of conservation be shared among countries in South Asia? Should India enforce environmental standards on its neighbors?

Indian policy in ethical environmental cooperation in South Asia This paper outlines India's responsibilities, needs, and policy responses in ethical environment cooperation in South Asia. The paper discusses some of the main environmental issues of South Asia, the need for and challenges of ecological collaboration, the ethical position of India in relation to its leadership in ethics, participation in regional treaties, the effect of political and economic factors on environmental governance, as well as the diplomatic position of India on cross-border ecological concerns and its approaches to balancing development with sustainability.

The paper has four sections: First it explores the major environmental challenges facing South Asia today and their implications on policy and society, second it examines why regional cooperation is necessary and how India can contribute to sustainable development, and third it outlines ethical aspects of India's responsibility for the environment from a legal and philosophical viewpoint, fourth it provides an overview of India's policy initiatives (Including its Role in Multilateral Agreements and in Diplomatic Efforts to Promote Renewable Energy), and fifth it analyzes ethical dilemmas in environmental governance issues, such as climate finance, pollution control and conservation of biodiversity. The conclusion presents policy recommendations on strengthening ethical and effective environmental cooperation in South Asia [1–3].

By taking up these issues our study seeks to make the case for India's contribution to promoting sustainable regional development, but ethical diplomacy, inclusive governance and strategic cooperation will play an important role to ensure long-term ecological stability in South Asia.

ENVIRONMENTAL CHALLENGES IN SOUTH ASIA

South Asia – with nearly two billion people living in it – is one of the most environmentally fragile regions in the world. It faces some of the most serious ecological threats imaginable: climate change, deforestation, pollution, depletion of natural resources, deforestation and biodiversity loss. Both these elements threaten harm ecosystems, human health, food security and economic stability. Because they are transboundary, no country could solve them alone. Greater cooperation in this regard, reflected in the role of India, the region's largest economy, is central.

South Asia is particularly vulnerable to climate change, where rising global temperatures are linked to an increase in the frequency and severity of extreme weather events. Heat waves, floods, droughts, and glacial melt can have a substantial impact on human settlements, infrastructure and economic sustainability. Heatwaves have become a much more frequent and serious phenomenon in recent decades and parts of northern India and Pakistan reached temperatures (in 2022) above 50°C, causing heat-related illnesses, power cuts and economic decline. Urban areas, particularly in India, have suffered the urban heat island effect, where increasing urbanization and deforestation increase temperatures far beyond reality [4].

Floods, while often coming in cycles, also hit the region in parallel. One heavy flood, for example, swamped Pakistan in 2022 and demolished just over half the country. Nearly a million people lost their lives. And a $20 billion flood caused over $3 billion damage. Since the 1930s monsoon rains often produce flooding, Bangladesh has frequently suffered devastating floods. Monsoon rains, combined with poor drainage systems, have made it more vulnerable to flooding. Short-lived droughts in Afghanistan, India, and Pakistan have worsened water scarcity, crop failures, and mass migrations. The Himalayan region – known by its abbreviated name the "Third Pole" – is rapidly melting glaciers due to climate change. It affects the world's leading rivers – the Ganges, the Indus, and the Brahmaputra – which supply millions of people with water, food, and other necessities. More frequent glacial lake outburst floods, which are increasing in Nepal, Bhutan and northern India, threaten communities downstream. Further rising sea levels will also threaten coastal areas in Bangladesh, India, Sri Lanka, and the Maldives. Scientists say by 2050 many parts of Bangladesh and the Maldives will no longer be possible to live in.

South Asia has four global biodiversity hotspots: the Himalayan Mountains, the Western Ghats, the Sundarbans and the Indo-Burma region. Deforestation and disturbance of their habitats are threatening these ecosystems. Soil erosion and water shortage have resulted from deforestation in India and Nepal. The Western Ghats is designated a UNESCO World Heritage Site for its landscapes. Also, urbanization and mining activities have undermined their ecology. The Sundarbans – the largest mangrove forest in the world – contains the world's second largest (and most dense) forest of mangroves. Rising sea levels and illegal logging threaten the biodiversity and livelihoods of local people [5].

The loss of biodiversity in the region is alarming and is being exacerbated by poaching, destruction of habitats and climate change to account for habitat loss and decline of species, such as the Bengal tiger, Asian elephant and snow leopard. The Indo-Burma region – comprising parts of India, Myanmar and Bangladesh – is one of the most endangered regions of biodiversity. Coral reefs in the Indian Ocean are threatened by rising sea temperatures as well. Strengthening conservation policies and cross-border cooperation is needed to protect these shared ecosystems.

Another major environmental and public health crisis in South Asia is pollution, which impacts air and water quality. Air pollution is a trans-border problem: smog and particulate matter from industrial emissions, vehicle pollution, and crop burning in northern India, Pakistan, Nepal, and Bangladesh. Cities, like Delhi, Lahore, and Dhaka, are among the most polluted in the world. Since China also pollutes northern India and Nepal it is important to establish regional air quality agreements. The major rivers of South Asia include the Ganges, Brahmaputra, and Indus. They are poorly managed due to industrial waste, agriculture runoff and unsealed sewage. Environmental Protection Agency (EPA) Namami Gange is a major clean-up effort in India to clean up India's sacred Ganges River. Effluents from the textile industry are also causing severe pollution of the country's rivers, affecting drinking water as well as aquatic ecosystems. Stricter regulations, wastewater treatment plants, and joint efforts between the government and civil society are necessary for effective intervention.

Agriculture is key to South Asia's economy. Climate change, soil deforestation, and unsustainable farming practices threaten to erode the natural food supply. Soil erosion is a serious issue in India, Nepal, and Afghanistan. Deforestation and lack of good farming practices are responsible for declining soil fertility. In Punjab in India, too much fertilizer use, and depletion of groundwater threaten sustainable agricultural practices. Sustainable farming methods could help restore soil health, such as agroforestry and organic farming. Rhett cycles, heat stress, and water shortages are reducing agricultural productivity. Wheat and rice yields in India and Pakistan are especially vulnerable to climate changes. Many people in Afghanistan and western India are facing severe food insecurity because of droughts, underlining the importance of climate resilient varieties of crops and improved water management [6].

The 2022 Pakistan floods illustrate the devastating impact of environmental challenges in South Asia. Record-breaking monsoon rains and glacial melt, exacerbated by climate change, led to unprecedented flooding. Poor urban planning and deforestation further worsened the crisis. The floods displaced over 33 million people, caused 1,700 deaths, and triggered widespread disease outbreaks. Economically, the disaster resulted in $30 billion in damage, the destruction of 45% of croplands, food shortages, and inflation. India provided humanitarian aid, but long-term regional cooperation in disaster preparedness and water management is necessary.

Another huge challenge is the Himalayan glacial melting, which is negatively affecting both water supply and the risk of glacial lake outburst floods in Nepal, Bhutan and northern India. The Himalayas are melting at twice the world average rate, destabilizing river flows that millions of people rely on to grow crops and generate electricity. Cooperation between India, Nepal and Bhutan is needed to strengthen data sharing, resilience of infrastructure and climate adaptation strategies.

Increasing sea levels threaten to render Maldives an existential threat. 80% of land lies less than one meter above sea level and, if submerged, threatens to sink. Saltwater intrusion is also damaging fresh water sources and agriculture as well as tourist and fisheries activities. The Maldives is considering adopting artificial island building, as well as migration options, to adapt to rising sea levels and preserve the island nation's unique culture. It is critical to foster regional cooperation in helping vulnerable island states adapt to climate change.

India Given its socioeconomic importance, India is both moral and strategic in its role as a regional leader in environmental cooperation. It must lead in creating conditions for climate adaptation and sustainable disaster resilience and achieve better and more comprehensive food security for the peoples in South Asia. The priority of strengthening cooperation on renewable energy sources and investing in sustainable infrastructure in South Asia will help accelerate progress in local and regional transitions towards clean energy, including for India.

India can ensure long-term ecological stability and resilience in South Asia by ethical diplomacy and by leading in the international climate negotiation process.

THE NEED FOR REGIONAL ENVIRONMENTAL COOPERATION IN SOUTH ASIA

In South Asia, environmental problems inter-regionally are referred to as "nationwide" or "regional." They affect many countries at once, from a local level to global scales. Many environmental problems are problems that require broad national and international solutions. Such problems, such as climate change, deforestation, pollution, and loss of biodiversity, should be dealt with jointly because no single country can effectively solve them alone. Even though individual governments have tried to address many such problems individually, those approaches have, in most cases, been futile. Cooperative efforts are necessary for regional management of natural resources shared by the countries concerned, for enhanced resilience to disasters, and for stability of the region.

South Asia is home to a diverse ecosystem, from the Himalayas through the Sundarbans and the Indian Ocean, which provides natural services: water supply, carbon storage, and conservation of biodiversity. However, the environmental quality of one country can have a negative impact on those neighboring countries. The main rivers of the region, including the Ganges, Brahmaputra, and Indus, travel across countries of various political and administrative regions and provide vital services to agriculture, drinking water, and hydropower. The Ganges–Brahmaputra–Meghna Basin is an essential water source for India, Nepal, Bhutan, and Bangladesh. However, pollution and overuse of this water resource and fluctuating water flows caused by climate change threaten its sustainability. The Indus River System is a major water source of both India and Pakistan. It has been under international diplomatic control because different governments allocated water differently. Glacial melt in the Himalayas impacts Nepal, Bhutan, and India, increasing flood risk and indefinite water shortage. Such vital water supplies are in danger of being overexploited and geopolitically contested.

South Asia has a host of other biodiversity hotspots, such as the Sundarbans and the Himalayas, but deforestation and loss of habitat pose strong threats. The Sundarbans (Regions Across India and Bangladesh) provide coastal communities with protection from tropical cyclones but are under threat from deforestation and rising sea levels. And the Himalayan forests (a Range Stretching from Nepal to Bhutan and Down to India) store significant amounts of carbon that cannot be replaced without being destroyed by illegal logging and degradation of the ground [7].

Many of these environmental problems result from the fact that there are no coordinated efforts among the South Asian nations to address such issues: air pollution is a serious problem in north India, Pakistan and Nepal and Bangladesh. Stubby burning of lands in Indian and Pakistani Punjab contributes to heavy smog in cities, such as Delhi, Lahore and Dhaka, and industrial emissions move across national borders and compound the problem in the Indo-Gangetic Plain. No matter how much each government tries, air pollution is still a critical threat, owing to the lack of a regional air quality management system. It is necessary to adopt policies of a collaborative joint emission reduction targets and alternative farming methods to tackle this transboundary problem.

Several international environmental treaties are signed by South Asian countries that encourage cooperation. The Paris agreement on environment commits all countries in the region to reduce carbon emissions and improve climate resilience, and the importance of cooperation among countries in crisis management and energy security as well as coordinated approaches to conservation of migratory species and ecosystems is obvious.

Furthermore, both the SAARC Action Plan on Climate Change and the SAARC Disaster Management Centre are envisioned to promote regional cooperation to face environmental challenges but have suffered from political tensions; strengthening those institutions is an opportunity to take that cooperation to the next level.

Beyond environmental sustainability, alliances also offer big economic and diplomatic benefits. South Asia holds enormous potential for renewable energy – particularly solar and hydropower. India's International Solar Alliance is helping to leverage the region's growing solar energy industry in Bangladesh, Nepal, and Sri Lanka; and hydropower agreements between India, Nepal, and Bhutan promote clean energy trade. Through enhanced energy cooperation, both countries will be better equipped to grow economies and reduce dependence on fossil fuels. Another area where cooperation can help is disaster resilience. Floods, cyclones, and droughts frequently ravage southern areas and, through cooperation on disaster response and recovery and early warning programs, can contribute to improved preparedness and recovery.

Environmental cooperation also has the potential to strengthen diplomatic relations. Joint efforts in water management and biodiversity conservation can serve as confidence-building measures, reducing geopolitical tensions. However, despite its benefits, regional environmental cooperation faces various obstacles. Political tensions often obstruct joint initiatives, with India-Pakistan relations complicating water-sharing agreements and air pollution control. Diplomatic shifts between India and the Maldives also affect climate-related collaboration, while China's growing influence in South Asia has impacted India's leadership in regional environmental efforts [8].

Both inconclusive resource sharing disputes and lack of enforcement also pose a challenge to regional cooperation. Shared natural resources, particularly transboundary rivers, are a major source of dispute. The Indus Waters Treaty between India and Pakistan is a rare case of water-sharing success, but climate change risks discrediting it over the long term. The Ganges Water Treaty between India and Bangladesh also presents challenges, as water availability and domestic demand change with each new harvest. Weak institutions and lack of enforcement also adversely impact regional cooperation. For example, SAARC lacks formal enforcement mechanisms for environmental agreements, and without legally binding commitments, many projects go nowhere. By prioritizing

environmental cooperation as a shared responsibility for all countries of South Asia, we can put the sustainability of the future on the priority list. And by strengthening regional agreements, investing in sustainable infrastructure, and pushing for global climate action, South Asia can also ensure long-term ecological sustainability.

ETHICAL FOUNDATIONS OF INDIA'S ENVIRONMENTAL RESPONSIBILITY

In its environmental commitment, India is rooted in history, philosophy, constitutional law and legal code; from ancient texts on harmony with nature to contemporary laws providing for environmental justice, India's environmental ethics emphasize sustainability and intergenerational equity. As one of the world leaders in climate action, India is an important partner in global environmental governance.

The section focuses on the ethical guidelines for India's environmental responsibility, including historical grounds, constitutional charter, law, legal codes and international commitments. Another section studies afforestation and conservation of biodiversity to showcase the efforts India is making to meet its environmental obligations.

HISTORICAL AND PHILOSOPHICAL ROOTS OF ENVIRONMENTAL ETHICS IN INDIA

India's environmental policy is rooted in its historical, philosophical, constitutional, and legal tradition. From ancient scriptures devoted to making life harmonious with Nature to today's laws that ensure environmental justice, India's environmental ethics emphasize sustainability and intergenerational equity. India is one of the world's leading global players in climate change. India's eco-sustainability, which has been built on centuries of cultural traditions, judicial activism and integration into global sustainability efforts, has inspired many other countries.

India's environmental consciousness is also embedded in its ancient texts, like the Vedas, Upanishads, Mahabharata, and Ramayana, which emphasize the intrinsic value of nature. The Rigveda and Atharvaveda contain hymns dedicated to rivers, forests, and mountains, treating them as divine entities. The concept of Dharma (duty) extends to protecting nature, emphasizing human responsibility in maintaining ecological balance. Sacred groves, known as Devaranyas, were protected in forests where tree-cutting was prohibited, demonstrating an early form of conservation ethics. Kautilya's Arthashastra, written in the 4th century BCE, included environmental policies, prescribing penalties for illegal logging, poaching, and water pollution. Jainism and Buddhism further strengthened India's environmental ethics. Jainism promotes Ahimsa (non-violence) towards all living beings, advocating conservation practices, such as protecting water bodies and promoting vegetarianism. Buddhism's Middle Path encourages moderation in consumption and reverence for nature, as reflected in Emperor Ashoka's environmental policies, which included afforestation and bans on animal slaughter. These philosophical traditions continue to shape India's contemporary conservation policies and legal frameworks.

India's environmental rights are laid down in its Constitution and have been strengthened by the adoption of some progressive judicial rulings. Article 48(1)(a) of the Directive Principles of State Policy tells the state to protect the environment and all living things. And Article 51(1)(g), which requires all citizens to protect the environment as well as be morally sensitive, is known as the strictest provision of the constitution. India's environmental policies and law also derive their foundations from this Constitution. In the case of MC Mehta v. Union of India (1986), the Supreme Court took note of the right to a clean environment as part of the right to life under article 21. The case of Vellore Citizens' Welfare Forum v. Union of India (1996), that had brought the precautionary principle, and the polluter pays principle into Indian environmental law, is considered by many to be the most influential case in the history of Indian environmental law. In this case, TN Godavarman v. Union of India (1997), a landmark case of the Constitution, strengthened the movement for forest conservation and afforestation programs, is being reflected by the ongoing evolution of India's ethical framework for environmental protection [9, 10].

India has a role to play globally on climate change, biodiversity conservation and renewable energy. The International Solar Alliance (ISA), an initiative led by India and France in 2015, promotes the use of solar energy to reduce climate change. India has been the leading country of ISA since 2015. India's participation in the ISA shows commitment to equitable access to energy for developing countries; to decrease dependence on fossil fuels; and to sustainable economic growth through clean energy investments. India is also a signatory of several UN environmental conventions. Under the United Nations Framework Convention on Climate Change (UNFCCC), India supports climate justice and upholds the UN principle of Common but Differentiated Responsibilities (CBDR). Under the Convention on Biological Diversity (CBD), India has adopted the National Biodiversity Strategy and Action Plan to conserve its rich biodiversity. Through the UNCCD India has undertaken large-scale land restoration projects to reverse desertification. These international engagements represent India's ethical values of sustainability and ecological responsibility.

There are various afforestation and reforestation programs in India which aim at raising the forest cover to address climate change. The Green India Mission (GIM), a part of the National Action Plan on Climate Change (NAPCC), aims to restore degraded ecosystems and increase tree cover through rehabilitation of the forest area. The Compensatory Afforestation Program (CAMPA) is an industry-based program that encourages industries to plant trees to offset their losses in deforestation. Urban areas also use the Miyawaki method of rapid regeneration of the forest. According to the Forest Survey of India (2023), the total forest and tree cover in India increased to 23.62 percent. Afforestation is important as it helps in carbon sequestration, improved air quality and conservation of biodiversity [11].

Conservation activities in India are managed through National Biodiversity Authority (NBA). The National Biodiversity Authority, constituted under the provisions of the Biological Diversity Act 2002, provides rules on conservation and incentive policies governing the benefits accrued from biological resources to the public. There have been several flagship conservation projects undertaken by India to protect endangered species. Project Tiger has brought about an increase in tiger numbers from 1,411 at the beginning of 2006 to 3,682 in 2023 wherein India is the home to more than 70% of the world's wild tigers. Project Elephant was started in 1992 to conserve elephants and to establish a balance between human and wildlife conflicts. India has also safeguarded the Asiatic lion and the one-horned rhinoceros through protected areas and breeding programs. With these policies India has been successfully promoting conservation of biodiversity across India.

India's ethical and environmental responsibility is deeply rooted in its history, philosophy, constitution and law. From ancient Vedic tradition to the modern legislation on conservation, India's environmental ethics has been guided by a philosophy of harmony with nature, sustainability and the existence of intergenerational equity. Through new ecological jurisprudence and constitutional legislation, India has developed a strong legal framework for protecting ecosystems. More recently it has become a leading signatory to global environmental agreements, most prominently as a lead signatory to the Convention on Climate Change and the Convention on Biological Diversity. India must continue to balance the development of her economy with the growing ecological responsibility. Greater regional cooperation, greater involvement and global leadership are very important for providing an eco-sustainable future for South Asia and beyond.

INDIA'S ROLE IN REGIONAL ENVIRONMENTAL COOPERATION

As South Asia's largest economy and the continent's geopolitical center of gravity, India is at the forefront of regional environmental cooperation. Strong ecosystems are linked, water resources are connected and the environmental problems that prevail are transboundary and require collaborative efforts from neighboring countries. In this regard, India has established bilateral and multilateral cooperation focusing on development of water sharing agreements, disaster management, growth in renewable energy and conservation of biodiversity.

One of the most significant agreements among India's environmental partners, and probably the most significant cooperation agreement of the century, is the Indus Waters Treaty (IWT) signed between India and Pakistan in 1960, which regulates the sharing of water by the Indus River and its tributaries. India lays over all the streams in the eastern part of the country – the Ravi, Beas, Sutlej, and Sujna – and Pakistan the streams of the west, known as the Indus, Jhelum, and Chenab. Both countries managed their water well under the IWT and were successful in ratifying and amending many disputes because of their political differences and mutual respect. The Ganges Water Treaty signed between Bangladesh and India in 1996 provides for equitable sharing of the inflow of the Ganges River from the Farakka Barrage with Bangladesh. Under the IWT, Bangladesh is promised to get an equitable amount of water even during the dry seasons and to have a joint monitoring mechanism in place. India has been instrumental in making agriculture sustainable and with protecting the biodiversity of the Sundarbans mangrove ecoregion.

But beyond bilateral agreements, India has actively engaged in regional environmental initiatives through SAARC and BIMSTEC. The three SAARC environmental programs are the SAARC Disaster Management Centre, which coordinates climate resilience and emergency response for countries in the region, and the SAARC Convention on Environment, which promotes pollution control, biodiversity conservation, and sustainable energy development. Further initiatives include the SAARC Forestry Centre which seeks to further its conservation and sustainable use of land in Bhutan, as well as other conservation and energy-related project work. The Bay of Bengal Region (BIMSTEC) is one region that offers an opportunity for cooperation on environmental issues. Indo-Bhutan relations also play an important role in environmental collaboration through India hosting the BIMSTEC Centre on Weather and Climate which provides forecasting on climate and mitigation and risk reduction strategies and support in related ways to various projects in the BIMSTEC region. Other multilateral engagements by BIMSTEC include marine conservation efforts and regional afforestation programs in the Himalayan and Indo-Burma regions [12]. The country is also a leading player in diplomacy on renewable energy. More specifically, through ISA (International Solar Alliance), India exports solar and wind technology to its neighboring countries to help them move towards clean energy. India is contributing towards the reduction of carbon emissions and energy security by providing solar panels and technology for wind farms to Bangladesh, Nepal and Sri Lanka, which have been assisting in developing renewable energy sources in South Asia. Co-operative investing in renewable energy is one area where India has found its major strength. For example, India imports power from hydropower projects in Nepal. It provides financial support and technology transfers to Bangladesh to encourage solar plant development and is working together with Sri Lanka to develop offshore wind power power schemes. These investments ensure that South Asia enjoys energy independence and long-term sustainability.

India's commitment to the environment is evident through practical initiatives like its support for the development of solar power in Bangladesh. Through ISA, India has provided funds for setting up solar power plants and rooftop solar installations, which greatly reduced energy access in rural Bangladesh and helped reduce carbon emissions. It has also created jobs in the renewable energy sector contributing to economic growth. India has participated in conservation projects with Bhutan and Nepal. In this regard, India has supported Bhutan's afforestation schemes as well as protecting wildlife corridors through cooperation to protect corridors that carry traffic from other countries to other parts of India for tigers and elephants. The India-Nepal Terai Arc Landscape Project aims to conserve the habitat of tigers along the mutual border. The efforts in Ganges River Dolphin Conservation Project ensure the protection of endangered river dolphins.

These initiatives have enhanced biodiversity protection, reduced human-wildlife conflict, and strengthened diplomatic ties through shared environmental goals.

At the same time, India's policy on regional environmental cooperation is fundamental in achieving sustainable development in South Asia. Bilateral agreements, such as the Indus Waters Treaty and the

Ganges Water Treaty have created an opportunity to share resources in a more equitable manner, India's interaction with SAARC and BIMSTEC is instrumental in disaster management, marine conservation and afforestation, and has resulted in significant steps in the promotion of renewable energy diplomacy, in the fields of solar and wind technology.

Indian contribution to Bangladesh's renewable energy and conservation projects with Bhutan and Nepal underline that India is extremely committed to environmental sustainability [5]. India will continue to lead efforts to coordinate regional cooperation in environmental issues, for the purpose of solving the common problems, maintaining economic stability and strengthening diplomatic relations in South Asia.

ETHICAL DILEMMAS IN REGIONAL ENVIRONMENTAL GOVERNANCE

Environmental governance in South Asia poses serious ethical dilemmas, particularly in the intersection of national interests and regional sustainability. As the largest economy in the region, India is an important participant in responding to transboundary environmental issues. However, it also faces complex issues concerning resource allocation, leadership role, and cooperation with neighboring countries. Ethical concerns relate to responsibility for biodiversity conservation, India's leadership role in global environmental affairs, the cost-benefit balance in climate policy, and the extent to which India tolerates exclusion of the natural environment.

The conservation of biodiversity is a shared responsibility, but how to finance the effort is a question of equity and capability. India is the largest economy in South Asia and has more financial and technological resources than its other country neighbors to invest in biodiversity protection. But should it be burdened too heavily in protecting the region's biodiversity? Financial responsibility and capability are often contested, in terms of how much it should cost each country to conserve its biodiversity. Some advocates argue that India should be more responsible given its financial dominance of South Asia, the number of illegal deforestation and industrial pollution in the region and so should be held ethically responsible for protecting it from environmental damage. Others agree that conservation costs should be shared because all South Asian countries contribute to the environment's degradation, and if India is burdened too heavily it could undermine environmental responsibility, weakening long-term commitments to sustainability. In addition, climate change is causing environmental problems in South Asia. Much of this has been due to industrialized nations. More developed countries – have historically contributed more to global emissions and deforestation – have a moral obligation to help vulnerable regions: through financial means, such as the Global Environment Facility and the Green Climate Fund, but bureaucratic delays and political obstacles often make international aid ineffective. India, and other countries in South Asia, will need to find balance between their sovereignty concerns and the need to access external help [7].

As a regional leader, India is expected to take proactive steps in addressing environmental issues, but this leadership role carries ethical and strategic challenges. Some argue that India has a moral responsibility to lead regional environmental action due to its rapid industrialization, which has contributed significantly to pollution. Additionally, by leading environmental initiatives, India could strengthen its global standing and economic partnerships while leveraging its advancements in renewable energy and conservation policies to guide South Asia toward sustainability. However, a major ethical concern is free riding, where other South Asian nations benefit from India's environmental initiatives without making proportional contributions. If India invests heavily in air pollution control but neighboring countries, like Pakistan and Bangladesh, continue high emissions, India may bear disproportionate costs with limited regional benefits. This raises the dilemma of whether India should take unilateral action or demand greater accountability from its neighbors. Furthermore, India must balance regional cooperation with domestic economic priorities. Overcommitting resources to regional environmental projects could divert attention from pressing domestic issues, such as poverty alleviation and rural development, necessitating a balance between global leadership and safeguarding national interests [1].

Climate policies often require trade-offs between environmental sustainability and economic development, leading to ethical concerns in evaluating these trade-offs. Assigning monetary value to biodiversity loss, pollution, and climate impacts is complex and often subjective. For instance, a proposed hydroelectric dam in the Himalayas may promise economic growth but could also lead to ecosystem destruction and displacement of indigenous communities. South Asian countries, including India, face ethical dilemmas in balancing industrial growth with environmental sustainability. On one hand, industrial expansion and infrastructure development are crucial for poverty reduction and job creation, and restricting industries for environmental reasons could slow economic progress. On the other hand, prioritizing short-term economic gains may lead to long-term ecological disasters, harming future generations. Sustainable development ensures long-term economic resilience against climate risks, but the ethical question remains whether India should prioritize economic expansion or impose stricter environmental regulations despite short-term financial costs.

India too faces significant environmental challenges due to pollution and ecological degradation caused by neighboring countries. This creates dilemmas and political pressures to achieve justice on matters of the environment, including in the fields of ethics and diplomacy. For example, Delhi and northern India are also heavily polluted with airborne particulates from Pakistan. China itself is responsible for many industrial emissions. Should India unilaterally spend money to control pollution (Since These are External Factors) knowing that pollution effects will keep ramping up? Or would it seek diplomatic leverage at the expense of better cross-border environmental agreements? Similarly, industrial waste produced in Bangladesh irrigates rivers, such as the Ganges and Brahmaputra directly. The watershed changes ecosystems and affects people's livelihood. Although India has assisted Bangladesh in developing clean industries, its implementation is poor. What problems can such coercion create when it comes to ethical governance? So how to address transboundary environmental degradation? India should make greater efforts to establish direct bilateral agreements, use SAARC and BIMSTEC modalities of collective responsibility, and provide financial and technical assistance to help neighboring countries transition towards greener industries [4].

CHALLENGES AND CONFLICTS IN ETHICAL ENVIRONMENTAL COOPERATION

While India's efforts to promote ethical environmental cooperation in South Asia have proved impressive, many obstacles have also got in the way of this region's progress. Political tensions, structural problems and normative conflicts often make it difficult to sustain cooperative endeavors over the long term. Political instability and changes in diplomatic relations in South Asia also pushback against environmental cooperation: Although India is committed to leading sustainable development efforts globally, largely due to its relationship with the Maldives, relationships have fluctuated due to political changes and growing anti-India sentiment. The ongoing "India Out" campaign in Maldives driven by opposition groups has further raised tensions, which has hurt joint ecological projects, such as marine conservation projects. As well as the fact that China is increasingly ascendant in Maldives, this has made it harder for India to push forward ethical environmental policies. As well, while India and Bangladesh have historically cooperated on issues related to environmental issues, such as the Ganges Water Treaty and related renewable energy projects, even if the country's leader were to pick a new prime minister, relations between these two countries would be challenged. Intractable issues, such as river water sharing and cross-border migration due to climate change would derail these policies.

China's increasing presence in South Asia, both over the decades and on the scale of the Belt and Road Initiative, has made its role in environmental governance in South Asia much more challenging than it once was. Many South Asian countries, such as Pakistan, Sri Lanka, and Nepal, have deepened economic relations with China, at the expense of their own environmental policies. Chinese-funded infrastructure projects (Including Hydropower Plants in Nepal) often do not incorporate safeguards for the environment, resulting in ecological degradation. China's economic support to South Asian countries typically comes with very few conditions regarding environmental or governance issues. This is a less appealing mechanism for recipients than India's more sustainable approach, which

sometimes slows project approval. India does not have the resources to match China's massive infrastructure investments in the region. Even in areas of cooperation that India has made progress (such as Renewable Energy Work with Bhutan and Nepal) China can provide loans larger and faster than India.

Ordinative conflicts occur where India's emphasis on ethical leadership clashes with the neighbors' economic pragmatism, or where China is non-normative in its engagement with environmental issues. India's pragmatism in environmental cooperation focuses on sustainable development, ethical management, and co-operation with communities, whereas China seeks returns from its industrial operation and strategic influence over the need to protect the environment. That contrasts with projects like solar energy cooperation. Although India supports the International Solar Alliance for sustainable development, China continues to fund fossil fuel projects. India uses ecological concerns in hydropower projects in Nepal and Bhutan, while China is very fast building the infrastructure required for rapid modernization and deforestation. Many emerging countries in South Asia tend to prioritize growth over environmental concerns owing to poverty and developmental needs, which sometimes conflict with India's focus on ethical sustainable environmental governance. For these reasons, some countries prefer China to India's economic pragmatic approach [6, 8].

Politics and economics and the traditional normative dimensions of leadership in promoting ethical environmental cooperation in South Asia, India faces several challenges in terms of political instability and economic competition against China. Additionally, China's non-conditional funding helps China to gain a competitive advantage in relation to efforts undertaken by India on an ethical basis in relation to environmental policies. Furthermore, the competitiveness of China's non-conditional funds compared with India's policy decisions to use sustainable and ethical delivery systems is an important concern that makes the role of the Indian leader in this area considerably complicated. To help overcome these factors, India should augment its financial and technical assistance to its South Asian neighbors in terms of sustainability in relation to ecological integrity, capitalize on multilateral forums, such as SAARC and BIMSTEC, bring forward projects that are more efficient than that of China but without losing sustainability, and enhance diplomatic engagement at a sub-national level in order to counterbalance China's influence with respect to ethical governance [12].

CONCLUSIONS

India is a multifaceted actor in ethical environmental cooperation in South Asia. The economic and geopolitical challenges of South Asia are incalculable, and a response to them must be coordinated with a growing region, including at first sight the global threat of deforestation, pollution, climate change, and water scarcity, among other problems. In this regard, India's leadership has sought to remedy these issues through bilateral agreements, SAARC (in Particular), BIMSTEC, and dialogues on renewable energy. However, India's efforts at such cooperation have been undermined by political tensions, structural impediments, clashes between ethical governance and economic pragmatism, both of which contribute to the impending Chinese power and its non-normative environmental policies.

An increase in the number and number of SAARC Environmental Agreements is a basic steppingstone towards improved regional climate action. A more comprehensive and committed approach will help drive more effective policies and policies. Implementation of a South Asian Climate Fund to provide financial support to joint mitigation and adaptation programs would enhance sustainability and ensure that all countries in the region contribute to and benefit from such activities. In addition, encouraging cross-border research and technology sharing would boost sustainable development and encourage countries to adopt best practices in environmental governance. The regional framework in place will facilitate collaboration to address the common environmental threats faced by the South Asian nations.

One more important consideration is improving the linkages between renewable energy sources and local economies. India should ensure greater close cooperation with the renewable energy sector in developing solar and hydro power projects in Nepal, Bhutan and Bangladesh. Leveraging already existing initiatives run under the International Solar Alliance (ISA) can provide a platform for consolidating and aligning renewable energy solutions for the entire South Asian region. A regional green energy grid will help facilitate clean energy trade among neighboring countries which can benefit the region in reducing dependence on fossil fuels and pave the way to a sustainable energy transition. Partnerships in promoting and supporting renewable energy sources will not only prevent climate change but will also contribute to energy security and economic growth in the region.

Enhancing legal enforcement mechanisms for environmental treaties is vital for ensuring fecund implementation. Strengthening the enforcement of existing agreements, such as the Indus and Ganges Water Treaties, can help resolve conflicts and protect unilateral exploitation of shared water resources. Establishing a South Asian Environmental Tribunal could provide a legal platform for addressing cross-border environmental conflicts and ensuring accountability among nations. Encouraging legally binding commitments for transboundary pollution control would further reinforce environmental responsibility across the region. Stronger legal frameworks would help build trust among South Asian nations and elevate a more structured approach to environmental governance.

Ethical diplomacy is the fundamental guiding principle of India's environmental agenda. India must foster sustainability, create legal frameworks that promote sustainability and bring about regional cooperation for setting up a more effective and just environmental strategy in South Asia. We need ethics in governance, in combination with a commitment to collective action to address the region's most pressing issues in the environmental arena. Only through partnership can South Asia reach an ecologically and economically sustainable future, with a sustainable future for its people and natural resources.

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