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Revisiting UNEP through theoretical lenses: Insights into global environmental governance in the 21st Century

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Abstract

This paper revisits the role of the United Nations Environment Programme (UNEP) in global environmental governance (GEG) from 2000 to 2020 through multiple theoretical lenses, including Realism, Liberal Institutionalism, Regime Theory, Constructivism, and Polycentric Governance. It examines UNEP's institutional strengths, such as its agenda-setting capabilities and norm diffusion, while also addressing its structural weaknesses, including funding dependence and lack of enforcement power. By applying these theoretical frameworks, the paper provides insights into UNEP's contributions to GEG and its evolving role in addressing contemporary environmental challenges. The analysis underscores the importance of understanding UNEP's position within the broader context of global governance and highlights the need for a theoretical reassessment of its effectiveness in the Anthropocene.

Keywords: Anthropocene, UNEP, global environmental governance, theoretical lenses, institutional strengths, structural weaknesses

1. Introduction

The 21st century has witnessed unprecedented environmental crises, including climate change, biodiversity collapse, plastic pollution, and deforestation. These challenges are interconnected and require collective action, as no single state can effectively address them alone. This reality underscores the necessity for robust global governance mechanisms capable of tackling these multifaceted issues (Viola & Gonçalves, 2019) ^[39]. The United Nations Environment Programme (UNEP), established in 1972 after the Stockholm Conference, serves as the UN's environmental arm, tasked with setting the global environmental agenda, facilitating international cooperation, and promoting sustainable development.

The fragmentation of global environmental governance is a significant concern today. Various international agreements and organizations operate in silos, leading to overlapping mandates and inefficiencies that dilute the effectiveness of environmental policies (Roberts, 2008) ^[35]. As environmental issues become increasingly complex, there is a pressing need for an integrated governance approach that includes diverse actors, such as states, non-governmental organizations, and the private sector. This collaborative framework is essential for addressing environmental challenges that transcend national borders (Biermann, 2001) ^[18].

UNEP plays a crucial role in shaping the global environmental agenda and facilitating international cooperation. Its functions as a science-policy interface allow it to bridge the gap between scientific research and policy-making, ensuring that environmental decisions are informed by the best available science. Additionally, UNEP coordinates various multilateral environmental agreements (MEAs), providing a platform for countries to collaborate on shared environmental goals.

The ongoing debate about upgrading UNEP to a UN Environment Organization reflects a broader discussion about the need for stronger institutional frameworks in global environmental governance. Proponents argue that such an upgrade would enhance UNEP's authority and capacity to address pressing environmental issues more effectively.

Critics, however, caution that simply increasing UNEP's authority may not resolve the underlying challenges of fragmentation and lack of political will among member states (Ivanova, 2012) ^[22].

2. Methodology

This paper employs a qualitative research methodology to analyze the role of the United Nations Environment Programme (UNEP) in global environmental governance (GEG) from 2000 to 2020. The methodology begins with the selection of a theoretical framework that utilizes multiple lenses, including Realism, Liberal Institutionalism, Regime Theory, Constructivism, and Polycentric Governance. Each of these theories offers a unique perspective on UNEP's functions and contributions within the broader context of GEG.

A thorough literature review is conducted to gather existing research on UNEP's roles, contributions, and challenges in GEG. This review encompasses academic articles, books, and reports from reputable sources, as well as UNEP publications, including Global Environment Outlook (GEO) reports and other relevant documents. Additionally, the analysis includes significant multilateral environmental agreements (MEAs) and their relationship with UNEP, providing a comprehensive backdrop for understanding its impact.

The paper employs case studies of notable UNEP initiatives and contributions between 2000 and 2020, such as the Minamata Convention on Mercury, the Paris Agreement process, and the development of the Green Economy and Circular Economy frameworks. These case studies serve to illustrate UNEP's institutional strengths and weaknesses in practice. Qualitative data collected from the literature review and case studies are analyzed using thematic analysis, which involves identifying key themes related to UNEP's role, contributions, and challenges in GEG. This analysis examines how each theoretical lens provides insights into these themes and synthesizes findings to draw conclusions about UNEP's effectiveness and relevance in the Anthropocene.

The final stage of the methodology involves synthesizing the insights gained from the theoretical frameworks, literature review, and case studies to provide a nuanced understanding of UNEP's position in global environmental governance. This synthesis interprets the findings to highlight the implications for future reforms. The methodology also acknowledges potential limitations, including the reliance on secondary sources, which may introduce bias or gaps in information, and the focus on UNEP's role, which may overlook the contributions of other actors in GEG. By employing this comprehensive methodology, the paper aims to contribute to the ongoing discourse on environmental policy and institutional effectiveness.

3. Theoretical Perspectives

To understand UNEP's role in global environmental governance, it is essential to revisit its functions through various theoretical lenses. Classical international relations (IR) theories, such as realism and liberalism, provide foundational insights into state behaviour and cooperation. Realism emphasizes state interests and power dynamics, viewing international organizations like UNEP as tools for states to pursue their interests (Bernstein, 2020) ^[17]. In

contrast, liberalism highlights the importance of cooperation and institutions in facilitating collective action for environmental governance (Pathak & Tariq, 2018) ^[33].

Contemporary approaches, such as regime theory, constructivism, and polycentric governance, offer additional perspectives on UNEP's role. Regime theory focuses on the importance of international regimes in shaping state behaviour, while constructivism emphasizes social constructs and norms that influence international environmental governance. Polycentric governance advocates for a decentralized approach that includes diverse stakeholders, recognizing the complexity of environmental challenges (Ostrom, 2008) ^[32].

The evolution of global environmental governance (GEG) has witnessed a significant intellectual progression from state-centric models to multi-actor perspectives. This shift reflects the increasing complexity of environmental issues, which require collaboration among various stakeholders, including states, non-governmental organizations, and the private sector. Understanding this transition is crucial for analysing the role of the United Nations Environment Programme (UNEP) in addressing contemporary environmental challenges.

3.1 Realism-Power Politics and Sovereignty

At the core of realism is the notion that states are the primary actors in international relations, with power and security considerations shaping their interactions. Realist theory posits that states operate in an anarchic international system where their primary concern is survival, leading to competition and conflict over resources. This perspective is particularly relevant when examining UNEP's role in global environmental governance.

UNEP, established to promote international cooperation on environmental issues, operates within a framework that reflects the realities of power politics. One of the critical limitations of UNEP is its lack of coercive power; it cannot enforce compliance with environmental agreements or compel states to adhere to its recommendations. Instead, UNEP relies heavily on voluntary commitments from member states, which can lead to inconsistent implementation of environmental policies (Ivanova, 2010) ^[21]. This reliance on voluntary compliance is a significant constraint, as it often results in a lack of accountability and enforcement mechanisms, undermining UNEP's effectiveness in addressing urgent environmental challenges.

Moreover, the funding structure of UNEP further illustrates the influence of power dynamics in global environmental governance. Donor states, particularly those in the Global North, control the financial resources allocated to UNEP, which in turn shapes the organization's priorities and initiatives. This North-South divide is particularly evident in discussions surrounding climate finance and technology transfer, where developing countries often find themselves at a disadvantage (Roberts, 2008) ^[35]. The disparity in funding and resources can lead to a situation where the interests of powerful states overshadow the needs of less developed nations, creating existing inequalities in global environmental governance.

The realist perspective also sheds light on the political deadlocks that often characterize international environmental negotiations. The competing interests of states, driven by their pursuit of national security and

economic growth, can lead to stalemates in negotiations, hindering progress on critical issues such as climate change and biodiversity loss (Biermann, 2001) ^[18]. For instance, the failure to reach a binding agreement at the Copenhagen Climate Conference in 2009 exemplifies how power politics can obstruct meaningful cooperation on global environmental challenges.

Furthermore, realism helps explain UNEP's budget constraints and the challenges it faces in mobilizing resources for environmental initiatives. The organization's dependence on voluntary contributions from member states means that its financial stability is often precarious, leading to limitations in its capacity to implement programs and respond to emerging environmental crises (Mee, 2005) ^[27]. This financial vulnerability is compounded by the political considerations of donor states, which may prioritize their national interests over global environmental concerns.

In summary, the realism highlights UNEP's operational challenges, including limited budgets, political deadlocks, and weak enforcement capacity, as outcomes of state-centric power politics. This perspective underscores the need for more collaborative and inclusive governance that engages multiple actors to address interconnected global environmental challenges.

3.2 Liberal Institutionalism-Cooperation through Institutions

Liberal institutionalism posits that international institutions play a crucial role in facilitating cooperation among states by reducing transaction costs and providing essential information. This theoretical framework emphasizes that, despite the anarchic nature of the international system, states can achieve mutual benefits through collaboration and the establishment of formal institutions. (Pathak & Tariq, 2018) ^[33]. The United Nations Environment Programme (UNEP) exemplifies this approach, as it serves as a platform for multilateral negotiations, scientific collaboration, and consensus-building among nations.

One of the primary functions of UNEP is to facilitate multilateral negotiations on critical environmental issues. A notable example is the Minamata Convention on Mercury (2013) ^[7], which aims to protect human health and the environment from the adverse effects of mercury exposure. UNEP played a pivotal role in bringing together various stakeholders, including governments, non-governmental organizations, and industry representatives, to negotiate this legally binding treaty (UNEP, 2013) ^[7]. By providing a structured forum for dialogue, UNEP reduces the transaction costs associated with negotiations, enabling states to focus on reaching agreements rather than navigating the complexities of international diplomacy alone.

In addition to facilitating negotiations, UNEP provides vital scientific knowledge that informs policy decisions. The Global Environment Outlook (GEO) reports (2019), produced by UNEP, synthesize scientific data and trends related to environmental issues, offering policymakers a comprehensive understanding of the state of the environment (UNEP, 2019) ^[3]. Furthermore, UNEP collaborates with the Intergovernmental Panel on Climate Change (IPCC) to produce assessments that guide international climate policy. This collaboration exemplifies how UNEP acts as a conduit for scientific information, helping states make informed decisions based on the best

available evidence. By reducing uncertainty and enhancing the quality of information, UNEP fosters an environment conducive to cooperation.

Trust and consensus-building are also critical components of UNEP's role in global environmental governance. The Paris Agreement, adopted in 2015, is a prime example of how UNEP has facilitated cooperation among states despite the challenges posed by an anarchic international system. The agreement represents a collective commitment to limit global warming to well below 2 degrees Celsius, with states voluntarily submitting their nationally determined contributions (NDCs) to achieve this goal (UNFCCC, 2015) ^[4]. UNEP's involvement in the negotiation process helped build trust among states, as it provided a neutral platform for dialogue and facilitated the sharing of best practices and experiences. This trust is essential for fostering cooperation, as states are more likely to engage in collaborative efforts when they believe that their interests will be respected and that other parties will adhere to their commitments.

Moreover, UNEP's alignment with the Sustainable Development Goals (SDGs) further underscores its role in promoting cooperation among states. The SDGs, adopted in 2015, provide a comprehensive framework for addressing global challenges, including poverty, inequality, and environmental degradation. UNEP's initiatives, such as the 10-Year Framework of Programmes on Sustainable Consumption and Production, align with the SDGs and encourage states to work together towards common objectives (UNEP, 2018) ^[2]. By framing environmental issues within the broader context of sustainable development, UNEP enhances the relevance of its work and encourages states to cooperate in pursuit of shared goals.

In summary, liberal institutionalism views UNEP as a key facilitator of multilateral cooperation. By enabling negotiations, sharing scientific knowledge, and fostering trust, UNEP helps states collaborate despite the limits of an anarchic international system. Its continued role in promoting collective action underscores the importance of international institutions for addressing complex and urgent environmental challenges.

3.3 Regime Theory-UNEP as Part of an Environmental Regime Complex

Regime theory provides a valuable framework for understanding how global issues are governed through a complex web of regimes defined as sets of principles, norms, rules, and decision-making procedures that guide the behaviour of states and other actors in specific issue areas (Atkins, 2019) ^[16]. In the context of environmental governance, the United Nations Environment Programme (UNEP) plays a pivotal role as a central hub within an intricate environmental regime complex, connecting various multilateral environmental agreements (MEAs) and facilitating cooperation among diverse stakeholders.

UNEP's role as a connector of multiple MEAs is crucial for addressing the multifaceted nature of global environmental challenges. The organization coordinates several key agreements, including the Convention on Biological Diversity (CBD, 1992), the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES, 1973), the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (1989), the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous

Chemicals and Pesticides in International Trade (1998), and the Stockholm Convention on Persistent Organic Pollutants (2001), (UNEP, 2021) ^[11]. By acting as a hub for these agreements, UNEP facilitates dialogue and collaboration among states, ensuring that efforts to address environmental issues are not conducted in isolation but rather as part of a cohesive strategy.

One of UNEP's primary functions is to provide technical expertise and coordination to reduce fragmentation within the environmental governance landscape. The proliferation of MEAs has led to a complex and sometimes overlapping regulatory framework, which can create confusion and inefficiencies in implementation (Szyliowicz, 2012) ^[38]. UNEP addresses this challenge by offering guidance and support to countries in their efforts to comply with various agreements, thereby enhancing the coherence and effectiveness of global environmental governance. For instance, UNEP's Global Environment Outlook (GEO) reports synthesize scientific knowledge and provide policymakers with critical information to inform decision-making across multiple environmental issues (UNEP, 2019) ^[3]. This technical expertise is essential for fostering a shared understanding of environmental challenges and promoting coordinated responses. Moreover, UNEP's agenda-setting and convening power are significant assets in the realm of international environmental governance. By bringing together diverse stakeholders, including governments, civil society, and the private sector, UNEP creates opportunities for dialogue and collaboration that can lead to innovative solutions to pressing environmental issues. The organization's ability to convene high-level meetings and conferences, such as the United Nations Environment Assembly (UNEA), underscores its role as a platform for global environmental governance (UNEP, 2021) ^[11]. These gatherings not only facilitate the exchange of ideas and best practices but also help to build consensus around key environmental priorities, thereby enhancing the legitimacy and effectiveness of international environmental efforts.

However, it is essential to recognize that UNEP is just one actor among many in a complex system of global environmental governance. While UNEP's role as a hub and coordinator is vital, the effectiveness of its efforts is often contingent upon the willingness of states and other actors to collaborate and adhere to the principles and norms established by various regimes. The existence of competing interests and power dynamics among states can complicate UNEP's efforts to promote cooperation and coherence in environmental governance (Milner & Voeten, 2024) ^[29]. As such, while UNEP possesses significant agenda-setting and convening power, its influence is ultimately shaped by the broader context of international relations and the interplay of various actors within the environmental regime complex. Thus, regime theory explains UNEP's role as a coordinator of multiple MEAs, providing technical expertise and promoting policy coherence. Its ability to set agendas and bring stakeholders together strengthens international cooperation, though competing interests and power dynamics continue to shape outcomes. Understanding UNEP within this regime complex is key to addressing today's global environmental challenges.

3.4 Constructivism-norm entrepreneurship and knowledge diplomacy

Constructivism offers a compelling lens through which to

analyse international relations, emphasizing that international politics is shaped not only by material power but also by ideas, identities, and norms (Ostrom, 2008) ^[32]. This theoretical framework is particularly relevant in understanding the role of the United Nations Environment Programme (UNEP) as a norm entrepreneur and knowledge broker in global environmental governance. By framing the discourse on sustainable development, the green economy, and planetary boundaries, UNEP significantly influences states' environmental identities and policy preferences.

One of UNEP's primary contributions is its ability to shape the global discourse surrounding sustainable development. The organization has been instrumental in promoting the concept of a green economy, which emphasizes the need for economic growth that is environmentally sustainable and socially inclusive (Zaccagnini, 2023) ^[41]. By advocating for this paradigm, UNEP encourages states to rethink their development strategies and align them with environmental sustainability. This shift in discourse is crucial, as it helps to redefine what constitutes progress and success in the context of global development, moving beyond traditional economic indicators to include environmental and social dimensions.

Moreover, UNEP plays a vital role in framing the concept of planetary boundaries, which delineates the safe operating space for humanity concerning the Earth's biophysical systems (Rockström *et al.*, 2009) ^[36]. By promoting this framework, UNEP not only raises awareness about the limits of natural resources but also encourages states to adopt policies that respect these boundaries. This norm-setting function is essential for fostering a collective understanding of environmental challenges and the need for cooperative action. As states begin to internalize these norms, they are more likely to align their policies with the principles of sustainability and environmental stewardship.

UNEP's influence extends beyond framing discourse; it actively shapes states' environmental identities and policy preferences. Through initiatives such as the Global Environment Outlook (GEO) reports, UNEP provides critical scientific knowledge that informs policy decisions and helps states understand their environmental responsibilities (UNEP, 2019) ^[3]. This knowledge diplomacy is crucial for building a shared understanding of environmental issues and fostering a sense of collective responsibility among states. By equipping policymakers with the necessary information, UNEP empowers them to make informed decisions that reflect their commitment to sustainability.

Furthermore, UNEP promotes the principles of environmental justice and intergenerational equity, which are increasingly recognized as essential components of sustainable development. By advocating for these principles, UNEP encourages states to consider the rights and needs of marginalized communities and future generations in their environmental policies (Okereke & Ehresman, 2015) ^[31]. This focus on justice and equity not only enhances the legitimacy of UNEP's initiatives but also fosters a more inclusive approach to environmental governance. As states adopt these principles, they are more likely to engage in cooperative efforts that address the root causes of environmental degradation and promote social equity.

The insights provided by constructivism highlight UNEP's soft power as a global norm-setter and knowledge broker. Unlike traditional forms of power that rely on coercion or

material resources, UNEP's influence stems from its ability to shape ideas and norms that resonate with states and other stakeholders. This soft power is particularly important in the context of global environmental governance, where cooperation and collaboration are essential for addressing complex and interconnected challenges.

Constructivism views UNEP as a norm entrepreneur and knowledge broker that shapes global discourse on sustainability, environmental justice, and intergenerational equity. Through its soft power, UNEP influences state behaviour and fosters cooperation, helping advance a more sustainable and equitable global order. Its role in framing ideas and spreading norms remains vital as the world faces growing environmental challenges.

3.5 Polycentric Governance-Multi-Level, Multi-Actor Perspective

Polycentric governance represents a paradigm shift in how environmental governance is conceptualized and implemented. This approach emphasizes decentralization, where multiple centres of authority collaborate to address complex environmental challenges (Ostrom, 2008) ^[32]. In the context of the UNEP, polycentric governance is increasingly relevant as it reflects the organization's evolving role in facilitating partnerships among diverse actors, including cities, corporations, NGOs, and youth networks.

One of the key features of polycentric governance is its recognition of the importance of local and non-state actors in environmental decision-making. UNEP has embraced this perspective by actively engaging with various stakeholders beyond traditional intergovernmental negotiations. For instance, initiatives like the Faith for Earth program exemplify UNEP's commitment to involving religious organizations in environmental advocacy and action. This initiative recognizes the significant influence that faith-based groups can have on environmental stewardship and mobilizes their resources and networks to promote sustainable practices (Yü, 2023) ^[40]. By fostering collaboration with these diverse actors, UNEP enhances the effectiveness of its environmental governance efforts and broadens the scope of participation in addressing global challenges.

Similarly, UNEP's Finance Initiative illustrates the organization's recognition of the critical role that the private sector plays in achieving sustainable development goals. This initiative engages financial institutions to integrate environmental considerations into their investment decisions, thereby promoting responsible finance practices (Dooley, 2006) ^[20]. By facilitating partnerships between public and private sectors, UNEP helps to create a more inclusive governance framework that leverages the strengths of various actors. This multi-actor approach not only enhances the capacity for environmental governance but also encourages innovative solutions to pressing environmental issues.

Moreover, UNEP's collaboration with youth networks highlights the importance of engaging younger generations in environmental governance. Initiatives aimed at empowering youth to take action on climate change and sustainability reflect UNEP's understanding of the need for intergenerational equity and the inclusion of diverse perspectives in decision-making processes (Pontoriero, 2022) ^[34]. By involving youth in environmental governance,

UNEP not only fosters a sense of ownership and responsibility among the younger population but also taps into their creativity and energy to drive change.

The polycentric governance framework also allows UNEP to facilitate partnerships that transcend geographical and institutional boundaries. For example, the organization has been instrumental in promoting transnational municipal networks, which enable cities to collaborate on environmental issues such as climate change and urban sustainability (Kern *et al.*, 2024) ^[23]. These networks exemplify how local governments can work together to share best practices, resources, and knowledge, thereby enhancing their collective capacity to address environmental challenges. UNEP's role as a facilitator in these partnerships underscores its commitment to fostering collaboration among diverse actors at multiple levels.

Furthermore, the polycentric governance approach aligns with the recognition that environmental issues are inherently complex and interconnected. By engaging multiple actors across different scales, UNEP can address the multifaceted nature of environmental challenges more effectively. This approach allows for adaptive governance, where responses can be tailored to specific contexts and needs, thereby enhancing resilience and sustainability (Morrison *et al.*, 2019) ^[30]. The flexibility inherent in polycentric governance enables UNEP to respond to emerging environmental issues and adapt its strategies accordingly.

Polycentric governance reflects the multi-actor reality of 21st-century environmental governance and highlights UNEP's role as a facilitator of collaboration. By engaging cities, corporations, NGOs, and youth networks, UNEP promotes inclusive, innovative, and decentralized solutions to global challenges. This approach strengthens collective action and supports progress toward the Sustainable Development Goals.

4. UNEP's Key Contributions (2000-2020)

UNEP has played a pivotal role in shaping global environmental governance over the past two decades. Its contributions span various domains, including the science-policy interface, global norm creation, institutional power, capacity-building, and innovative finance. Some of the important UNEP initiatives and policy measures are discussed below.

4.1 Science-Policy Interface

One of UNEP's most significant contributions is its establishment of a robust science-policy interface, exemplified by the flagship *Global Environment Outlook* (GEO-6, 2019) and the annual *Emissions Gap Reports*. The GEO-6 report synthesizes scientific knowledge on environmental trends and challenges, providing policymakers with critical insights to inform climate negotiations and sustainable development strategies (UNEP, 2019) ^[3]. The *Emissions Gap Reports* assess the gap between current greenhouse gas emissions and the levels required to limit global warming to 1.5 degrees Celsius, thereby influencing the direction of international climate negotiations (UNEP, 2020) ^[10]. These reports serve as essential tools for governments and stakeholders, highlighting the urgency of climate action and the need for enhanced commitments.

In addition to these reports, UNEP has developed early warning systems and open-access data platforms, such

as UNEP Live and the World Environment Situation Room (WESR). These platforms facilitate real-time monitoring of environmental indicators, enabling countries and organizations to make informed decisions based on up-to-date information (UNEP, 2020) ^[10]. By providing accessible data, UNEP enhances transparency and accountability in environmental governance, fostering a more informed global community.

4.2 Global Norm Creation & Agenda-Setting

UNEP has also demonstrated leadership in global norm creation and agenda-setting. The adoption of the Minamata Convention on Mercury in 2013 marked a significant milestone in international environmental law, addressing the health and environmental impacts of mercury pollution (UNEP, 2013) ^[7]. UNEP's support for the Paris Agreement in 2015 and the Kigali Amendment to the Montreal Protocol in 2016 further exemplifies its role in shaping global climate policy. These agreements reflect a collective commitment to combat climate change and protect the ozone layer, showcasing UNEP's ability to drive international cooperation on pressing environmental issues. Moreover, UNEP has been instrumental in promoting the transition towards a Green Economy and Circular Economy frameworks. By advocating for sustainable economic practices, UNEP influences the implementation of the Sustainable Development Goals (SDGs) and encourages countries to adopt policies that prioritize environmental sustainability (UNEP, 2011) ^[6]. The initiation of negotiations for a global treaty on plastic pollution represents another defining challenge of the 21st century, with UNEP at the forefront of efforts to address this critical issue (UNEP, 2021) ^[11].

4.3 Institutional & Convening Power

UNEP's institutional and convening power is exemplified by the establishment of the UN Environment Assembly (UNEA), which serves as the world's highest-level environmental decision-making body. UNEA provides a platform for member states to discuss and adopt resolutions on pressing environmental issues, enhancing global cooperation and commitment to sustainable development (UNEP, 2014) ^[8]. Additionally, UNEP has enhanced coordination among Multilateral Environmental Agreement (MEA) Secretariats, addressing treaty fragmentation and promoting synergy among various environmental agreements (UNEP, 2019). This coordination is essential for creating a cohesive global response to environmental challenges.

4.4 Capacity-Building & Technical Assistance

UNEP has also focused on capacity-building and technical assistance, particularly for developing countries. The organization supports nations in preparing and implementing their Nationally Determined Contributions (NDCs) under the Paris Agreement, helping them to set ambitious climate targets and develop strategies for achieving them. The launch of the Partnership for Action on Green Economy (PAGE) further exemplifies UNEP's commitment to assisting countries in transitioning to low-carbon, inclusive economies. PAGE provides technical support and resources to help nations implement sustainable economic practices and achieve their development goals (UNEP, 2016) ^[9].

4.5 Innovative Finance & Private Sector Engagement

Finally, UNEP has made significant strides in innovative finance and private sector engagement. The creation of the UNEP Finance Initiative (UNEP FI) and the Principles for Responsible Banking and Insurance has mainstreamed sustainability in the financial sector, encouraging institutions to adopt environmentally responsible practices (UNEP FI, 2020). UNEP's promotion of green bonds and sustainable investment flows has facilitated the mobilization of financial resources for environmental solutions, demonstrating the critical link between finance and sustainability (UNEP, 2019) ^[3].

UNEP's contributions from 2000-2020 have significantly shaped global environmental governance. By strengthening the science-policy interface, setting global norms, building capacity, and promoting innovative finance, it has become a central actor in addressing 21st century environmental challenges. Its continued role will be crucial for advancing international cooperation and sustainable development.

5. Key Challenges

The UNEP has played a pivotal role in advancing global environmental governance; however, its effectiveness is constrained by several persistent challenges. A major concern is the fragmentation of international governance structures. The proliferation of Multilateral Environmental Agreements (MEAs) with overlapping mandates has created a complex and often incoherent policy landscape, complicating implementation, particularly for developing countries, and diluting the overall impact of collective action on issues such as climate change and biodiversity loss (Buenker, 2001) ^[19].

Equally significant is UNEP's reliance on voluntary contributions from member states and private donors, which results in an unpredictable budget and hampers long-term planning and program delivery (Sikiru *et al.*, 2025) ^[37]. The persistent North-South divide further complicates negotiations, as developing countries maintain that they should not bear equal responsibility with developed nations that have historically contributed more to environmental degradation (Mihret & Info, 2025) ^[28].

Moreover, UNEP's capacity to ensure compliance remains limited, as many of its frameworks lack binding enforcement mechanisms, allowing states to evade their commitments with minimal consequence (Aminu *et al.*, 2025) ^[15]. Emerging challenges, including the need for advanced digital pollution monitoring (Zhu, 2023) ^[43], negotiations on a global plastic treaty (Ambrose, 2024) ^[14], and the governance of planetary boundaries (Kim & Kotzé, 2020) ^[24], further demand that UNEP enhance its adaptive and coordinating capabilities.

In sum, UNEP's ability to fulfil its mandate depends on overcoming fragmentation, securing predictable financing, bridging geopolitical divides, strengthening compliance mechanisms, and responding proactively to emerging global challenges.

6. Conclusion

The United Nations Environment Programme (UNEP) remains a cornerstone of global environmental governance, yet its effectiveness continues to be shaped by power dynamics, resource constraints, and the evolving complexity of environmental challenges. Viewed through realism, UNEP's dependence on voluntary funding and the influence

of powerful states highlight the enduring role of geopolitics in shaping its agenda and capacity (Sikiru *et al.*, 2025; Mihret & Info, 2025) ^[37, 28]. Liberalism and regime theory, however, emphasize UNEP's success as a convener of multilateral cooperation, demonstrated through initiatives like the UN Environment Assembly and partnerships with diverse stakeholders (UNEP, 2014) ^[8].

Constructivist insights reveal UNEP's norm-shaping function, particularly in advancing concepts such as the Green and Circular Economy, which have reframed global environmental discourse (UNEP, 2011) ^[6]. Finally, the lens of polycentric governance positions UNEP as a coordinating node within a broader network of actors, enabling more inclusive and flexible responses to planetary crises (Kern *et al.*, 2024) ^[23]. Together, these perspectives suggest that strengthening UNEP's authority, ensuring predictable financing, and enhancing its collaboration with state and non-state actors will be essential for addressing 21st-century environmental challenges.

In conclusion, UNEP remains a central but constrained actor in global environmental governance. Theoretical frameworks provide valuable insights into its multifaceted role, revealing the interplay of power, cooperation, norm-setting, and networked governance. Understanding these dynamics is essential for enhancing UNEP's effectiveness and ensuring a coordinated global response to pressing environmental issues.

7. Policy Recommendations

To enhance the effectiveness of the United Nations Environment Programme (UNEP) in global environmental governance, several key recommendations can be made.

7.1 Institutional Strengthening

First, there is a compelling case for upgrading UNEP to a UN Environment Organization. This transformation would elevate UNEP's status within the UN system, providing it with the authority and resources necessary to address complex environmental challenges more effectively (Mahmoudi, 2021) ^[26]. A specialized agency could enhance UNEP's capacity to coordinate international environmental efforts and ensure a more robust response to global crises.

7.2 Stable Financing

Second, establishing a stable financing mechanism is crucial. Introducing assessed contributions from member states, alongside innovative financing options such as green bonds and partnerships with the private sector, would provide UNEP with a more predictable budget (Ivanova, 2012) ^[22]. This financial stability is essential for implementing long-term projects and initiatives that require sustained investment.

7.3 Better Coordination

Third, improving coordination among Multilateral Environmental Agreements (MEAs) is vital. Streamlining MEA mandates to avoid duplication and enhance synergies can lead to more coherent and effective environmental governance (Biermann, 2001) ^[18]. This approach would facilitate a unified response to global environmental issues, reducing the fragmentation that currently hampers progress.

8.4 Inclusive Governance

Fourth, ensuring that the voices of the Global South,

indigenous peoples, youth, and women are meaningfully represented in decision-making processes is essential for equitable governance. Inclusive governance structures can foster diverse perspectives and enhance the legitimacy of environmental policies (Adom *et al.*, 2025).

8.5 Enhanced Science-Policy Interface

Finally, UNEP should leverage digital tools, big data, and artificial intelligence to enhance the science-policy interface. By integrating advanced technologies into its operations, UNEP can improve data collection, analysis, and dissemination, leading to more informed decision-making and effective policy implementation (Kissling, 2025).

In conclusion, these recommendations aim to strengthen UNEP's role in global environmental governance, ensuring it can effectively address the pressing challenges of the 21st century. It is a popular saying that it takes a village to raise a child reflecting child upbringing goes through the positively surrounded environment at the same time the goals and objectives of the UNEP can be significantly accomplished through multiple efforts of the various stakeholders in the global environmental governance landscape.

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