

Transformative Constitutionalism in the Age of Climate Change: Reimagining Constitutional Governance for Environmental Justice

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Abstract:

Climate change has emerged as a major constitutional challenge, requiring legal systems to evolve beyond traditional governance models to address environmental degradation, ecological sustainability, and climate justice. Transformative constitutionalism has gained prominence as a framework for integrating constitutional governance with environmental protection and democratic accountability. This narrative review examines the evolution of transformative constitutionalism in the context of climate change and explores how constitutional governance can promote environmental justice through rights-based, participatory, and ecologically responsive approaches. A narrative review methodology was employed to synthesize contemporary literature on transformative constitutionalism, environmental constitutionalism, climate governance, judicial constitutionalism, comparative constitutional experiences, and emerging constitutional paradigms. Relevant peer-reviewed books, journal articles, and scholarly publications were critically analyzed to identify major conceptual developments, challenges, and future directions. The review demonstrates that constitutional governance has increasingly incorporated environmental rights, intergenerational equity, participatory governance, and climate justice into constitutional interpretation and policymaking. Judicial constitutionalism and climate litigation have strengthened governmental accountability, while comparative constitutional experiences reveal growing recognition of eco-constitutionalism, rights of nature, planetary constitutionalism, and transnational environmental governance. However, institutional limitations, enforcement gaps, political resistance, and governance constraints continue to impede effective constitutional responses to climate change. Transformative constitutionalism provides a robust normative and institutional framework for reimagining constitutional governance in the Anthropocene. Strengthening environmental rights, institutional accountability, ecologically informed constitutional design, and international constitutional cooperation will be essential for advancing environmental justice and long-term climate resilience.

Keywords: Transformative constitutionalism, Environmental constitutionalism, Climate change, Environmental justice, Climate governance, Constitutional governance

INTRODUCTION

Climate change is shifting from being an issue of environmental concern into a major issue in the constitutional framework of the twenty-first century. Warming of the planet, the loss of species, extreme weather conditions, and ecological degradation pose a significant threat to the realization of basic constitutional rights such as the right to life, health, equality, dignity, and a healthy environment. This shift has led to a new role for constitutions beyond their traditional framework, where constitutions are required to focus on the sustainability of ecology and the wellbeing of society. Constitutions are now supposed to facilitate and guide governments in their response to climate-related issues, ensuring that government institutions are held accountable for environmental protection and sustainable development (Atapattu, 2019).

Environmental constitutionalism has made significant strides in the past few decades owing to the emergence of constitutional provisions related to environmental rights, ecological obligations, and sustainability. Constitutional approaches to environmental issues have shifted from considering the protection of the environment as something that is regulated by statutory laws alone to one in which the ecological integrity of the constitution emerges as a basic constitutional value affecting governmentality and decision-making. With such shifts, the field of environmental constitutionalism has seen greater judicial scrutiny, enhanced governmental accountability, and constitutionalization of environmental obligations in different jurisdictions. The constitutionalization of environmental protection recognizes the interrelationship between ecological sustainability and democracy, human rights, and the rule of law (Bookman, 2024).

In addition, environmental constitutionalism has transcended the boundaries of national constitutions through transnational legal dialogue and comparison, as well as judicial dialogue dealing with common environmental problems and hence global constitutional cooperation on climate change (Kotzé, 2020).

Transformative constitutionalism has come up as a vibrant constitutional theory which sees constitutions as tools for bringing about radical transformation in society and politics rather than mere conservations of existing legal order. With regard to climate change, transformative constitutionalism calls for constitutional adaptability which can respond to changing ecological conditions, power imbalances and deficiencies in governance. Contemporary literature shows that transformative constitutionalism will have to embrace a multi-species approach in order to incorporate the understanding that human societies exist in relation to ecosystems and non-humans (Nedelsky, 2025). However, constitutional discourses of today also emphasize resilience, institutional reforms and constitutional renewal as necessary means through which legal regimes can become responsive to environmental challenges and risks (Manik & Chand, 2025).

Constitutional governance is becoming an increasingly important tool for furthering environmental justice through promoting the idea of equity, participation, accountability, and fairness within climate governance policy. Environmental burdens and their consequences are unevenly distributed and adversely impact marginalized populations, indigenous peoples, women, and socioeconomically disadvantaged groups. As a result, constitutional governance tends to place emphasis on the development of inclusive governance systems, equitable access to environmental resources, and prevention of discrimination in the environment. Legal scholars have contended that environmental justice demands that constitutional institutions go beyond procedural aspects to ensure substantive protection for vulnerable communities through the use of innovative legal and policy tools (Clark & Goldblatt, 2024). In the same vein, relational approaches to constitutional law advocate the development of governance systems that acknowledge the interrelatedness of duties between people, communities, ecosystems, and future generations (Seck, 2019). The increased constitutional focus has been on intergenerational justice, as the constitution takes into account future generations in terms of the environmental interests of people at increasing risk of climate change (Scott & Malivel, 2021). Such an approach has also impacted climate cases and litigation as constitutional courts have made use of forward-looking analysis in their interpretation of environmental rights and duties of governments (Wewerinke-Singh, 2024). The judicial interpretation of constitutional environmental rights has therefore emerged as an effective tool through which the gap between constitution promises and actions can be bridged, as such rights provide tangible protection and not mere symbolic gestures (Murcott, 2023). In this narrative review, the dynamic interactions between transformative constitutionalism, constitutional governance, and environmental justice in the face of climate change are analyzed. It draws on modern literature on the topics of environmental constitutionalism, constitutional rights, governance mechanisms, jurisprudence, constitutionalism experience abroad, and new theories that attempt to enhance the capacity of constitutionalism to address ecological crises. The review also pinpoints some of the existing challenges, controversies, and prospects in the transformation of constitutional governance toward environmental justice in the age of the Anthropocene.

2. Conceptual Foundations of Transformative Environmental Constitutionalism

2.1 Meaning and Evolution of Transformative Constitutionalism

Transformative constitutionalism sees the constitution as a living document, which is able not only to secure the existing system of governance but also to serve as a tool for transformation of society, institutions, and law. In relation to climate change, such constitutionalism demands the development of constitutional norms corresponding to emerging environmental problems. Transformative constitutionalism implies the constitutional interpretation that will promote equality, democracy, and ecological sustainability and allow responding to novel threats of planetary scale (Çalı et al., 2025).

2.2 Environmental Constitutionalism: Principles and Development

The theory of environmental constitutionalism links environmental protection to the constitutional governance through the recognition of ecological sustainability as an important objective of constitutionalism. The evolution of the concept of environmental constitutionalism has made constitutional obligations extend from safeguarding human rights to conserving biodiversity and maintaining ecosystems. Modern views of environmental constitutionalism encourage the creation of constitutional models that take into consideration interconnections between human beings and other living organisms, thus enabling multispecies justice and climate change in the Anthropocene (Offor & Cardesa-Salzmänn, 2024).

2.3 Constitutionalism in the Anthropocene

Anthropocene has brought change to constitutional discourses by bringing forth the idea of humanity's impact on Earth's ecological systems and the weaknesses in traditional legal regimes. Constitutionalism in this era requires legal systems that are able to address the challenges posed by the complexities of global environmental problems through adaptive governance, cooperation among nations and environmental responsibility for the long term. The theory pushes

constitutional institutions to consider aspects such as climate resilience and sustainability, as well as global environmental duties in decision-making processes (Mai, 2024).

2.4 Climate Justice and Environmental Justice as Constitutional Values

Climate justice and environmental justice have developed as key constitutional principles that aim to provide equal protection against environmental harms while ensuring equal opportunities for environmental goods. This is because it highlights the necessity for constitutional governance to take into account the fact that there are disproportionate effects of climate on vulnerable populations. The concept of eco-constitutionalism helps achieve this objective as it combines ecological sustainability with constitutional rights and environmental responsibility (Chatterjee, 2025).

2.5 Constitutional Governance for Sustainable Futures

Constitutional governance for sustainable futures entails legal systems moving away from conventional regulatory measures and developing novel forms of constitutional reasoning that can respond to emerging environmental problems. Sustainable governance is increasingly relying on constitutionalism principles that foster adaptive interpretation, international collaboration in law, and an approach to climate change (Marique, 2023). Transnational climate law provides a new framework for reimagining constitutional reasoning so that there is more consistency between the constitutional rules at home and the international environmental commitments, hence improving the constitutional ability to foster sustainable development and environmental resilience (Marique, 2023). Figure 1 shows the framework in which transformative constitutionalism combines environmental constitutionalism, constitutional rights, democracy, intergenerational justice, and ecological sustainability to foster environmental and climate justice.

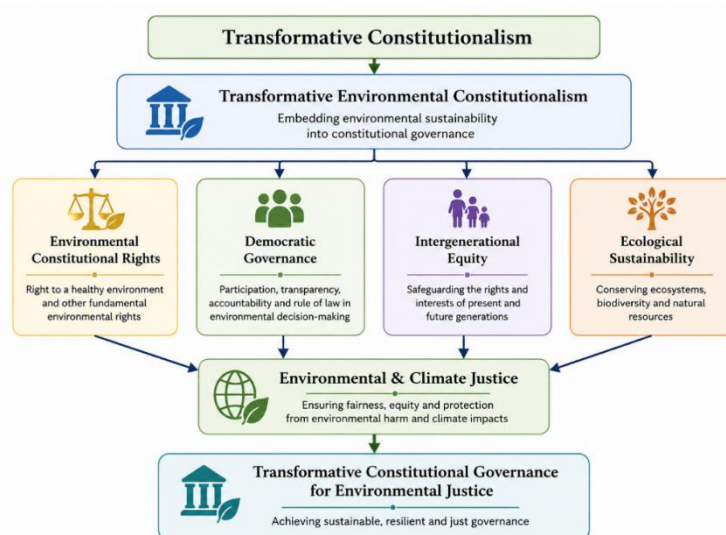


Figure 1. Conceptual Framework of Transformative Environmental Constitutionalism

This framework highlights how transformative constitutionalism integrates environmental sustainability into constitutional governance through environmental constitutional rights, democratic governance, intergenerational equity, and ecological sustainability. The combined constitutional principles lead to environmental and climate justice, which is ultimately the basis of transformative constitutional governance for environmental justice.

3. Constitutional Rights and Environmental Protection

3.1 The Constitutional Right to a Healthy Environment

The constitutional right to healthy environment has become the key to the modern system of environmental regulation as the ecological well-being has been considered as essential condition of the fulfillment of the most basic human rights. This guarantee in the constitution has negative and positive duties on states to ensure that there is no environmental degradation, to conserve natural resources and to put in place effective legal structures. It also enhances judicial control, as it allows the courts to review government activities against constitutional environmental promises, as well as strengthening the incorporation of international environmental principles into national constitutional frameworks (Kotze and Muzangaza, 2018).

3.2 Human Rights-Based Approaches to Climate Governance

Climate governance grounded on human rights puts constitutional rights at the forefront of the environmental policymaking process through embracing equality, participation, transparency, and accountability in mitigation and

adaptation to climate change. This strategy acknowledges that good climate governance must have institutions that are able to address the needs of the society without losing their societal legitimacy and democratic trust. The responsive constitutional governance thus fosters rights-driven decision-making that achieves a balance between environmental protection and social justice and institutional accountability in handling complex climate issues (Balarabe, 2025).

3.3 Intergenerational Equity and Future Generations

Intergenerational equity has emerged as an important constitutional principle whereby constitutional duty is not restricted to the current population but extends its scope to ensure the rights of future generations. Temporal constitutionalism entails the idea whereby legal institutions should moderate interactions between past constitutional obligations, present government duties, and future environmental sustainability. In this way, courts and law-makers can ensure that environmental sustainability and constitutional justice are maintained in all future generations (Jubaer, 2026).

3.4 Rights of Nature and Ecocentric Constitutionalism

The acknowledgment of rights of nature is indicative of an enormous departure from anthropocentric laws towards an ecocentric constitution where ecosystems and natural beings are seen as subjects entitled to constitutional protection. In this regard, constitutions have their obligations broadened through the aspect of ecological health, conservation of biodiversity, and sustainable harmony between human and nature. Ecological constitutions have the ability to inspire governments to focus on ecosystem sustainability and environment stewardship while changing constitutional relationships between societies, laws, and nature (Routledge et al., 2018).

3.5 Indigenous Knowledge, Community Rights, and Environmental Democracy

The knowledge systems of indigenous people and community participation are important elements of enhancing environmental democracy through inclusion, local knowledge, and legitimacy of environmental governance. More and more constitutions have been realizing the fact that climate governance requires active involvement of communities and use of deliberative processes and community ecology knowledge. Mechanisms of participation such as citizens' assemblies increase the legitimacy of the constitution through incorporation of diverse views into the environmental policy process leading to better climate responses that are fair and democratic (Duvic-Paoli, 2022). Table 1 shows the main rights and governance principles of environmental protection and climate constitutionalism.

Table 1. Core Constitutional Rights and Principles Supporting Environmental Protection

Constitutional Principle	Core Focus	Contribution to Climate Governance	Key Reference
Right to a Healthy Environment	Recognition of environmental protection as a fundamental constitutional right	Strengthens state obligations for environmental conservation and judicial protection	Kotzé & Muzangaza (2018)
Human Rights-Based Climate Governance	Integration of equality, participation, accountability, and transparency	Promotes rights-based climate policymaking and institutional legitimacy	Balarabe (2025)
Intergenerational Equity	Protection of future generations' environmental interests	Encourages long-term constitutional decision-making and climate responsibility	Jubaer (2026)
Rights of Nature and Ecocentrism	Recognition of ecosystems as constitutional subjects	Supports biodiversity conservation and ecosystem stewardship	Routledge et al. (2018)
Indigenous Knowledge and Environmental Democracy	Inclusive participation and community-based governance	Enhances equitable environmental decision-making and constitutional legitimacy	Duvic-Paoli (2022)

4. Climate Change and the Transformation of Constitutional Governance

4.1 Constitutional Adaptation to Climate Risks

The climate change demands constitutional frameworks to transcend traditional governance frameworks by incorporating resilience, precaution and adaptive capacity in legal institutions. Constitutional adaptation entails the creation of governance systems that can address the increasing environmental uncertainties and protect basic rights and ecological integrity. Another approach to this change is the idea of a global environmental constitution, which promotes constitutional principles that go beyond the national borders and help coordinate the efforts to address the common problem of the Anthropocene (Kotze, 2019).

4.2 Separation of Powers and Climate Governance

Climate governance has become increasingly complex over time in such a way that it has changed the separation of powers principle into one that needs coordination among the branches of government. Efficient constitutional governance calls for the exercise of powers by the branches and at the same time advancement of climate justice and protection of human rights. It allows the branches to participate in mitigating and adapting climate without compromising democratic legitimacy (Adelman, 2021).

4.3 Democratic Constitutionalism and Environmental Decision-Making

Democratic constitutionalism ensures environmental management that is open, participatory, and responsive to the interests of different social groups. The practice of constitutional governance appreciates that environmental justice should not only come from legal mechanisms but also involves ethics which are derived from the sense of community. The concept of Ubuntu constitutionalism has offered important normative insights into environmental governance by stressing connectedness, solidarity, and co-responsibility for the environment (Dube, 2023).

4.4 Participatory Governance and Citizens' Assemblies

It is important to note that participatory governance has been an integral part of transformative constitutionalism in providing people and local communities with the ability to participate in environmental policy-making. Participatory governance improves the legitimacy of the constitution while ensuring that the governance system embraces different ecological expertise and local realities in addressing climate change. It involves co-creation of environmental solutions which increases democratic accountability in ensuring equitable governance in addressing climate change (Potter et al., 2022).

4.5 Multi-Level and Transnational Constitutional Governance

Climate governance is now becoming a multilevel exercise within intertwined local, national, regional, and international constitutional orders. Multilevel governance promotes collaboration between different constitutional actors in recognition of the fact that climate change is beyond the confines of territoriality and necessitates a legal response to it. The situation of Small Island Developing States indicates how constitutional ideas of self-determination, reparative justice, and international solidarity could transform global climate governance by improving the constitutional protection of the most vulnerable communities suffering from climate change (Sou & Corbett, 2026). Figure 2 shows the move from climate change issues to resilient constitutional climate governance.

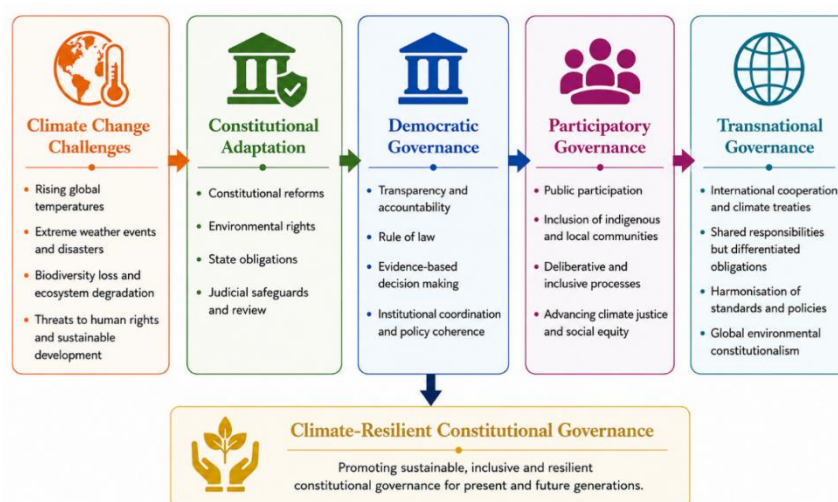


Figure 2. Climate Constitutional Governance Framework

Figure 2. Conceptual framework of the chronological development of climate change challenges towards climate resilient constitutional governance via constitutional adaptation, democratic governance, participatory governance, and transnational governance.

5. Judicial Constitutionalism and Climate Litigation

5.1 Rise of Climate Constitutional Litigation

Climate constitutional cases have escalated quickly since people, civil organizations, and communities affected by the government's inadequate actions on climate change have started using provisions in the constitution to contest the

government. This has resulted in constitutional courts becoming very important in examining the executive's actions, fulfilling environmental commitments, and increasing accountability in climate governance. The rising trend of using constitutional remedies has ensured that climate cases have transcended policy issues and have placed the judiciary among the most important institutions in constitutional responses to environmental crises (Dann et al., 2020).

5.2 Judicial Protection of Environmental Rights

The development of judicial protection of environmental rights has developed from protecting individual interests to ensuring sustainable environmental practices and just natural resources management. The courts have adopted an interpretation of constitutional environmental provisions in a way that harmonizes environmental protection with social justice, thus making sure that the state fulfills its constitutional obligations. This type of judicial intervention has improved sustainable governance through constitutional decisions involving environmental protection in different policies (Sowman & Sunde, 2024).

5.3 Landmark Constitutional Climate Judgments

The climate decisions made by the landmark constitutional courts have been transformative to constitutional law practice in terms of treating climate change as a constitutional duty. This has been achieved through the adoption of constitutional principles such as intergenerational equity, proportionality, and government accountability, demanding a greater response towards climate change. The Neubauer et al. v. Germany decision is an illustration of how constitutional law has evolved through the connection of climate policies and fundamental rights (Kotzé, 2021).

5.4 Judicial Activism and Constitutional Interpretation

Judicial activism has led constitutional courts to take dynamic approaches to interpreting environmental rights in light of quickly changing ecological problems. As opposed to focusing on only procedural aspects in constitutional review, courts have been considering other ecological interests that enhance environmental justice and sustainability. This has resulted in an expanded approach of constitutional interpretation that includes ideas like rights of nature, territorial responsibilities, and community-based environmental protection (Temper, 2019).

5.5 Courts as Drivers of Transformative Constitutional Change

Today, the increasing trend towards transformational constitutional change through constitutional courts involves influencing legal principles that affect governance, policy-making, and institutions more broadly than just in specific cases. The court's decisions serve as an encouragement for governments to formulate proactive environmental policies as well as to affirm constitutional commitment to sustainability and intergenerational responsibility. Such transformational constitutional judicial process results in constitutional regimes that will be better prepared to deal with environmental issues in the future by virtue of rights-based and resilient governance (Murtiningsih & Sujito, 2026). Figure 3 demonstrates how judicial constitutionalism affects environmental rights and leads to transformational constitutional change.

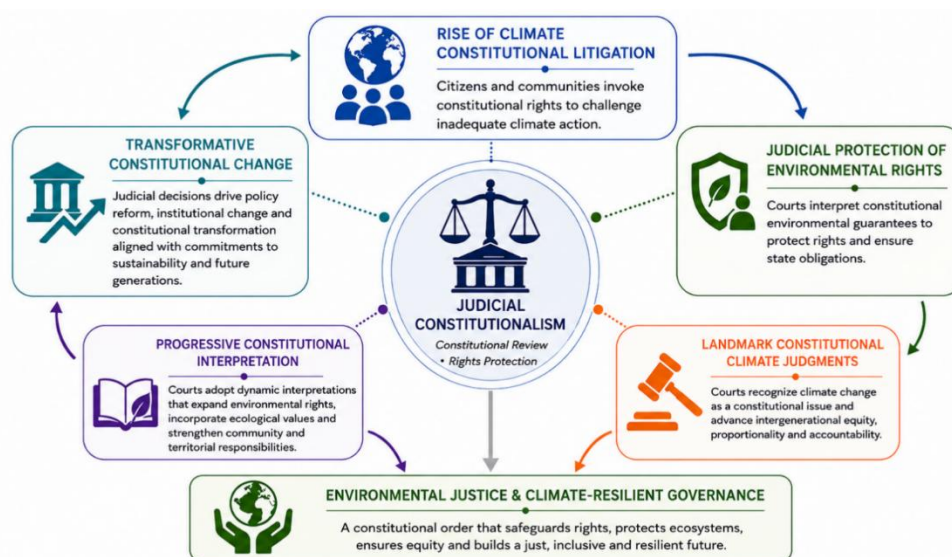


Figure 3. Judicial Constitutionalism and Climate Litigation Pathway

The framework shows how the practice of constitutional litigation helps in the judicial protection of the environment rights, affects landmark decisions on climate change and encourages constitutional interpretation. All these judicial practices together help in creating transformative constitutional change.

6. Comparative Constitutional Experiences

6.1 South Asia and Constitutional Environmentalism

South Asia has been graduating into constitutional environmentalism in governance through the realization of the need to make the climate resilient through reforms in the law as well as tailor-made approaches to climate resilience. Local constitutional action has been slowly changing an active environmental regulation into a transformative action that responds to climate uncertainty, resource vulnerability, and community resilience. Experiences of the marginal environments reveal that constitutional governance should always be open to ecological changes and enhance the institutional capacity to undertake sustainable development (Mehta et al., 2021).

6.2 South Africa and Transformative Environmental Justice

South Africa has become a prime model of transformative environmental constitutionalism due to its focus on environmental rights, social justice, and participatory governance. Climate governance is becoming more and more intrinsically tied to collaboration across administrative borders, and the successful implementation of constitutions hinges on coordinated institutional reactions. Local governments are important in the translation of constitutional environmental commitments into effective adaptation strategies even in face of major challenges that may be involved in the transboundary governance and integration of policies (Leck and Simon, 2018).

6.3 Latin America and the Rights of Nature

Constitutional developments in Latin America have had a major impact on environmental constitutionalism around the globe with new acknowledgment of ecological values and community-based environmental politics. Modern strategies tend to become more socio-environmentally just through the combination of ecological conservation and community engagement, fair distribution of resources and adaptation of the city. These experiences show that constitutional innovation is capable of enhancing environmental governance based on the understanding of the inter-relationships among ecosystems, communities, and long-term ecological sustainability (Radonic & Zuniga-Teran, 2023).

6.4 Europe and Climate Constitutional Jurisprudence

European constitutional jurisprudence will remain influential on international climate governance discourses as it promotes the idea of legal approaches that transcend the traditional notions of sustainable development. There is now more focus on the constitutional principles that are infused with ecological responsibility, relation management and moral coexistence between man and nature. Through the Ubuntu concept, environmental law has been transformed to think through the lens of constitutional thinking, which emphasizes the need to connect sustainability with justice, reciprocity, and collective responsibility (Kotze et al., 2023; Robin, 2018).

6.5 Small Island States and Climate Constitutionalism

SIDS are emerging as significant participants in constitutional climate discourses due to their greater vulnerability to climate-related hazards and environmental migration. Constitutional practice in SIDS is becoming increasingly characterized by equity, cooperation, and peaceful dispute settlement methods in regard to transnational environmental issues. Alternative methods of achieving environmental justice and dispute settlement contribute to good constitutional governance through reciprocity and fairness in dealing with climate-related disputes (Azam, 2026).

6.6 Emerging Constitutional Trends in the Global South

Environmental constitutionalism within the Global South tends to be characterized by an increased emphasis on transformative governance, judicial creativity, and local constitutional solutions to environmental problems. The case of Papua New Guinea is a perfect example of how transformative constitutional frameworks may enhance institutional responsiveness and constitutional activism when solving modern governance problems (Kama, 2024). While initially the concept was applied in the field of education, the idea of rethinking institutional frameworks reflects the necessity of adaptive constitutional thinking that may help address swiftly-changing socio-environmental conditions (Batra, 2020). Table 2 below contains a comparison of regional constitutional environmental governance frameworks and their constitutional focus, governance priorities, and contribution to transformative climate constitutionalism.

Table 2. Comparative Constitutional Approaches to Environmental Governance Across Regions

Region	Constitutional Focus	Governance Priority	Key Contribution	Reference
South Asia	Constitutional environmentalism	Climate adaptation and institutional resilience	Integrates context-specific governance with climate resilience	Mehta et al. (2021)

South Africa	Transformative environmental justice	Environmental rights and cooperative governance	Strengthens participatory governance and institutional coordination	Leck & Simon (2018)
Latin America	Rights of nature	Socio-environmental justice	Promotes ecosystem protection through community-centred governance	Radonic & Zuniga-Teran (2023)
Europe	Climate constitutional jurisprudence	Ecological responsibility and constitutional innovation	Expands constitutional reasoning through sustainability and relational justice	Kotze et al. (2023); Robin (2018)
Small Island States	Climate constitutionalism	Equity and transboundary cooperation	Enhances constitutional responses to climate vulnerability and environmental justice	Azam (2026)
Global South	Transformative constitutionalism	Institutional innovation and adaptive governance	Encourages locally grounded constitutional solutions to environmental challenges	Kama (2024)

7. Emerging Paradigms in Climate Constitutionalism

A paradigm shift in climate constitutionalism is being experienced as new models of constitutional governance are increasingly being challenged by emerging paradigms of climate constitutionalism. All these views advance constitutional frameworks that embrace ecological interconnectedness, collective responsibility, and inherent worth of nature and enhancing environmental justice and sustainable governance. Both environmental democracy and the recognition of the rights of nature have strengthened participatory constitutional governance by incorporating ecological considerations in the democratic process (Pickering et al., 2020) and by ecosystem-centred legal frameworks (Villavicencio-Calzadilla and Kotzé, 2023), respectively. Newer scholarship has also highlighted the importance of ecological interconnectedness, global sustainability, and constitutional responsibility as a core to climate governance (McIntyre-Mills, 2018; Jalil, 2025). Legal tools based on human rights are still enhancing constitutional responses to climate change (Davies et al., 2017), but issues of democratic legitimacy challenge constitutional structures to be flexible and robust (Kochi, 2020; Harris and Hughes, 2020). All these paradigms collectively will help to secure a more inclusive, ecologically conscious, and future-oriented constitutional government (Rashid & Gani, 2025) (Table 3).

Table 3. Emerging Paradigms Shaping Climate Constitutionalism

Emerging Paradigm	Core Constitutional Principle	Governance Contribution	Reference
Eco-Constitutionalism	Ecological protection and constitutional sustainability	Integrates environmental protection into constitutional governance	Pickering et al. (2020)
Rights of Nature	Recognition of ecosystems as constitutional stakeholders	Strengthens participatory environmental governance	Villavicencio-Calzadilla & Kotzé (2023)
More-than-Human Constitutionalism	Ecological interconnectedness and relational justice	Expands constitutional protection beyond human interests	McIntyre-Mills (2018)
Planetary Constitutionalism	Sustainability as a constitutional foundation	Supports global ecological governance and constitutional responsibility	Jalil (2025)
Human Rights-Based Climate Governance	Protection of environmental and human rights	Reinforces climate justice through constitutional legal instruments	Davies et al. (2017)
Democratic Climate Constitutionalism	Adaptive, participatory and resilient constitutional governance	Strengthens democratic legitimacy in climate governance	Kochi (2020); Harris & Hughes (2020)
Transformative Sustainability Governance	Ecological resilience and inclusive policy innovation	Supports constitutional transitions toward sustainable development	Rashid & Gani (2025)

8. Challenges and Critical Debates

Even with the increasing awareness of the rights to the environment and transformative constitutionalism, there are still severe obstacles on the way to the successful constitutional response to climate change. Most constitutions have been initially structured to control governmental institutions and safeguard civil and political liberties; thus, they are less prepared to contend with the intricate, extended, transnational character of climate catastrophes. This can lead to the constitutional provisions not being as specific and flexible as needed to effectively respond to the fast-changing ecological hazards, which limits their ability to inform timely climate action (Murcott, 2022). The other significant issue is the issue of institutional capacity and effectiveness of governance. Constitutional environmental promises can be successfully implemented by a concerted effort on the part of legislatures, executive agencies, regulatory bodies and the judiciary. Nonetheless, the implementation of constitutional obligations is often hampered by fragmented governance structures, lack of financial and technical resources, poor institutional coordination, and a lack of administrative capacity. Such limits to governance are especially pronounced in developing nations as the vulnerability of climate in these countries is frequently higher than the institutional readiness (Setzer and Higham, 2022).

The constitutional governance also has to balance the conflicting goals of economic advancement, industrialization, conservation of the environment and social welfare. Governments are usually confronted with complex policy options of meeting constitutional obligations towards sustainable development and the need to meet infrastructure growth, energy security and economic competitiveness. These tensions keep forming constitutional arguments on how much environmental protection must affect the policies of the people without affecting the socioeconomic development (Murcott, 2022).

Despite the significant augmentations in constitutional environmental rights, there still lie a lot of gaps between constitutional assurances and their actual implementation. Constructive regulatory leniency, inconsistent judicial interpretation, compliance mechanisms and lack of political commitment usually diminish the effectiveness of constitutional environmental provisions. Although climate litigation has emerged as a valuable instrument of holding governments responsible, judicial action is not sufficient to address more systemic and institutional and governance failures that hinder successful constitutional action (Bouwer, 2018). The importance of equity and climate justice will continue to be in the forefront since the negative impacts of climate change are felt more by marginalized groups and Indigenous communities, as well as economically disadvantaged groups. The constitutional governance, however, needs to provide not only the equal legal protection but the equal distribution of environmental benefits and burdens as well as meaningful involvement in the environmental decision-making. Such issues have gained more and more salience in transnational climate litigation, especially in situations that arise in the Global South in which climate vulnerability and developmental inequalities often overlap (Peel & Lin, 2019).

Lastly, the issue of political opposition and democratic legitimacy still affects the rate of constitutional change and its efficiency. Climate reforms that have ambitious goals are usually faced with resistance due to competing political interests, economic priorities, and institutional inertia. Enhancing transformative constitutional governance thus demands a long-term political will to sustain, open decision-making, active engagement of the popular will, and institutions that can uphold democratic legitimacy as they tackle the soaring demands of climate change (Murcott, 2022).

9. Future Directions for Transformative Constitutional Governance

The future of transformative constitutional governance relies on constitutional reforms that explicitly incorporate climate resilience, ecological sustainability, and environmental justice in constitutional design. With climate change progressively impacting the most basic rights and democratic stability, constitutional arrangements need to transform past governance patterns in order to build explicit environmental commitments, institutional flexibility, and enhance long-term sustainability. The combination of climate governance and human rights principles offers a holistic platform to develop constitutional provisions in the future, as the environmental protection will be tightly connected with the dignity, equality, participation, and accountability (Duyck et al., 2018).

The process of enhancing the environment rights will continue to be in the forefront in the development of climate constitutionalism. Substantive environmental rights must be strengthened in future constitutional structures and access to justice, effective remedies and judicial review should be enhanced to communities that have suffered due to environmental degradation. It is anticipated that courts will remain influential in how they interpret the constitutional provisions to promote climate justice and enhance accountability by the government. The experience of constitutional adjudication in comparative constitutional experience shows that constitutional adjudication may become a significant contributor to environmental governance with strong legal institutions and constitutional interpretation based on rights (May and Daly, 2019).

A new constitutional governance should also transcend traditional ideas of sustainable development by integrating ecological integrity into constitutional values, and institutional decision making. This involves the need of constitutional

systems to acknowledge the interrelation between humans, ecosystems, and future generations and promote governance frameworks that are based on reciprocity, common responsibility, and environmental stewardship. Reproductive ecological justice and making constitutional formation responsive to the realities of the Anthropocene can find an important avenue through reimagining constitutional governance through perspectives like Ubuntu (Kotze et al., 2023). One of the new areas of concern of future constitutionalism is the need to adopt ecocentric approaches that appreciate the inherent worth of the ecosystem in addition to human interests. There is a growing expectation of constitutional governance to uphold biodiversity-protecting legal frameworks, recognizing the rights of nature, and ecosystem-based decision-making. The Latin American experience shows that ecocentric climate litigation has widened the constitutional logic of anthropocentric views by offering useful insights into ecocentric constitutional reforms in the future that can achieve a balance between environmental protection and social justice and democratic decision-making (de Salles Cavedon-Capdeville et al., 2024).

10. Conclusion

The concept of climate change has changed the way constitutions talk about their function because climate change has moved the concept of constitution from its traditional governance function to functions related to the environment and sustainable development. The narrative review shows that transformative constitutionalism can be an effective framework to respond to the problems related to the environment, society, and institutions under the Anthropocene. The narrative review shows that environmental constitutionalism has come a long way from environmental rights to more comprehensive ideas about ecological stewardship, intergenerational equity, participatory governance, and transnational constitutional cooperation. The comparative analysis of constitutional practices also illustrates that jurisdictions are developing novel methods in which sustainability is combined with democracy and social justice. The new paradigms that are being developed today include eco-constitutionalism, planetary constitutionalism, rights of nature, more-than-human constitutionalism, and relational constitutionalism, thus broadening the traditional understanding of constitutions by moving it beyond anthropocentrism. However, there are still several challenges such as institutional inefficiency, difficulties of governance, weak enforcement mechanisms, conflicting development priorities, resistance from politics, and climate inequalities that have to be addressed in order to overcome them. For this purpose, constitutional systems need to be adaptive, participatory, and to embed ecological sustainability in governance and policy-making processes. Thus, future constitutional development needs to enhance the protection of environmental rights, increase institutional responsibility, and promote international cooperation.

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