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Reconstructing the Role of Religion in Ecological Conservation: A Comparative Analysis of Lynn White Jr. and Vandana Shiva in Indonesia

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Abstract

The ecological crisis requires approaches that address not only environmental degradation but also the religious worldviews and socio-political structures that shape human-nature relations. This study examines the role of religion in ecological conservation through a comparative analysis of Lynn White Jr. and Vandana Shiva. Using qualitative library research and comparative conceptual analysis, the study examines White's critique of religious anthropocentrism and Shiva's analysis of colonialism, capitalism, patriarchy, developmentalism, and Indigenous ecological knowledge. The findings indicate that White and Shiva identify complementary dimensions of ecological degradation: White highlights how religious worldviews can legitimize human domination of nature, while Shiva demonstrates how such domination is reproduced through structures of power and economic exploitation. Their synthesis suggests that religion is neither inherently a cause of ecological degradation nor automatically a solution, but can become a transformative ecological actor when theological and ethical reconstruction is connected with structural engagement and ecological justice. Based on this synthesis, the study proposes the Religious Ecological Guardianship Framework (REGF), consisting of five interconnected pillars: theological reinterpretation, interreligious ecological ethics, recognition of Indigenous knowledge, ecological justice, and institutional and civic

collaboration. Applied to the Indonesian context, the framework positions religion as a potential bridge between spiritual values, Indigenous knowledge, community action, and environmental governance. As a conceptual framework, REGF requires further empirical validation across Indonesia's diverse religious and socio-ecological contexts.

Keyword

Environmental Justice, Lynn White Jr., Religion and Ecology, Religious Ecological Guardianship Framework, Vandana Shiva

Abstrak

Krisis ekologis memerlukan pendekatan yang tidak hanya menangani kerusakan lingkungan, tetapi juga pandangan dunia keagamaan dan struktur sosio-politik yang membentuk hubungan antara manusia dan alam. Penelitian ini menguji peran agama dalam konservasi ekologis melalui analisis komparatif atas pemikiran Lynn White Jr. dan Vandana Shiva. Menggunakan metode penelitian pustaka kualitatif dan analisis konseptual komparatif, studi ini mengkaji kritik White terhadap antroposentrisme keagamaan serta analisis Shiva mengenai kolonialisme, kapitalisme, patriarki, pembangunanisme (developmentalism), dan pengetahuan ekologis masyarakat adat. Temuan penelitian menunjukkan bahwa White dan Shiva mengidentifikasi dimensi kerusakan ekologis yang saling melengkapi: White menyoroti bagaimana pandangan dunia keagamaan dapat melegitimasi dominasi manusia atas alam, sementara Shiva menunjukkan bagaimana dominasi tersebut direproduksi melalui struktur kekuasaan dan eksploitasi ekonomi. Sintesis pemikiran keduanya menunjukkan bahwa agama pada dasarnya bukanlah penyebab kerusakan ekologis maupun solusi yang serta-merta otomatis, melainkan dapat menjadi aktor ekologis yang transformatif ketika rekonstruksi teologis dan etis dihubungkan dengan keterlibatan struktural dan keadilan ekologis. Berdasarkan sintesis ini, penelitian ini mengajukan Religious Ecological Guardianship Framework (REGF), yang terdiri dari lima pilar yang saling terhubung: reinterpretasi teologis, etika ekologis antariman, pengakuan atas pengetahuan masyarakat adat, keadilan ekologis, serta kolaborasi institusional dan kewargaan. Diterapkan dalam konteks Indonesia, kerangka kerja ini memposisikan agama sebagai jembatan potensial antara nilai-nilai spiritual, pengetahuan lokal/adat, aksi komunitas, dan tata kelola lingkungan. Sebagai sebuah kerangka konseptual, REGF memerlukan validasi empiris lebih lanjut di berbagai konteks keagamaan dan sosio-ekologis yang beragam di Indonesia.

Kata Kunci

Agama dan Ekologi, Keadilan Lingkungan, Lynn White Jr., Religious Ecological Guardianship Framework, Vandana Shiva

Introduction

The ecological crisis has emerged as one of the greatest challenges facing humanity in the twenty-first century. It is no longer understood merely as an environmental problem but rather as a multidimensional crisis intertwined with economic, political, social, cultural, and religious dimensions. The *Intergovernmental Panel on Climate Change* (IPCC) reports that human activities have caused an increase of approximately 1.1°C in the global average temperature compared with the pre-industrial period, resulting in more frequent extreme weather events, rising sea levels, changing precipitation patterns, and increasing threats to food systems and human health (IPCC, 2023). At the same time, the *Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services* (IPBES) estimates that nearly one million species of flora and fauna are at risk

of extinction due to habitat loss, overexploitation, climate change, pollution, and the introduction of invasive species (IPBES, 2019). Deforestation, air and water pollution, land degradation, the unsustainable exploitation of natural resources, and the growing volume of waste all indicate that the relationship between humans and nature has reached a deeply alarming condition. Consequently, the ecological crisis cannot be adequately addressed through technological innovation, environmental regulation, or resource management alone. It also requires critical reflection on the values, worldviews, and structures of power that shape how human societies understand and interact with the natural world.

This condition is clearly reflected in Indonesia, one of the world's most biodiverse countries, which is simultaneously experiencing mounting ecological pressures. Deforestation driven by the expansion of plantations, mining activities, and infrastructure development remains a serious concern, although the rate of forest loss has shown a declining trend in recent years (Global Forest Watch, 2024). Recurrent forest and peatland fires during the dry season continue to generate substantial carbon emissions while producing transboundary public health impacts. Moreover, the exploitation of mineral resources, agrarian conflicts involving Indigenous communities, river pollution caused by industrial and domestic waste, and the escalating plastic waste crisis illustrate that environmental degradation is caused not only by natural factors but also by economic systems and natural resource governance that have yet to prioritize sustainability. Data from the *National Plastic Action Partnership* (NPAP) Indonesia estimate that millions of tons of plastic waste are generated annually, with a significant proportion remaining inadequately managed (NPAP Indonesia, 2020). These conditions demonstrate that Indonesia's ecological challenges are inseparable from questions of development, resource governance, social justice, and cultural values. They also make Indonesia a particularly important context for examining how religion might function within ecological conservation, given the country's profound religious diversity and the continuing social influence of religious communities and institutions.

Amid the intensifying ecological crisis, religion has increasingly been recognized as a potential source of ethical values capable of making significant contributions to environmental conservation. Since the 1990s, the field of *religion and ecology* has developed substantially as an interdisciplinary area of study examining the relationship between religious traditions and ecological sustainability (Grim & Tucker, 2014). Greater attention to the spiritual dimension has become increasingly important, as numerous studies suggest that human attitudes and behaviors toward the environment are shaped not only by legal regulations or economic interests but also by systems of values, beliefs, and worldviews embedded within society. Accordingly, religion is understood not merely as a normative institution but also as a moral resource capable of cultivating ecological consciousness and encouraging collective behavioral change toward more sustainable practices.

This optimism has given rise to a variety of theological approaches that position religion as an important actor in addressing the environmental crisis. Within the Christian tradition, *ecotheology* has emerged as an effort to reinterpret the relationship between humans and nature through the concepts of stewardship and responsibility for God's creation (Conradie, 2006). Within Islam, the discourse of *Islamic environmentalism* emphasizes the concepts of *khalifah*, *mīzān*, and *amanah* as the ethical foundations of

ecological responsibility (Foltz et al., 2003). Buddhism has developed the concept of *Green Buddhism*, which regards the interconnectedness of all living beings as the basis of environmental ethics, while Hinduism has advanced the perspective of *Hindu ecology*, viewing nature as a manifestation of the sacred that must therefore be protected and preserved (Tucker & Grim, 2001). These developments demonstrate that religion can function as a source of ecological morality, environmental education, and community-based social movements rooted in religious traditions.

Nevertheless, positioning religion primarily as a solution to the ecological crisis raises a more fundamental question: can religion itself be implicated in the worldview and historical structures that have contributed to ecological degradation? The relationship between religion and ecology is therefore more complex than simply positioning religion as either a cause or a solution to environmental problems. Religious traditions are not inherently ecological or anti-ecological; their environmental implications may depend on how religious worldviews are interpreted, institutionalized, and embedded within broader political, economic, and cultural structures. This tension has generated a critical debate within the field of *religion and ecology* concerning whether religion should primarily be understood as a source of environmental ethics, a historical contributor to ecological domination, or a potential agent of transformation.

The academic debate surrounding this issue gained significant momentum with the publication of Lynn White Jr.'s seminal article, *The Historical Roots of Our Ecologic Crisis*, in 1967. White challenged the tendency to explain ecological degradation primarily in terms of technological or economic factors. He argued that the deeper roots of the modern ecological crisis could be found partly in the Western Christian worldview, particularly in interpretations that placed human beings at the center of creation and provided religious legitimacy for the domination of nature (White, 1967). According to White, interpretations of the biblical mandate to "subdue the earth" contributed to a paradigm in which nature was understood as existing primarily for human purposes. This anthropocentric worldview, in his analysis, shaped Western assumptions about humanity's relationship with the natural world and contributed to a cultural orientation toward the technological mastery and exploitation of nature. White's significance therefore lies not simply in attributing environmental degradation to Christianity, but in reframing the ecological crisis as a crisis of worldview: a crisis concerning the assumptions through which human beings understand their place within the natural order.

White's argument stimulated extensive scholarly discussion while also attracting criticism from various perspectives. Many scholars contend that White oversimplified the Christian tradition by overlooking the diversity of ecological interpretations that have developed throughout both historical and contemporary religious practices (Jenkins, 2009). Furthermore, White's explanation has been criticized for being excessively centered on the European experience, thereby paying insufficient attention to the roles of political, economic, colonial, and global capitalist forces in accelerating environmental degradation. These critiques suggest that religious worldview alone cannot provide a comprehensive explanation of ecological destruction. Religion may shape the cultural and moral conditions through which environmental domination becomes intelligible or legitimate, but ecological exploitation is also reproduced through material institutions, political arrangements, economic systems, and historical relations of power.

A complementary but significantly different perspective is offered by Vandana Shiva through the frameworks of political ecology and ecofeminism. In contrast to White's emphasis on religious worldview, Shiva locates the primary roots of ecological crisis within interconnected systems of colonialism, global capitalism, patriarchy, and developmentalism, all of which simultaneously exploit both human communities and nature (Shiva, 1988, 1993). According to Shiva, Western modernity has transformed nature into an economic commodity while marginalizing local values, knowledge systems, and forms of livelihood that have sustained ecological diversity for generations. From this perspective, ecological degradation is not simply the consequence of a particular religious conception of nature but also the result of structures that organize nature and human communities according to the logic of extraction, commodification, and economic accumulation.

Shiva's perspective consequently introduces dimensions that are less prominent in White's account, particularly questions of power, inequality, colonial history, local knowledge, and the political economy of environmental exploitation. Her critique also prevents religion from being reduced to either the cause or the solution of ecological problems. Religious traditions and indigenous knowledge may contain values of interconnectedness, respect for life, restraint, and ecological responsibility that can provide resources for resisting destructive forms of development. At the same time, religious communities and institutions are themselves embedded within social and political structures and may reproduce, negotiate, or challenge dominant systems of power. Religion therefore needs to be examined not in isolation but in relation to the broader structures within which ecological practices are produced.

The intellectual significance of bringing White and Shiva into dialogue lies precisely in the different levels at which they locate the roots of ecological crisis. White draws attention to the ideational dimension by demonstrating how religious worldviews can shape assumptions about humanity and nature. Shiva foregrounds the structural dimension by demonstrating how colonialism, capitalism, patriarchy, and developmentalism materially organize relations of exploitation between human communities and the natural world. Their perspectives should therefore not be understood simply as competing explanations in which one identifies religion and the other identifies capitalism as the sole cause of ecological degradation. Rather, they illuminate two interconnected dimensions of ecological domination. White helps us understand why the religious worldview matters; Shiva helps us understand why worldview alone is insufficient without confronting structures of power. Read together, their perspectives make it possible to understand ecological degradation as the interaction between cultural worldviews and material structures of power.

This intersection also provides a basis for reconsidering the position of religion within ecological conservation. If White demonstrates that religious worldviews can contribute to the cultural legitimation of human domination over nature, while Shiva demonstrates that ecological destruction is materially reproduced through structures of colonial, capitalist, patriarchal, and developmental power, then religion cannot simply be assigned the role of "guardian" of ecology. Its ecological role must instead be critically reconstructed. Religion may function as an ecological actor when it shapes how communities interpret the natural world, establishes ethical norms concerning human responsibility toward nature, mobilizes institutional and communal resources,

and critically challenges practices and structures that produce environmental exploitation. In this sense, *religion as an ecological actor* encompasses at least four interconnected dimensions: an interpretive dimension, through which religion shapes human understandings of nature; an ethical dimension, through which it establishes norms of ecological responsibility; an institutional dimension, through which religious organizations and communities organize ecological practices; and a transformative dimension, through which religion can challenge environmentally destructive structures and mobilize communities toward ecological justice.

Although research on religion and the environment has expanded considerably, the existing literature still exhibits several limitations. A substantial body of scholarship has examined Lynn White Jr. primarily as a critic of Christian anthropocentrism and the religious roots of ecological domination, while other studies have explored Vandana Shiva separately within the frameworks of ecofeminism, political ecology, and critiques of modern development. Likewise, studies of ecotheology, Islam and the environment, and green religious movements generally emphasize the capacity of religious teachings to construct ecological ethics without always critically examining the historical and structural conditions within which religious values operate. Although these approaches have made important contributions, White's analysis of religious worldview and Shiva's analysis of structural power have generally developed along separate intellectual trajectories.

The resulting gap is therefore not merely that relatively few studies have placed White and Shiva in direct comparison. More importantly, existing scholarship has not sufficiently clarified what new theoretical understanding emerges when the ideational critique of religious anthropocentrism is brought into dialogue with the political-ecological critique of structural domination. Without this dialogue, religion risks being conceptualized in two opposite but equally reductive ways: either as a historical source of ecological destruction or as a normative resource capable of solving environmental problems. A comparative reading of White and Shiva makes it possible to move beyond this binary by conceptualizing religion as an ecological actor whose environmental significance depends on the interaction between worldview, ethical practice, institutional agency, and structures of power. This conceptual shift is particularly important in Indonesia, where religious plurality, ecological vulnerability, resource extraction, local ecological knowledge, and competing development interests intersect within the same social and political landscape.

On this basis, the present study addresses three principal research questions: (1) How do Lynn White Jr. and Vandana Shiva differently explain the roots of the modern ecological crisis? (2) What are the principal convergences and tensions between White's critique of religious anthropocentrism and Shiva's critique of colonial, capitalist, and patriarchal domination of nature? and (3) How can the dialogue between these perspectives inform a reconstructed understanding of religion as an ecological actor in Indonesia?

Accordingly, this study aims to conduct a comparative and synthetic analysis of the ideas of Lynn White Jr. and Vandana Shiva, identify the convergences and fundamental differences between their perspectives, and develop a conceptual framework for reconstructing the role of religion in ecological conservation. The study argues that religion should not be understood

merely as a source of environmental ethics or as a historical cause of anthropocentric domination. Rather, religion can be conceptualized as an ecological actor operating through four interconnected capacities: shaping ecological worldviews, cultivating ethical responsibility, mobilizing institutional and communal resources, and critically confronting structures that produce environmental exploitation. In this framework, White contributes an explanation of why religious worldviews matter in shaping human–nature relationships, while Shiva demonstrates why transforming those relationships requires engagement with the political, economic, and historical structures of power in which they are embedded. The conceptual contribution of this study therefore lies in connecting the critique of religious anthropocentrism with political-ecological analysis and using their intersection to develop a more critical understanding of religious ecological agency. Applied to the Indonesian context, this perspective offers a basis for rethinking religious participation in ecological conservation as not merely moral exhortation, but as a form of ecological agency oriented toward environmental sustainability, social justice, and the transformation of exploitative relationships between human communities and nature.

Methods

This study employs a qualitative conceptual library research design using a comparative analytical approach. The design is appropriate because the study does not seek to investigate an empirical phenomenon through fieldwork, interviews, surveys, or other forms of primary empirical data collection. Instead, it examines, compares, and synthesizes two influential intellectual perspectives within the discourse of *religion and ecology*: the ecological critique of Lynn White Jr. and the political-ecological and ecofeminist perspective of Vandana Shiva. Library research provides a suitable methodological basis for examining philosophical arguments, conceptual constructions, and intellectual debates through the systematic study of relevant written sources (Creswell & Poth, 2018; Zed, 2014). The comparative approach is used to identify conceptual convergences, differences, and tensions between the two perspectives and to develop a synthesis concerning the relationship among religion, humanity, ecological degradation, and structures of power. The analysis ultimately seeks to provide a conceptual foundation for reconstructing the role of religion as an ecological actor, particularly in the Indonesian context.

The sources analyzed in this study consist of primary and secondary sources. The primary sources comprise the principal works of Lynn White Jr. and Vandana Shiva that directly address the relationship between human societies, nature, religion, development, and ecological crisis. White's principal primary source is his seminal article *The Historical Roots of Our Ecologic Crisis* (1967), which constitutes the central text for examining his argument concerning the relationship between Western Christian thought, anthropocentrism, and the human domination of nature. Shiva's primary sources include *Staying Alive: Women, Ecology and Survival in India* (1988), *Earth Democracy: Justice, Sustainability, and Peace* (2005), *Soil Not Oil: Environmental Justice in an Age of Climate Crisis* (2008), and *Who Really Feeds the World? The Failures of Agribusiness and the Promise of Agroecology* (2016). These works were selected because, taken together, they represent major dimensions of Shiva's critique of colonialism, capitalism, patriarchy, modern development, commodification of nature, and the marginalization of local and ecological knowledge.

The secondary sources consist of peer-reviewed scholarly articles, academic books, and other relevant scholarly publications addressing *religion and ecology*, ecotheology, environmental philosophy, ecofeminism, political ecology, and the interpretation and criticism of White's and Shiva's ideas. Scholarly literature indexed in established academic databases, particularly Scopus and Google Scholar, was prioritized to strengthen the academic contextualization of the analysis. Secondary sources were used not as substitutes for the primary texts but to situate the arguments of White and Shiva within broader scholarly debates, identify major interpretations and criticisms, and support the contextualization of their ideas (Grim & Tucker, 2014; Snyder, 2019).

The selection of sources followed three criteria. First, the source had to address directly or substantially the conceptual relationship between religion, human–nature relations, ecological degradation, or the structures shaping environmental exploitation. Second, primary sources had to represent the authors' own arguments, while secondary sources had to provide substantive scholarly engagement with the relevant theoretical debates. Third, sources were prioritized when they contributed directly to one or more of the study's analytical dimensions: ecological worldview, anthropocentrism and human domination, colonialism and capitalism, patriarchy and developmentalism, ecological justice, and the role of religion in environmental transformation.

The selected texts were analyzed through qualitative document analysis and comparative conceptual analysis. Rather than treating the texts as empirical data in the conventional sense, the analysis focused on identifying, interpreting, and comparing the principal concepts and arguments articulated in the primary sources. The analytical process consisted of four interconnected stages.

First, the primary texts of Lynn White Jr. were examined to identify his diagnosis of the ecological crisis, particularly his treatment of religious worldview, anthropocentrism, the human–nature relationship, and the historical role of Western Christianity in shaping assumptions concerning the domination of nature. Second, Shiva's primary works were analyzed to identify her critique of colonialism, capitalism, patriarchy, developmentalism, commodification, and the marginalization of local knowledge as interconnected structures contributing to ecological degradation. Particular attention was given to how Shiva conceptualizes the relationship between ecological destruction, social inequality, and systems of power.

Third, the two perspectives were compared using common analytical dimensions: (1) the diagnosis of the ecological crisis; (2) the conception of the human–nature relationship; (3) the role of religion and religious worldview; (4) the mechanisms and structures of ecological domination; (5) the possibilities for ecological transformation; and (6) the implications for conceptualizing religion as an ecological actor. This comparative stage was intended not merely to identify similarities and differences but also to examine the theoretical relationship between White's emphasis on worldview and Shiva's emphasis on structures of power.

Fourth, the convergences and tensions identified through the comparison were synthesized into a conceptual framework. The synthesis proceeds from the proposition that ecological degradation cannot be sufficiently explained through either religious worldview or political-economic structures in isolation. White's analysis highlights the importance of religious and cultural worldviews in shaping the moral and intellectual

foundations of human–nature relationships, whereas Shiva’s analysis demonstrates that the transformation of those relationships also requires critical engagement with colonial, capitalist, patriarchal, and developmental structures. The resulting synthesis is therefore used to conceptualize religion not simply as a source of environmental ethics but as an ecological actor capable of shaping ecological worldviews, cultivating ethical responsibility, mobilizing institutional and communal resources, and challenging structures of environmental exploitation.

Finally, the conceptual synthesis is interpreted in relation to the Indonesian context. Indonesia is treated in this study as a contextual and analytical setting rather than as an empirical case investigated through fieldwork. The contextual interpretation considers Indonesia’s religious and cultural pluralism, ecological vulnerability, natural-resource exploitation, and the continuing social role of religious communities and institutions. This stage is intended to examine the conceptual relevance and potential application of the White–Shiva synthesis to ecological conservation in Indonesia, while avoiding claims that the study empirically measures the effectiveness of religious ecological action. The resulting framework provides a theoretical basis for further research on religion as an ecological actor in Indonesia (Bowen, 2009; Snyder, 2019).

Results and Discussion

Lynn White Jr.: Religious Worldview and the Roots of Ecological Domination

Lynn White Jr.’s intellectual perspective emerged within the context of the profound transformations experienced by Western civilization following the Industrial Revolution, when advances in science and technology were widely regarded as symbols of the success of modernity. Since the eighteenth century, the Industrial Revolution had significantly enhanced humanity’s capacity to exploit natural resources through the mechanization of production, industrial expansion, and the large-scale utilization of fossil energy. While these developments generated remarkable economic growth, they also produced environmental degradation on an unprecedented scale. White argued that the ecological crisis that became increasingly evident during the mid-twentieth century could not be explained solely by technological advancement or industrialization but had to be traced back to the historical and intellectual foundations that shaped humanity’s perception of nature. Accordingly, he rejected the assumption that technology constituted the principal cause of the environmental crisis and instead directed attention toward the systems of belief that underpinned the development of modern science (White, 1967).

According to White, the emergence of modern science in the West was neither a neutral phenomenon nor one detached from the influence of culture and religion. Rather, modern scientific knowledge developed within a cosmological framework that had been shaped by the Western Christian tradition over many centuries. White argued that the transformation in the European understanding of nature occurred alongside the growing belief that the world had been created for the benefit of humankind. As a consequence, nature gradually lost its sacred character and was transformed into an object that could be studied, controlled, and freely utilized. This worldview subsequently became the epistemological foundation for the Scientific Revolution, technological advancement, and the expansion of Western colonialism. Consequently, White maintained that Western

domination over nature was driven not only by scientific progress but also by a religious paradigm that provided moral legitimacy for human domination over the non-human world (White, 1967; Nash, 1989).

White systematically articulated this argument in his seminal article entitled *The Historical Roots of Our Ecologic Crisis*, published in the journal *Science* in 1967. The article became one of the most influential interventions linking religious worldview to the modern ecological crisis. White argued that every society interacts with nature according to its understanding of the relationship between human beings and the surrounding world. Therefore, resolving the environmental crisis requires more than technological innovation or economic policy; it also demands a fundamental transformation in humanity's understanding of its place within the cosmic order. For White, the ecological crisis is essentially a crisis of values, rooted in humanity's worldview toward nature. Consequently, ecological solutions must encompass a transformation of the underlying patterns of thought and systems of belief that shape human–nature relations (White, 1967).

One of the central concepts in White's thought is dominion over nature, the idea that human beings possess a divine mandate to rule over and subdue the natural world. White traced this concept to the creation narrative in the Book of Genesis (Genesis 1:26–28), which states that human beings were created in the image of God and were granted authority over all living creatures on earth. According to White, the dominant interpretation of this passage within the Western Christian tradition fostered the belief that nature exists primarily to fulfill human needs. Nature was no longer understood as a community of life possessing intrinsic value but rather as an object to be utilized, exploited, and even conquered for the advancement of humanity. It was this theological interpretation, White argued, that became the foundation for the development of an exploitative relationship between human beings and the natural environment (White, 1967).

Building upon this concept, White developed his critique of what he termed Christian anthropocentrism. According to him, the Western Christian tradition has historically fostered an anthropocentric worldview that positions human beings as the center of creation and as creatures occupying a higher status than all other elements of the natural world. Unlike many pre-Christian traditions, which regarded mountains, rivers, forests, and animals as entities possessing spiritual significance, Western Christianity gradually removed the sacredness of nature through a process of the desacralization of nature. Nature came to be understood merely as God's creation, existing primarily for the benefit of humankind. Consequently, there were few compelling religious constraints against exploiting nature, provided such actions were considered conducive to human welfare. White argued that this form of religious anthropocentrism distinguished Western civilization from many other cultural traditions in their understanding of the relationship between humanity and the environment (White, 1967; Gottlieb, 2006).

On this basis, White criticized religion, particularly the Western Christian tradition for having indirectly legitimized environmental exploitation. His critique was directed not at religion as a spiritual institution per se but at the theological constructions that shaped a paradigm of human domination over nature. According to White, once nature came to be understood as an object entirely subject to human authority, modern

technological development was increasingly directed toward enhancing humanity's capacity to control, exploit, and transform the environment according to its own interests. From this perspective, technology was not the principal cause of the ecological crisis but rather an instrument operating within a religious paradigm that had already justified human domination over nature. Furthermore, White argued that the ontological separation between humanity and nature embedded within the Christian tradition had weakened ecological consciousness, as human beings no longer perceived themselves as members of an ecological community but instead as rulers existing outside of and above the natural world (White, 1967).

Despite provoking considerable controversy, White's ideas made an extraordinary contribution to the development of *religion and ecology* scholarship. His critique stimulated interdisciplinary debates among theologians, environmental philosophers, historians, and social scientists concerning the relationship between religion and the ecological crisis. In response, many scholars sought to reinterpret Christian teachings through more ecologically oriented approaches by emphasizing the concepts of stewardship, creation care, and the interdependent relationship between humanity and nature (Conradie, 2006). Consequently, White's article became not only a critique of religious tradition but also a catalyst for the emergence of ecotheology as one of the major branches of contemporary theological scholarship. Ironically, White's criticism of religion ultimately created an opportunity for religious traditions to engage in critical self-reflection and reconstruct their ecological ethics.

In subsequent developments, White's thought has remained one of the principal foundations of the *religion and ecology* discourse. Although numerous critiques have argued that his explanation tends to oversimplify historical complexity by positioning religion as the dominant factor underlying the environmental crisis, his argument successfully redirected the focus of ecological scholarship from technical issues toward philosophical and theological concerns. White demonstrated that the relationship between humanity and nature is fundamentally shaped by systems of values transmitted through cultural and religious traditions, implying that addressing the ecological crisis requires a transformation of paradigms rather than merely technological innovation. For this reason, White's thought continues to serve as an important point of departure for understanding how religious constructions can contribute to the formation of environmental ethics while simultaneously providing the intellectual foundation for subsequent critiques and theoretical developments advanced by scholars such as Vandana Shiva. Within this context, White occupies a central position as a thinker who fundamentally redirected environmental discourse from predominantly ecological concerns toward a critical reflection on the religious and cultural foundations that shape the relationship between human beings and the natural world.

Vandana Shiva: Decolonizing Ecology and Reconstructing the Human-Nature Relationship

Vandana Shiva's intellectual framework emerged from India's historical experience of colonialism, post-independence developmental transformation, and the ecological consequences of agricultural modernization. Unlike Lynn White Jr., whose analysis is rooted primarily in Western intellectual history and the Christian tradition, Shiva developed her perspective from the socio-political realities of societies confronting the consequences of colonialism, resource extraction, and global capitalism. Trained

as a physicist before turning to political ecology, Shiva argues that the ecological crisis cannot be separated from historical processes that have transformed both nature and human communities into objects of economic control. In *Staying Alive*, she particularly emphasizes how colonial and modern development projects have marginalized local knowledge and reconstructed nature as an economic resource rather than as a living system upon which communities depend (Shiva, 1988). Colonialism, in this sense, involves not only territorial domination but also the displacement of alternative ways of knowing and relating to nature.

This epistemological dimension is important for understanding Shiva's relationship to religion and spirituality. Although Shiva does not develop a systematic theology of ecology comparable to White's explicit analysis of Christianity, her ecological thought repeatedly draws attention to cultural and spiritual traditions that understand nature through relationships of interdependence, reciprocity, and responsibility. In her critique of modern development, the problem is therefore not only that natural resources are physically appropriated but also that particular forms of knowledge are privileged over others. Modern scientific and economic rationality can marginalize local ecological knowledge when nature is defined primarily as a resource for production and accumulation. Shiva's ecological perspective consequently creates space for religious and spiritual traditions to be understood as forms of cultural knowledge that preserve alternative conceptions of human-nature relationships.

This perspective becomes particularly evident in Shiva's critique of the Green Revolution in India. Although the Green Revolution has often been presented as a successful agricultural development program because it increased food production through high-yield crop varieties, chemical fertilizers, pesticides, irrigation, and mechanization, Shiva emphasizes its ecological and social consequences. She associates the increasing dependence on commercial seeds and synthetic inputs with declining biodiversity, ecological degradation, farmer dependency, and the growing influence of corporate interests over food systems (Shiva, 1991; Shiva, 2016). From her perspective, the problem is not technological innovation as such but the political and economic relations through which technology is introduced and controlled. Agricultural modernization becomes problematic when technological systems displace local knowledge, undermine community autonomy, and reduce ecological diversity to a variable of economic productivity. The critique therefore extends beyond environmental damage to the epistemological and cultural conditions through which alternative relationships with nature are marginalized.

Building upon this critique, Shiva developed the concept of *Earth Democracy* as an alternative paradigm for establishing a more just relationship between humanity and the Earth. Within this perspective, the Earth is understood as a community of life composed of diverse and interdependent forms of existence. *Earth Democracy* challenges the assumption that human beings are absolute owners of nature while also questioning development models that measure social progress primarily through economic growth. Shiva instead emphasizes ecological justice, biodiversity, participatory democracy, food sovereignty, community rights, and respect for the diversity of life (Shiva, 2005). The concept is therefore not merely an environmental framework but a political, ethical, and epistemological critique of systems that transform nature into a commodity. Its significance for the present study lies in its implicit rejection of a purely instrumental

conception of nature: ecological conservation requires a transformation in the values and relationships through which human communities understand their dependence upon the wider community of life.

Shiva's ecofeminist analysis further expands this critique by connecting the domination of nature with the oppression of women. Together with Maria Mies, she argues that patriarchal systems of production privilege domination, control, and economic accumulation while devaluing reproductive labor and ecological processes that sustain life (Mies & Shiva, 1993). In this framework, the exploitation of nature and the marginalization of women are not independent phenomena but interconnected expressions of a broader logic of domination. Shiva particularly emphasizes the ecological knowledge possessed and practiced by rural women in many developing societies, including knowledge concerning seeds, biodiversity, food production, and the management of natural resources (Shiva, 1988). The importance of this argument for religion and ecology lies in its challenge to the modern separation between material production and the cultural and ethical practices through which life is sustained. Ecological knowledge is embedded in communities, practices, values, and relationships rather than produced exclusively through formal technological systems.

Shiva's critique extends beyond patriarchy to encompass capitalism, colonialism, and developmentalism as interconnected structures of ecological domination. In her analysis, global capitalism commodifies land, water, seeds, forests, and other forms of life by reducing their ecological and social significance to exchange and economic value (Shiva, 1993, 2008). Contemporary forms of colonialism may therefore operate through control over technology, intellectual property, seed systems, corporations, and development policies rather than through territorial occupation alone. Developmentalism reinforces these processes when economic growth is prioritized at the expense of ecological sustainability, community autonomy, and social justice. These structures collectively produce forms of ecological violence by separating resource extraction from the ecological and social relationships that sustain communities (Shiva, 1993; Shiva, 2008). Shiva's analysis consequently shifts the explanation of ecological degradation from the question of which worldview legitimizes domination toward the question of which structures organize and reproduce domination.

Religion and spirituality become particularly significant at this point, not because Shiva treats religion as an independent causal explanation of ecological crisis, but because they can function as part of the cultural resources through which alternative relationships with nature are preserved and mobilized. Shiva repeatedly draws attention to Indigenous and local traditions in which land, forests, rivers, seeds, and other elements of the natural world are understood through relationships of sacredness, reciprocity, interdependence, and responsibility. Such understandings contrast with the commodifying logic of modern development because nature is not reduced to an economic object but remains embedded within social, cultural, and moral relationships (Shiva, 2005; Shiva, 2016). Religious and spiritual values can therefore contribute to ecological conservation by sustaining forms of knowledge and practice that recognize limits to human appropriation and affirm the interconnectedness of life.

The significance of religion within Shiva's framework can consequently be understood through three interconnected functions. First, religion and spirituality have

an epistemological function because they can preserve alternative ways of understanding nature that differ from purely instrumental and commodifying approaches. Second, they have an ethical function because sacred conceptions of nature can generate norms of restraint, reciprocity, care, and responsibility toward other forms of life. Third, they may have a political and transformative function when religious and cultural values support community resistance to extractive development, defend local ecological knowledge, and strengthen claims for ecological justice. In this sense, religion is not treated by Shiva as an autonomous solution to environmental degradation. Rather, its ecological significance emerges when spiritual values are embedded within communities, knowledge systems, and collective struggles over land, resources, livelihood, and environmental justice.

This point also reveals an important limitation in applying Shiva to the specific problem of religion and ecology. Unlike White, Shiva does not offer a systematic analysis of religious doctrine as an independent determinant of environmental behavior. Her discussion of spirituality is generally embedded within broader analyses of Indigenous knowledge, local cultures, biodiversity, women's knowledge, and resistance to commodification. Consequently, religion in Shiva's framework is better understood as a cultural and epistemological resource embedded within ecological relationships and struggles over power than as a self-contained explanatory variable. This distinction is theoretically important. It means that the ecological potential of religion cannot be assessed solely by examining religious teachings; it must also be examined through the social practices, institutions, communities, and political structures in which those teachings are interpreted and enacted.

This perspective produces a significant contrast with Lynn White Jr. White's intervention begins from the question of how a religious worldview can historically legitimize human domination of nature, whereas Shiva begins from the question of how colonial, capitalist, patriarchal, and developmental structures transform both nature and human communities into objects of domination. White therefore gives analytical priority to the worldview dimension of ecological crisis, while Shiva gives greater attention to its structural and political-economic dimension. Yet their perspectives are not necessarily incompatible. Shiva's recognition of spiritual and local ecological knowledge indicates that religious worldviews can also become resources for challenging extractive systems, while White's analysis reminds us that religious ideas themselves must be critically examined because they can either reinforce or challenge anthropocentric assumptions.

Accordingly, Shiva's contribution to the present study lies not in replacing White's religious analysis with a purely political-economic explanation, but in expanding the analytical field within which religion's ecological role can be understood. Her work demonstrates that ecological transformation requires attention to the structures of power that determine whose knowledge is recognized, whose resources are controlled, and whose environmental interests are protected. At the same time, her engagement with spiritual and local ecological traditions demonstrates that cultural and religious values can contribute to alternative relationships with nature when they are connected to community agency and ecological justice. Shiva therefore provides the structural and transformative dimension of religion as an ecological actor, complementing White's emphasis on the interpretive significance of religious worldview. In this respect, White helps us understand why the religious worldview matters; Shiva helps us understand why worldview alone is insufficient without confronting structures of power.

Comparing Lynn White Jr. and Vandana Shiva: From the Critique of Religion to the Reconstruction of Ecological Ethics

A comparative analysis of the ideas of Lynn White Jr. and Vandana Shiva reveals that both scholars are driven by the same fundamental concern: the intensifying ecological crisis resulting from the way modern humanity has constructed its relationship with nature. Nevertheless, the two thinkers adopt different analytical points of departure in explaining the root causes of this crisis. White focuses on the historical and theological dimensions, arguing that the Western Christian tradition has shaped an anthropocentric paradigm that legitimizes human domination over nature (White, 1967). In contrast, Shiva maintains that environmental degradation is a manifestation of the structures of colonialism, global capitalism, patriarchy, and the paradigm of modern development, all of which commodify nature as an object of economic accumulation (Shiva, 1988; Shiva, 2005). This divergence in orientation demonstrates that White primarily critiques ideological and religious constructions, whereas Shiva directs her critique toward the power relations embedded within the global political economy. Despite emerging from distinct intellectual traditions, both scholars ultimately argue that the ecological crisis is the consequence of paradigms of domination that disregard the balanced relationship between humanity and the natural world.

These differing perspectives can be understood more systematically through several key dimensions that constitute the primary focus of each thinker's analysis. White regards religion as a historical factor that contributed to the emergence of modern anthropocentrism, whereas Shiva views religion and local traditions as possessing significant potential to serve as forces of resistance against ecological exploitation. This comparison is summarized in Table 1 below:

Table 1. Comparison of the Ideas of Lynn White Jr. and Vandana Shiva

Aspect	Lynn White Jr.	Vandana Shiva
<i>Primary cause of the ecological crisis</i>	The Western Christian tradition that gave rise to anthropocentrism	Capitalism, colonialism, patriarchy, and developmentalism
<i>Position of religion</i>	Part of the historical roots of the problem	A potential solution through spiritual values and indigenous knowledge
<i>View of humanity</i>	Human beings are positioned as rulers over nature (<i>dominion over nature</i>)	Human beings are part of an interdependent web of life
<i>Human-nature relationship</i>	Hierarchical and dominative	Relational, ecological, and coexistent
<i>Proposed solution</i>	Reforming theological paradigms and religious ethics	Decolonizing development, ecological democracy, and strengthening local communities
<i>Status of nature</i>	An object of human exploitation	A living subject possessing intrinsic value

Despite their different points of departure, White and Shiva share several

fundamental similarities. First, both criticize the paradigm of modernity that positions nature as an object to be exploited for human interests. White argues that this paradigm derives its legitimacy from particular religious interpretations, whereas Shiva demonstrates how it has become institutionalized through global capitalism and modern development (White, 1967; Shiva, 1993). Second, both scholars reject the worldview that separates humanity from nature. White regards this separation as a consequence of religious anthropocentrism, while Shiva interprets it as the outcome of colonial rationality and capitalist economics, which eliminate the ecological dimension of development. Thus, although they employ different analytical frameworks, both thinkers converge in criticizing the logic of domination that underlies the exploitative relationship between humanity and the environment.

On the other hand, the principal differences between White and Shiva lie in their explanations of the primary sources of this domination and in the solutions they propose. White argues that ecological transformation must begin with a reform of religious worldviews, particularly through reconstructing theological interpretations that have historically positioned humanity as the absolute ruler over nature. Accordingly, religion is viewed both as an object of critique and as a space for critical reflection capable of generating a renewed environmental ethic (White, 1967; Conradie, 2006). In contrast, Shiva contends that theological reform alone is insufficient if the exploitative structures of the global political economy remain intact. According to her, the root causes of the ecological crisis lie in colonialism, capitalism, patriarchy, and developmentalism, all of which systematically transform nature into an economic commodity. Consequently, Shiva proposes structural solutions centered on the decolonization of development, the democratization of natural resource governance, the protection of biodiversity, the empowerment of local communities, and the recognition of traditional knowledge as the foundation of ecological sustainability (Shiva, 2005; Shiva, 2008). In other words, whereas White emphasizes the reform of religious paradigms, Shiva integrates ecological concerns with broader political, economic, and social transformation.

The conceptual synthesis of these two perspectives demonstrates that the ecological crisis cannot be reduced to a single causal factor, whether solely as an ideological-religious problem or purely as a political-economic structure. To bridge this analytical divide, this study synthesizes the complementary insights of White and Shiva into an Integrative Socio-Theological Eco-Justice Framework (ISTEF). The framework operates through two mutually reinforcing dimensions. The first is the **Ideological-Moral Dimension**, derived primarily from White's analysis, which emphasizes the need to critically reconstruct anthropocentric religious interpretations and develop a relational ecological ethic that recognizes the intrinsic value and interdependence of the more-than-human world. The second is the **Structural-Political Dimension**, informed primarily by Shiva's analysis, which emphasizes the need to confront systemic exploitation associated with colonialism, capitalism, patriarchy, and developmentalism through community sovereignty, biodiversity protection, local ecological knowledge, and structural decolonization.

Within this integrative framework, religion is neither inherently the root cause of environmental destruction nor merely a passive moral bystander. Rather, its ecological significance depends on how religious worldviews and ethical commitments are interpreted, institutionalized, and connected to concrete socio-political realities. When

religious interpretations reinforce anthropocentrism and remain detached from the structural conditions that shape environmental exploitation, religion may legitimize human domination over nature, as critically demonstrated by White. Conversely, when relational ecological ethics are connected with resistance to unjust structures, community empowerment, and ecological justice, religion can function as an active force for ecological transformation. In this sense, White helps explain why religious worldview matters, while Shiva demonstrates why worldview alone is insufficient without confronting structures of power.

Building upon this Integrative Socio-Theological Eco-Justice Framework, the study advances its theoretical contribution by reconstructing religion as an ecological actor rather than merely a symbolic source of environmental morality. In the Indonesian context, where religious institutions possess substantial social legitimacy and organizational capacity, the framework suggests a dual strategy for ecological conservation. First, religious traditions need to critically reconstruct anthropocentric interpretations that may legitimize environmentally destructive practices and develop theological-ethical orientations grounded in relationality, responsibility, and ecological justice. Second, these religious commitments need to be connected with local community initiatives and broader struggles concerning agrarian justice, deforestation, biodiversity loss, and extractive development.

Reconstructing the Role of Religion as the Guardian of Ecology in Indonesia

Drawing upon the synthesis of White's and Shiva's ideas, together with the religious and cultural realities of Indonesia, this study develops the Religious Ecological Guardianship Framework (REGF) as a contextual model for reconstructing religion as an ecological actor. The framework is not presented as a direct extension of either White's or Shiva's original formulations. Rather, it constitutes a conceptual synthesis developed by this study by integrating White's analysis of religious worldview with Shiva's critique of political-economic domination, ecological injustice, and the marginalization of indigenous knowledge. White provides the theological-interpretive starting point by demonstrating how religious worldviews can legitimize human domination over nature, while Shiva expands the analysis by demonstrating why ecological transformation must also confront the structures of power and knowledge through which environmental exploitation is reproduced. The five pillars of the REGF therefore translate these complementary insights into a contextual framework for Indonesia.

Table 2. Derivation of the Religious Ecological Guardianship Framework from White and Shiva

REGF Pillar	White's Contribution	Shiva's Contribution	Integrated Formulation
1. Theological reinterpretation	Critique of anthropocentrism and human dominion in religious worldview	Critique of dominant knowledge systems that separate humanity from ecological relations	Reconstruct religious interpretations toward relational and ecological ethics
2. Interreligious ecological ethics	Recognition that religious worldviews shape human-nature relationships	Recognition of diverse local and cultural ecological knowledge	Develop shared ecological ethics across religious and cultural communities

3. Recognition of Indigenous knowledge	Critique of the historical dominance of Western Christian interpretations	Emphasis on indigenous knowledge, biodiversity, and community sovereignty	Recognize Indigenous communities as ecological knowledge holders and conservation partners
4. Ecological justice	Ethical critique of domination over the non-human world	Critique of colonialism, capitalism, patriarchy, and developmentalism	Connect environmental conservation with social justice and protection of affected communities
5. Institutional and civic collaboration	Transformation of religious worldview into ecological ethical responsibility	Transformation of structures through collective action and community empowerment	Mobilize religious institutions in collaboration with communities, civil society, and the state

The five pillars are therefore analytically interconnected rather than independent prescriptions. Theological reinterpretation constitutes the normative foundation of the framework because it addresses the worldview that shapes human perceptions of nature. This pillar is derived primarily from White's critique of anthropocentric interpretations that legitimize human dominion (White, 1967). However, the reconstruction of religious interpretation cannot remain at the level of theology alone. It must be translated into interreligious ecological ethics, allowing religious communities to develop shared commitments to responsibility, sustainability, solidarity, and respect for life across doctrinal boundaries. This second pillar extends White's insight concerning the formative power of religious worldviews while incorporating Shiva's recognition of plural cultural and ecological knowledge.

The third pillar, recognition of Indigenous knowledge, follows more directly from Shiva's critique of colonial forms of knowledge and her emphasis on local communities as holders of ecological knowledge (Shiva, 1988; Shiva, 2005; Shiva, 2016). In the Indonesian context, this means that religious ecological action should not treat local communities merely as beneficiaries of conservation programs. They should instead be recognized as knowledge holders and active partners in ecological governance. The fourth pillar, ecological justice, further extends Shiva's structural critique by connecting environmental conservation with questions of land, livelihood, resource access, and the unequal distribution of environmental costs. At the same time, it translates White's ethical concern regarding human domination into a broader principle of justice that encompasses both human communities and the more-than-human world.

The fifth pillar, institutional and civic collaboration, constitutes the transformative dimension of the framework. Religious ecological ethics become consequential when they are translated into education, community conservation, advocacy, environmental governance, and collective action. Here, White's emphasis on the transformation of cultural and religious consciousness is connected with Shiva's emphasis on transforming the structures and practices through which ecological exploitation occurs. Religious institutions therefore function not merely as transmitters of moral values but as organizational actors capable of connecting theological reflection with community-based environmental action, public policy, and civil society initiatives.

Taken together, these five pillars establish a movement from worldview transformation to ethical formation, knowledge recognition, ecological justice, and collective institutional action. The framework can therefore be understood as an iterative process:

Theological Reinterpretation → Interreligious Ecological Ethics → Indigenous Knowledge Recognition → Ecological Justice → Institutional and Civic Collaboration → Ecological Transformation

The sequence should not be understood as strictly linear. Rather, the five pillars are mutually reinforcing: theological reinterpretation can strengthen ecological ethics; ecological ethics can support recognition of Indigenous knowledge; recognition of local knowledge can deepen ecological justice; and ecological justice can motivate institutional and civic collaboration. Through this interaction, religion can move from being primarily a symbolic source of moral authority toward becoming an active ecological actor.

This conceptual model constitutes the principal theoretical contribution of the present study. Unlike approaches that position religion solely as either a historical cause of environmental degradation or a normative solution to the ecological crisis, the Religious Ecological Guardianship Framework conceptualizes religion as an institution and social force whose ecological role must be critically reconstructed. The framework integrates White's critique of religious anthropocentrism with Shiva's critique of ecological exploitation, colonial knowledge systems, and structural inequality. It therefore moves beyond a binary understanding of religion as either environmentally destructive or environmentally beneficial. Instead, it proposes that religion becomes an effective ecological actor when theological transformation is connected to ethical formation, recognition of local ecological knowledge, ecological justice, and engagement with the structures and institutions that shape environmental governance.

In this sense, the term *guardianship* does not imply that religion possesses an inherent or exclusive authority to protect nature. Rather, it refers to a relational and participatory form of ecological responsibility in which religious institutions and communities work alongside Indigenous peoples, civil society, and public institutions. The framework consequently repositions religion in Indonesia not merely as a source of moral legitimacy but as a potential transformative ecological actor capable of connecting spiritual-ethical renewal with community empowerment, structural critique, and environmental governance. This formulation provides a conceptual basis for understanding how Indonesia's religious pluralism can be mobilized toward ecological conservation that is not only environmentally sustainable but also socially just, culturally inclusive, and responsive to the communities most directly affected by ecological degradation.

Conclusion

This study demonstrates that the ecological crisis cannot be adequately explained through a single perspective. White highlights how anthropocentric religious interpretations can legitimize human domination over nature, while Shiva exposes the structural role of colonialism, capitalism, patriarchy, and developmentalism in reproducing ecological exploitation (White, 1967; Shiva, 1988; Shiva, 2005; Shiva, 2008). Their perspectives suggest that religion is neither inherently destructive nor inherently protective; its ecological role depends on how religious worldviews are interpreted and connected to broader structures of power. Based on this synthesis, the study proposes the Religious Ecological Guardianship Framework (REGF) as its principal conceptual contribution. The framework reconstructs religion as a potential ecological actor through five interconnected pillars: theological reinterpretation, interreligious ecological

ethics, recognition of Indigenous knowledge, ecological justice, and institutional and civic collaboration. In Indonesia, this framework suggests that religious institutions can contribute to ecological conservation not merely through environmental teachings but by connecting spiritual values with Indigenous knowledge, community action, environmental justice, and participatory governance. This study is limited by its focus on two thinkers and its conceptual library-based methodology; the proposed Religious Ecological Guardianship Framework (REGF) has not yet been empirically validated across Indonesia's diverse religious and socio-ecological contexts. Future research should therefore test the framework through empirical studies involving religious communities, Indigenous peoples, environmental organizations, and relevant public institutions. Such research can assess whether and under what conditions religion can move from symbolic environmental advocacy toward transformative ecological action.

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