Position Paper

Peace with nature as the new nature of peace

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Abstract. *Mounting ecological crises – climate change, biodiversity loss, pollution, and resource depletion – act as "threat multipliers," undermining livelihoods, intensifying insecurity, and fueling violent conflict. This perspective argues that peace in the twenty-first century must extend beyond the absence of armed conflict to encompass harmony between humanity and the natural environment. Lasting peace, therefore, requires reinvestment in ecosystems as critical foundations for resilience, prosperity, and stability. Cultivating Nature Quotient (NQ) - the capacity to perceive and act upon*

ecological interdependence - is a prerequisite for leaders and societies to secure peace with nature and safeguard civilization's continuity.

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1. Ecological degradation, societal stress, and conflict risks

Peace is a fundamental condition for the flourishing of all living beings, from individual humans to entire ecosystems. It creates the necessary environment for life to thrive by ensuring safety, promoting health, and allowing for cooperation and growth. Traditionally, peace has been defined along two dimensions: the reduction of violence and the cultivation of harmonious relationships among individuals, families, groups, communities, and nations (Anderson, 2004). Yet as environmental crises accelerate, this definition is no longer sufficient. A new understanding of peace must also encompass harmony between humans and Earth's ecosystems, since humanity's domination and destruction of nature are increasingly driving societies into violence and conflict (Constantinou & Christodoulou, 2024).

Anthropogenic climate change and ecological degradation are not only causing drastic declines in wildlife populations and pushing numerous species toward extinction, but also deepening human hardship and insecurity (UNDP, 2024). The deterioration of critical ecological conditions—such as freshwater availability, fertile soils, stable climate, and biodiversity—undermines livelihoods and social stability, thereby heightening the risk of conflict over basic survival resources. Contemporary research consistently links environmental stressors to conflict at multiple scales, from interpersonal violence and crime to intergroup clashes, political instability, institutional breakdown, and even the collapse of civilizations (Ayana et al., 2016; Bernauer et al., 2012; Butzer, 2012; De Dreu et al., 2022; Homer-Dixon, 1991).

A comprehensive meta-analysis of 60 studies spanning from 10,000 BCE to the present across major world regions demonstrates that deviations in climate—such as warming or extreme rainfall—significantly increase the incidence of conflict (Hsiang et al., 2013). Their analysis estimates that each one-standard-deviation shift toward higher temperatures or more erratic rainfall raises the frequency of intergroup conflict by about 14% and interpersonal violence by 4%. As climate change is projected to push many regions 2-4 standard deviations

beyond historical variability by mid-century, the likelihood of human conflict could escalate sharply.

Ecological degradation is not only the driver of conflict, but it also exacerbates pre-existing social, economic, and political vulnerabilities. Climate change acts as a threat multiplier, compounding existing vulnerabilities, especially in states with weak institutions and poor governance (Britchenko, 2025; Brown et al., 2007; Huntjens & Nachbar, 2015). The Intergovernmental Panel on Climate Change (IPCC) has noted with high confidence that climate hazards increasingly drive involuntary migration and displacement, and with robust evidence and medium agreement that such hazards can heighten tensions, leading to political violence and surges in asylum-seeking (IPCC, 2022). In regions such as sub-Saharan Africa, rising temperatures and recurrent droughts heighten risks for rain-dependent populations by undermining food security, reducing crop yields, and straining water resources, while politically marginalized communities face compounded vulnerabilities due to limited access to adaptive resources and greater exposure to disputes over scarce essentials such as land and water (Ayanlade et al., 2022; IPCC, 2022; Lombe et al., 2024). Consequently, marginalized groups—and individuals with low trust in the state—are more likely to endorse political violence in the aftermath of disasters (Detges, 2017). Recognizing this, the United Nations Security Council's Joint Statement on Climate, Peace and Security has considered climate change as a major aggravator of threats to peace and security, a driver of conflict, a challenge to mandate implementation, and a danger to peace consolidation.

Ecological degradation is also a consequence of conflict, which in turn creates a vicious cycle where environmental damage, resource scarcity, and climate change exacerbate poverty, reduce food security, and fuel further conflict over dwindling resources, impeding recovery and lasting peace (Buhaug & Von Uexkull, 2021; Nguyen et al., 2023; Vuong et al., 2024). Warfare accelerates deforestation, illegal mining, logging, and wildlife poaching, as armed groups exploit natural resources to finance operations. Notably, about 90% of major armed conflicts between 1950 and 2000 occurred in countries containing biodiversity hotspots, with 80% of those conflicts taking place directly within such hotspots (UNDP, 2024). Conflict zones often suffer extensive habitat destruction and pollution, which not only hinder post-conflict recovery but also perpetuate fragility (Krampe et al., 2025). In the absence of effective governance and institutional arrangements, ecosystem services are further depleted through unsustainable exploitation (Grima & Singh, 2019; McNeely, 2003).

In the context of intensifying climate change and environmental degradation, peace-making efforts are becoming increasingly challenging or even infeasible in some cases. Even when humanity achieves peace between peoples and nations, that peace may not be sustainable and could be at risk of breaking down. This perspective suggests that a new peace paradigm is needed in the face of accelerating climate change, biodiversity loss, and ecological degradation. For the future of humanity and the planet, peace must also integrate peace with nature. Preventing conflict in the 21st century, therefore, requires embedding harmonious cohabitation with nature at the core of peacebuilding strategies.

This discussion unfolds in four sections. Section 1 examines how ecological decline and the loss of ecosystem services intensify social stress and conflict risk. Section 2 explains why technological progress and knowledge alone cannot secure human welfare without genuine ecological concern. Section 3 argues that investing in the protection and restoration of nature has become the most critical investment for human survival and lasting peace. Section 4 then examines the major challenges that may impede the prioritization of environmental protection and restoration. Finally, Section 5 introduces the concept of Nature Quotient (NQ)—the capacity to perceive, process, and act upon ecological interconnections—as a prerequisite for policymakers and societies to overcome the existing challenges and cultivate a peaceful future in harmony with the environment.

2. The war humans wage on nature

Human well-being is inseparable from the planet's life-support systems—a reality acknowledged both in long-standing traditions and in modern scientific assessments. The Millennium Ecosystem Assessment (2005) aptly noted that "nature's goods and services are the ultimate foundations of life and health." Essential ecosystem services such as clean air, fresh water, crop pollination, climate regulation, and nutrient cycling underpin all economic and social development. This deep interdependence between people and nature carries profound consequences for human survival and progress. The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) warns that ongoing biodiversity loss and ecosystem degradation threaten the achievement of roughly 80% (35 out of 44) of the Sustainable Development Goals (SDGs), affecting domains from poverty alleviation and food security to health, water, climate, and urban resilience (IPBES, 2019).

Yet, despite this dependence, growing material prosperity in many regions has fostered the belief that economic growth and technological advances can liberate society from environmental constraints (Dinda, 2004; Vuong & Nguyen, 2024a). Current socio-economic systems—including those nominally designed for environmental protection—remain anchored in values that prioritize economic growth and technological progress above ecological sustainability (Vuong, Nguyen, & La, 2025). The belief in perpetual growth and the miracle of technology is further reinforced by the so-called "environmentalist's paradox," whereby indicators of human well-being, such as life expectancy and GDP per capita, have improved even as ecosystems have deteriorated. Explanations for this paradox point to the global gains from food production outweighing the costs of losses in other ecosystem services, and to the way fossil fuels, technological innovation, and engineered substitutes have safeguarded societies from the consequences of ecological degradation (Raudsepp-Hearne, Peterson, Tengö, et al., 2010).

IPBES (2019) reports that while the global economy has quadrupled and international trade has expanded tenfold over the past half-century, this growth has come "at the expense of nature's ability to provide such [ecosystem] contributions in the future." Instead of building sustainable systems, humanity has liquidated natural capital—at great cost: accelerating climate change, unprecedented biodiversity loss, eroding soils, depleting aquifers, and pervasive pollution. For example, Raudsepp-Hearne, Peterson and Bennett (2010) showed that although food production increased, other regulating ecosystem services such as nutrient cycling and flood protection declined, pointing to an accumulating ecological debt that future generations will be forced to repay. Warning signs of this debt are already visible: Fertilizers boost yields but simultaneously drive soil degradation and water pollution, requiring ever-greater inputs; groundwater pumping once secured harvests but now depletes aquifers, threatening long-term water security; industrial emissions fueled growth but now intensify climate change, with escalating costs from droughts, floods, and heatwaves.

Technology and economic growth cannot exempt humanity from the realities of climate change, biodiversity loss, and ecological degradation. On the contrary, they are propelling society along an eco-deficit trajectory. The apparent decoupling of human well-being from nature's decline is likely temporary—a short-lived anomaly shaped by time lags and unequal distribution of benefits. Moreover, prevailing growth-oriented and technology-centric approaches to climate change and ecological crises have proven ineffective (La et al., 2025).

They rest on a flawed human valuation system that neglects ecological disequilibria and fails to account for the true costs of biodiversity loss. Worse still, such approaches often push societies further away from nature and reality, pursuing expensive technological solutions that are ineffective in addressing climate change while neglecting inexpensive and effective nature-based solutions, thereby diminishing the resilience of socio-economic systems (Vuong, Nguyen, & La, 2025; Vuong, Nguyen, Tran, et al., 2025).

As a result, such a disconnect from nature has led humanity to an absurd situation, where periods of peace have become conditions for accelerating the destruction and degradation of the planet's life-supporting systems (Diamond, 2011). Specifically, analyzing global datasets of conflict, peace, and ecological indicators from 2010 to 2022, Marcantonio and Field (2025) reveal a paradoxical pattern: countries with the highest levels of peace are more likely to be the least ecologically sustainable, while those most vulnerable to environmental risks and experiencing conflict contribute the least to global ecological degradation through consumption. This finding echoes UN Secretary-General António Guterres's warning that "humanity is waging war on nature" (Guterres, 2020). Yet given the deep interdependence between people and ecosystems, this is not only a war on nature but also a war on ourselves and on future generations.

To secure human survival, societal progress, and the continuity of civilization, the concept of peace must shift beyond the anthropocentric paradigm toward an ecocentric one—recognizing that human well-being is inseparable from ecological integrity. Without deliberate efforts to regenerate ecosystems and restore biodiversity, technological achievements and innovations will remain hollow and short-lived. A truly peaceful and prosperous civilization can only endure by respecting planetary boundaries, coexisting with other species, and restoring balance with the natural systems that sustain life.

3. Reinvesting in nature as a fundamental investment for peace

If environmental degradation is among the greatest threats to human security and well-being, then reinvesting in nature—through ecosystem restoration, biodiversity conservation, and ecological balance—is arguably a critical investment humanity can make for its survival, progress, and continuity. In the decades ahead, funding and policy priorities need to shift decisively toward protecting and rehabilitating natural systems. This is not only an ethical and aesthetic responsibility, but also a practical strategy for achieving peace and stability. Without substantial reinvestment in the environment, peace will remain

fragile, as ecological instability will continue to generate conflicts and crises that undermine societies.

There is growing recognition that ecosystems and biodiversity are vital to national security and economic resilience. The World Economic Forum's Global Risks Report ranks biodiversity loss and ecosystem collapse among the most pressing global threats, reflecting the reality that ecological breakdown can destabilize economies and governance on a vast scale (Elsner et al., 2025). The Swiss Re Institute has shown that more than half of global GDP—about USD 41.7 trillion—depends on high-functioning biodiversity ecosystems, while one-fifth of countries face a serious risk of ecosystem collapse due to biodiversity loss and its pertinent benefits (Swiss Re Institute, 2020). Should these systems fail, cascading effects such as food insecurity, disasters, and mass displacement could overwhelm political institutions and trigger widespread instability and conflict.

By contrast, healthy ecosystems are not only essential for buffering humanity against ecological collapse but also for fostering resilience. Strategic reinvestment in nature—whether through reforestation, habitat restoration, protected areas, sustainable agriculture and fisheries, pollution control, or transitions to renewable energy and circular economies—constitutes an investment in peace and security at every stage of conflict. Thriving ecosystems can mitigate resource scarcity and competition before conflicts arise. During conflicts, protecting natural resources that underpin local economies and livelihoods can reduce incentives for escalating violence and maintain opportunities for cooperation. In post-conflict contexts, environmental restoration supports recovery and reconciliation through peacebuilding initiatives. In other words, nature preservation and restoration are not peripheral but integral to comprehensive strategies for peace and security (Vuong et al., 2024).

Healthy ecosystems and biodiversity directly contribute to peace and stability by meeting basic human needs—clean water, food, energy, and medicine. When these needs are reliably secured, societies are more stable and less prone to unrest. Investing in nature also provides a "triple dividend" of prosperity, peace, and well-being (Mehra & Daouda, 2025). Johnson et al. (2023) found that investments in nature deliver annual economic gains of $100-350 billion, with the largest relative improvements in low-income countries. These estimates, limited to only a subset of ecosystem services, likely understate the full potential, as they exclude ecological tipping points and limits to substitution. They also emphasize that their estimates cover only a narrow range of ecosystem services and are therefore likely conservative; inclusion of additional services, consideration of ecological tipping points, and recognition of limited

substitutability in natural capital would yield far higher values. Subsequently, the economic prosperity generated by reinvestment in nature also creates essential conditions for peace and enhances human well-being (Institute for Economics & Peace, 2025). From a cost-effectiveness perspective, ecosystem investments are highly efficient: every dollar spent on resilience projects, such as mangrove restoration, can save several dollars in avoided disaster losses and reduced climate adaptation costs (Goto et al., 2025; Menéndez et al., 2020).

Moreover, investing in nature can act as a powerful catalyst for cooperation, bridging social and national divides. When communities and nations collaborate to protect shared natural resources, they are compelled to set aside ideological or political differences in pursuit of common objectives (Vuong et al., 2023; Vuong et al., 2024). Whether protecting a transboundary watershed, restoring migratory habitats, or addressing climate change, such joint efforts foster a sense of collective responsibility and interdependence. Collaborative conservation often requires the exchange of data, resources, and expertise, thereby building trust and strengthening diplomatic ties. This cooperative framework not only supports a healthier planet but also lays the groundwork for greater stability and peace, demonstrating that environmental stewardship is both an ecological necessity and a strategic tool for diplomacy and social cohesion.

Reinvesting in nature is therefore a fundamental investment humanity can make for its survival and peace. Without restoring and sustaining the ecosystems that support life, any peace achieved will remain fragile and elusive. Conversely, a global commitment to regenerate nature can contribute to climate stabilization, safeguard essential resources, and alleviate the inequalities and scarcities that often drive conflict. As societies chart a course toward long-term stability and prosperity, investing in ecological restoration must be regarded not as a peripheral option but as a prerequisite. Nonetheless, significant challenges continue to obstruct the reorientation of funding and policy priorities toward the protection and restoration of natural systems. These challenges are examined in the following section.

4. Major challenges hindering investment in nature

Saving is the mother of all investments. The most effective strategy for safeguarding and restoring natural systems lies in preventing environmental debt and averting ecosystem destruction (Vuong, 2021; Vuong, Nguyen, & La, 2025). Yet, decisively shifting funding and policy in this direction confronts multifaceted challenges.

A central difficulty stems from managing the economic and social trade-offs that inevitably arise. Modern economies are structurally predicated on continuous growth—ever-rising GDP, production, and consumption—as the basis for stability (Harvey, 2018). A rapid departure from this growth-centric model, if poorly managed and uncoordinated, risks severe economic dislocation and social disruption, possibly resembling what Kallis (2011) described, "when growth stops […] the edifice starts trembling. Debts cannot be paid, credit runs out and unemployment sky-rockets." Because jobs, livelihoods, and public revenues are deeply intertwined with economic growth, an abrupt slowdown or contraction could trigger a recession or even a prolonged depression, leading to rising inequality and social tensions that threaten democracy (Schmelzer, 2017). The critical challenge, therefore, is to reduce humanity's ecological footprint without imposing disproportionate short-term hardships on vulnerable populations. Poorly executed transitions—for example, suddenly curtailing industry and consumption—could resemble an austerity scenario of shuttered factories, mass unemployment, and widespread unrest (Hoffman, 2024). While such outcomes might temporarily reduce environmental pressures, they risk eroding public support, fueling political backlash, and undermining both ecological objectives and peace.

Additionally, deeply ingrained cultural norms perpetuate resistance to this transition. Decades of growth-centric values have normalized consumerism and ever-expanding material consumption as primary markers of progress, success, and legacy (Duesenberry, 1949; Guitart, 2011; Watkins, 2023). Both industries and consumers remain locked into the prevailing paradigm of perpetual production, consumption, and disposal. Businesses may engage in greenwashing and lobbying to obstruct measures that could curb consumption (Fraser & Ramos, 2024; Preuss & Max, 2024). On the consumer side, behavioral inertia and expectations present additional hurdles. Particularly in affluent societies, populations have grown accustomed to convenience and novelty—ranging from frequent gadget upgrades to extensive air travel—activities that substantially contribute to climate change (Schöngart et al., 2025). Yet the consequences of these emissions, including intensified social stress and heightened risks of conflict, are disproportionately borne by poorer countries that are more frequently and heavily affected by climate impacts (Hallegatte et al., 2016; Tawiah & Alessa, 2025). Overcoming these cultural barriers requires a reevaluation of societal values, reshaping how progress, success, and legacy are perceived.

The interconnection between environmental sustainability and peace is not merely a local concern but a global imperative, given the pervasive impacts of

climate change across the multifaceted dimensions of global society. Yet, climate denialism continues to persist. This persistence undermines the recognition of responsibility and the acknowledgment of consequences, particularly among governments and citizens in developed countries that are less directly affected by climate change (Gounaridis & Newell, 2024). Decades of climate science denial, coupled with the widespread spread of misinformation, have entrenched public skepticism and apathy, thereby hindering the effective implementation of policies for nature protection and restoration (Gounaridis & Newell, 2024; La et al., 2024). Over the past 35 years, the number of countries hosting at least one "counter-climate" organization has more than doubled. At present, such groups are active in at least 51 nations, where they strategically coordinate efforts to obstruct or weaken climate-related legislation and international cooperation (Furuta & Bromley, 2025).

Adding to these challenges is the weaponization of climate and environmental agendas in both domestic and international politics (King, 2016; Vuong et al., 2023). Such dynamics can undermine efforts to advance environmental protection and restoration as pathways to peacebuilding. When climate change and environmental agendas are instrumentalized for political, economic, or geopolitical maneuvering—rather than pursued as genuine commitments to safeguarding the planet—they not only fail to foster peace but also intensify tensions and conflicts between nations, with the potential to escalate into military confrontations. At the international level, major powers often adopt environmental stances less out of ecological concern than as leverage to advance diplomatic or strategic objectives. For example, China recently announced the creation of a new nature reserve at Scarborough Shoal in the South China Sea, a move authorities say is for environmental protection but is viewed by the Philippines and other experts as a geopolitical maneuver to solidify its claim over the contested waters (Ting & Moritsugu, 2025).

Domestically, partisan actors frequently frame climate and environmental policies as ideological wedge issues, using them to mobilize support, polarize voters, or delegitimize opponents. This weaponization dynamic fosters antagonism and disputes over power and positioning, erodes public and international trust, heightens the risk of prolonged confrontations, and undermines cooperative action on global environmental challenges, including conflict resolution and peacemaking efforts. A telling example is the United States' repeated withdrawal from and re-entry into the Paris Agreement under successive administrations. Such reversals corrode international confidence and

encourage other states to hedge their commitments, knowing that pledges may prove ephemeral.

Donald Trump also provides another striking case of this weaponization. He explicitly viewed climate agendas as partisan "weapons," retaliating by radicalizing climate change denial and spreading climate skepticism (Gounaridis & Newell, 2024). At the 80th United Nations General Assembly, he called climate change the "greatest con job ever perpetrated on the world," directly contradicting the scientific consensus, and rejected renewable energy initiatives championed by the Biden administration (Comerford & Debusmann Jr, 2025). This stance was further institutionalized through sweeping regulatory rollbacks, budget cuts, and withdrawals from international frameworks—moves that framed climate policies as burdens imposed by political adversaries. The consequences of such weaponization and denialism are profound. By diverting attention away from the real ecological crisis, it disrupts the continuity and credibility of climate governance, impedes sustained momentum, and makes cross-border collaboration exceedingly difficult to achieve. Worse still, it exacerbates climate-induced social stresses and conflict risks worldwide, particularly in the Global South, where communities are disproportionately vulnerable to climate change (Hallegatte et al., 2016; Tawiah & Alessa, 2025).

The institutional inertia also presents a profound structural challenge (Markard et al., 2020; Munck af Rosenschöld et al., 2014; Samadi & Alipourian, 2024). Even when leaders recognize the urgency of change, governments, corporations, and multilateral bodies are often "locked in" to legacy systems shaped over decades. This institutional path dependency means that past investments, infrastructures, and bureaucratic routines severely constrain present choices. For instance, an economy long reliant on fossil fuels cannot transition to renewables overnight without stranding assets and disrupting energy supplies because power grids, transport networks, and industrial processes have been optimized around the incumbent system. The military-industrial complex also exemplifies institutional inertia in the environmental domain. Militaries worldwide are significant sources of greenhouse gas emissions and biodiversity degradation, yet their environmental impacts remain largely in the shadows due to national security exemptions and entrenched operational requirements (Mcfarlane & Volcovici, 2023; Parkinson & Cottrell, 2022; Vuong et al., 2024). Dependence on fossil fuels, global supply chains, and munitions testing—combined with limited civilian oversight—means defense institutions change slowly, if at all, in response to climate imperatives.

Multilateral institutions often move at a glacial pace, reflecting the structural limitations of consensus-driven decision-making. Frameworks such as international climate agreements typically require unanimity or near-unanimity among a diverse set of member states, each with its own political systems, economic priorities, and levels of vulnerability to climate change. This means that ambitious proposals are often diluted, postponed, or converted into vague commitments lacking enforceable mechanisms. For example, the Paris Agreement was designed to secure universal participation by relying on nationally determined contributions (NDCs), but this flexibility also meant that commitments varied widely in ambition and remained non-binding, leaving the framework heavily dependent on the shifting political will of individual states (Huggins, 2021; Lawrence & Wong, 2017). These institutional constraints allow powerful actors—whether fossil fuel–exporting states and industries—to stall or reshape agendas in ways that protect entrenched interests (Franta, 2022; Nwokolo, 2025). The result is that even well-intentioned sustainability initiatives risk dilution when filtered through bureaucratic procedures, intergovernmental bargaining, and geopolitical rivalries. In this way, the very structures designed to foster global cooperation can paradoxically reinforce inertia.

Given these challenges, the following section contends that surmounting such barriers and advancing a new vision of peace will require cultivating Nature Quotient (NQ) among both policymakers and citizens.

5. The prerequisite of NQ for making peace with nature

Achieving sustainable peace that encompasses harmony with nature requires more than policies and investments—it calls for a fundamental shift in collective consciousness and intelligence. Central to this transformation is improving our Nature Quotient (NQ). NQ refers to the capacity to understand natural systems, perceive the interdependence between humans and the environment, and make decisions aligned with ecological realities (Vuong & Nguyen, 2025). A society with elevated NQ would ensure that decisions in government, business, and communities consistently reflect an awareness of our reliance on nature and the consequences of degrading it. Without this ecological intelligence, even well-intentioned peace initiatives risk overlooking environmental dimensions of conflict and inadvertently sowing the seeds of future instability.

Cultivating a high NQ involves more than acquiring environmental knowledge; it represents a holistic intelligence that integrates perception, processing, and organization of ecological information to foster deep environmental

consciousness. Unlike a static body of facts, NQ requires active engagement: perceiving subtle ecological changes, understanding how they are interconnected with larger socio-economic systems, and processing this information into meaningful action (Vuong & Nguyen, 2024b). This heightened awareness enables societies to embed environmental sustainability as a foundation for prosperity, peace, and well-being. Raising NQ also helps overcome anthropocentric biases that frame nature solely as a resource for exploitation, shifting perspectives toward an interconnected web of life. By encouraging decision-making that weighs short-term benefits against long-term consequences, NQ helps people recognize that true prosperity and enduring peace ultimately depend on ecological stability (Vuong & Nguyen, 2025).

To advance the new vision of peace, a critical first step is to generate knowledge on environmental-society interdependence and develop nature-based conflict resolution frameworks. Scientific research needs to illuminate how environmental degradation intensifies social stresses—such as resource scarcity, displacement, and inequality—that can ignite conflict, and conversely, how environmental protection underpins long-term peace and development. Interdisciplinary studies that integrate ecological science into peace and conflict research are particularly vital. Such knowledge serves a dual purpose: it enhances the NQ of policymakers and citizens through training, education, and communication, and it informs the development of scientifically grounded, nature-based conflict resolution frameworks in which ecosystem protection and restoration become integral to peacebuilding.

These frameworks encourage conflicting parties to recognize their shared interest in safeguarding life-support systems, while also enabling leaders and communities to identify opportunities to use ecology as a peacebuilding instrument—for example, through the application of nature-based solutions and broader nature-positive approaches to address societal challenges, prevent conflict, and foster sustainable peace (Gweshengwe, 2025; Wolters & Schellens, 2024). They can take the form of participatory, conflict-sensitive conservation initiatives, such as engaging ex-combatants in reforesting war-torn landscapes—providing both livelihoods and psychological healing while simultaneously regenerating ecosystems—or negotiating ceasefires that create space for environmental restoration in conflict zones (Bruch et al., 2025). In this way, ecological sustainability becomes not a peripheral concern but a foundational pathway toward enduring peace.

Governments should also adopt a high-NQ policymaking approach by institutionalizing environmental considerations at the core of social stability and

national security strategies. This requires broadening the definition of security to encompass climate change, ecosystem collapse, pandemics, and other environmental risks as primary threats on par with military or socio-economic challenges. For example, defense and foreign policy institutions could develop climate-security plans that anticipate how resource scarcity or extreme weather may fuel conflict, while simultaneously identifying opportunities where cooperation on climate adaptation and environmental restoration can foster peace. A significant blind spot, however, currently lies in the exclusion of the military and defense sectors from climate accountability. Military operations are significant contributors to emissions and ecological degradation, yet they remain largely exempt from scrutiny due to concerns over secrecy and sovereignty. Addressing this gap will require international coordination and high-level policy reforms to align defense sectors with global climate and environmental commitments.

Leaders with elevated NQ are also more likely to treat environmental assessments as essential rather than perfunctory, recognizing that choices in agriculture, energy, trade, and urban planning carry cascading ecological consequences not only locally but also globally. They also treat planetary boundaries as non-negotiable limits in governance. Encouragingly, some governments have already begun institutionalizing NQ-informed approaches. For example, China has introduced a Gross Ecosystem Product (GEP) index to measure ecosystem services alongside GDP, shaping development priorities (Zheng et al., 2023). India's Uttarakhand state has incorporated the Gross Environment Product into its budgeting (Singh, 2024), while African countries have adopted the Gaborone Declaration for Sustainability in Africa and integrated natural capital accounting into national planning, corporate planning, and reporting processes, policies, and programs (Reuter et al., 2016). These efforts underscore the increasing recognition that ecological values are inseparable from socio-economic and peace governance.

At the international level, environmental considerations should be integrated into diplomacy and peacebuilding efforts to highlight the interconnections and interdependencies between environmental sustainability and peace. Indeed, several calls for ecological approaches to diplomacy and peacebuilding already exist. The United Nations, for example, has advanced the Harmony with Nature initiative to promote a global ontological shift toward a Nature-as-Subject discourse, grounded in the recognition of the symbiotic and interconnected relationship between humans and the Earth. Constantinou and Christodoulou (2024) argue that conventional peacebuilding paradigms overlook human-nature

dynamics and propose ecological diplomacy as a transformative alternative. This emerging paradigm seeks to transcend traditional, anthropocentric, and state-centric practices, moving beyond logocentric reasoning to address the environmental crisis. Instead, it emphasizes global commons, ecological interconnectivity, and planetary interests. Its ultimate aspiration is to foster "peace with nature," which the UN Secretary-General António Guterres has declared as "the defining task of the 21st century" (Guterres, 2020).

Realizing such a paradigm requires leaders and diplomats with high ecological intelligence—those who understand that peace and security are inseparable from ecological integrity. This entails cultivating the cognitive and moral capacity to embed nature's well-being within the very definition of human well-being. Leaders and diplomats with low ecological intelligence risk being "ecologically blind," advancing peace accords or development projects that collapse when resource depletion or climate shocks reignite tensions. By contrast, those with high ecological intelligence pursue strategies that endure precisely because they are grounded in ecological sustainability. They recognize reforestation, biodiversity conservation, and emissions reductions not as optional "green" measures but as indispensable foundations for peace and security. Yet many decision-makers still operate with low NQ, clinging to the illusion that technology alone can rescue humanity while disregarding ecological limits. Overcoming this illusion is crucial to ending the war on nature and cultivating a lasting peace that encompasses both humanity and the broader community of life.

Indeed, high-NQ individuals are naturally inclined to embrace eco-surplus values that prioritize ecological health as the foundation of human survival, well-being, and generational continuity. In an NQ-informed society, conflicts and wars would be more likely to be avoided, as people recognize that war not only accelerates ecological destruction but also depletes the vitality and resources that could otherwise be directed toward planetary resilience. Moreover, they may acknowledge that entrenched hatred, traumatic memories of loss, and deep-seated distrust caused by war serve only to obstruct future collaboration. In such a context, climate and biodiversity agendas would be far less likely to be weaponized for political, economic, or geopolitical gain; instead, they would be regarded as shared ground for cooperation. Not to say, high ecological intelligence would help governments and citizens—particularly those in developed countries less directly affected by climate change—recognize that persisting with eco-deficit, growth-centric, and consumption-heavy trajectories not only fuels social tensions and conflict in climate-vulnerable regions but also

produces repercussions for their security, such as heightened migration pressures (Burzyński et al., 2022; Cattaneo & Foreman, 2023; Missirian & Schlenker, 2017).

Improving ecological intelligence across society is undoubtedly a challenging objective. Yet, just as literacy and scientific literacy were essential foundations for democracy and development in the 20th century, ecological literacy may well be indispensable in the 21st century as a foundation for survival, peace, and well-being. Central to raising societal NQ is education and communication. Environmental education—spanning early schooling through civil service training—can foster systems thinking and long-term ecological awareness. Public ecoliteracy initiatives such as citizen science, nature immersion, and media campaigns also help cultivate constituencies that support sustainability-oriented policies (Askerlund & Almers, 2016; Fraisl et al., 2022; Nguyen, 2024; Nguyen & Jones, 2022; Tran, 2025).

Such ecological literacy contributes not only to the generation of nature-based innovations and serendipitous solutions that reinforce top-down policy change but also to the evolution of socio-cultural and humanistic values and ideologies (Vuong, La, et al., 2025). This, in turn, facilitates the transition from an eco-deficit culture to an eco-surplus culture (Vuong, La, et al., 2025). An eco-surplus culture proactively integrates ecological considerations into all aspects of decision-making, viewing nature not as a liability to manage but as a source of shared wealth and stability. This proactive stance strengthens both ecological and social resilience, thereby reducing tensions that might otherwise escalate into conflict. Shared commitments to preservation and conservation can further foster cooperation and stability among communities and nations, replacing competition and strife with collective responsibility.

The Rights of Nature movement and the Pachamama Alliance provide notable demonstrations of such socio-cultural evolution. The Rights of Nature movement explicitly challenges the anthropocentric, corporate-dominated status quo by granting legal personhood and rights to natural entities. In 2008, Ecuador became the first country in the world to enshrine the Rights of Nature—referred to as *Pachamama* (Mother Earth)—in its constitution. Bolivia soon followed with its Law of Mother Earth. These landmark steps affirm that ecosystems possess inherent rights to exist, thrive, and regenerate, rather than being treated merely as property (Berros, 2015). By codifying respect for Pachamama, such frameworks embed an eco-centric ethic at the highest institutional levels. Meanwhile, the Pachamama Alliance—a global community and non-profit organization—works closely with Indigenous communities of the Amazon rainforest, whose high NQ is reflected in their deep ecological knowledge and

practices, to safeguard their lands and cultures. Building on this collaboration, the Alliance also educates and inspires individuals worldwide to cultivate a thriving, just, and sustainable future (Alliance, n.d.). Although still concentrated in a limited number of countries, these initiatives signal a paradigm shift from viewing nature as an object of exploitation to recognizing it as a subject of care and coexistence. In doing so, they create conditions for broader paradigm transitions at the international level and reinforce the case for investing in nature as a pathway to peace.

In the 21st century, the meaning of peace must expand beyond the absence of human conflict to encompass harmony with the natural environment. Degraded ecosystems and climate stresses are inextricably linked to human insecurity, rendering genuine peace unattainable if Earth's life-support systems continue to decline. Neither technological innovation nor economic progress can sustain well-being on a planet that is depleted. Only by safeguarding and restoring ecosystems can prosperity and stability endure. Investing in nature is therefore an investment in peace, as it reduces the inequalities and scarcities that fuel conflict. Developing high NQ among leaders and societies is essential for guiding decisions that respect ecological boundaries and prevent new instabilities. As global environmental change accelerates, the security and continuity of civilization will hinge on humanity's capacity to make peace with nature.

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