

ENVIRONMENTAL DEGRADATION AND ARMED GROUP RECRUITMENT IN FRAGILE STATES

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ABSTRACT

Environmental degradation has increasingly emerged as a critical but underexplored driver of armed group recruitment in fragile states. This article examines how ecological stressors such as climate change, land degradation, resource depletion, and environmental pollution interact with weak governance, economic marginalization, and social fragmentation to create conditions conducive to armed mobilization. Drawing on environmental security theory and political ecology, the study argues that environmental degradation functions not merely as a background condition but as an active structural catalyst that intensifies grievances, erodes livelihoods, and undermines state legitimacy. Through a qualitative analysis of selected fragile-state contexts, including the Lake Chad Basin, the Sahel, and the Niger Delta, the article identifies key pathways linking environmental harm to recruitment dynamics, notably livelihood loss, competition over scarce resources, forced displacement, and the collapse of traditional coping mechanisms. It further demonstrates how armed groups strategically exploit environmental vulnerability by framing ecological grievances within ideological narratives, offering alternative economic opportunities, and exerting control over natural resources. The article also highlights the gendered and youth-specific dimensions of environmental insecurity, showing how young people, in particular, become susceptible to recruitment amid ecological and economic precarity. The study concludes that addressing armed group recruitment in fragile states requires moving beyond militarized responses toward integrated strategies that combine environmental protection, climate adaptation, livelihood resilience, and inclusive governance. By foregrounding the environmental roots of insecurity, this article contributes to broader debates on sustainable peacebuilding and conflict prevention in ecologically stressed societies.

Keywords: Environmental degradation; Armed group recruitment; Fragile states; Environmental security; Climate change; Conflict and governance

INTRODUCTION

In recent decades, the intersection of environmental crises and armed conflict has become an increasingly salient concern in fragile states. Climate change, land degradation, deforestation, water scarcity, and environmental pollution now interact with pre-existing political instability, poverty, and weak governance structures to intensify insecurity across many regions of the Global South (Homer-Dixon, 1999; Dalby, 2009). Fragile states characterized by limited state capacity, contested legitimacy, and weak institutional frameworks are particularly vulnerable to these compounded pressures. In such contexts, environmental stress does not operate in

isolation but exacerbates social grievances, economic marginalization, and competition over scarce resources, thereby increasing the likelihood of violent conflict (UNEP, 2012).

Scholars of environmental security argue that environmental degradation functions as a “threat multiplier,” amplifying existing political and socio-economic fault lines rather than directly causing conflict (Barnett & Adger, 2007). Empirical evidence from regions such as the Sahel, the Horn of Africa, and the Lake Chad Basin illustrates how prolonged droughts, desertification, and declining agricultural productivity undermine rural livelihoods and pastoral systems, contributing to displacement and social dislocation (Raleigh & Kniveton, 2012). Within these fragile settings, armed groups often emerge as alternative sources of authority, protection, and economic opportunity, particularly where the state is unable or unwilling to respond effectively to environmental and livelihood crises.

While the relationship between natural resources and conflict has been widely examined, less attention has been paid to environmental degradation as a structural driver of armed group recruitment. Existing conflict analyses frequently prioritize ideological extremism, ethnic divisions, or political exclusion, often treating environmental factors as secondary or background variables (Collier & Hoeffler, 2004). This tendency obscures the ways in which ecological decline directly shapes recruitment dynamics by eroding livelihoods, fostering insecurity, and weakening the social contract between citizens and the state. Environmental degradation contributes to recruitment in at least three interrelated ways. First, it destroys or constrains traditional means of survival such as farming, fishing, and herding thereby increasing unemployment and economic desperation, especially among youth (Kahl, 2006). Second, it intensifies competition over diminishing resources, heightening communal tensions and grievances that armed groups can exploit (Benjaminsen et al., 2012). Third, persistent environmental harm exposes state incapacity and governance failure, creating legitimacy vacuums that non-state armed actors readily fill (Ide et al., 2021). In fragile states, armed groups often capitalize on these conditions by offering material incentives, protection, or a sense of belonging to environmentally affected populations. Yet, the systematic linkage between environmental degradation and recruitment remains under-theorized and under-integrated into policy frameworks.

Research Questions and Objectives

Against this backdrop, this study seeks to address the following research questions:

1. How does environmental degradation contribute to the conditions that facilitate armed group recruitment in fragile states?
2. Through what social, economic, and political pathways does environmental stress translate into recruitment vulnerability?
3. How do armed groups strategically exploit environmental grievances and ecological insecurity in their recruitment practices?

The primary objectives of the study are threefold. First, it aims to conceptualize environmental degradation as a structural driver of armed group recruitment rather than a peripheral or indirect factor. Second, it seeks to identify and analyze the key mechanisms such as livelihood loss, displacement, and governance failure through which environmental crises shape recruitment dynamics. Third, the study intends to generate policy-relevant insights that link environmental governance, conflict prevention, and peace building in fragile states. This study is significant for both scholarly and practical reasons. From a theoretical perspective, it contributes to the growing literature on environmental security and political ecology by integrating recruitment dynamics into analyses of environment–conflict linkages (Peluso & Watts, 2001; Dalby, 2017). By foregrounding recruitment, the study moves beyond macro-level conflict onset debates to examine micro- and meso-level processes through which environmental stress translates into armed mobilization.

CONCEPTUAL AND THEORETICAL FRAMEWORK

This section develops the conceptual and theoretical lenses through which the relationship between environmental degradation and armed group recruitment in fragile states is analyzed. By clarifying key concepts and situating the study within environmental security theory, political ecology, and grievance opportunity frameworks of armed conflict, the section establishes an integrated analytical foundation for understanding how ecological stress translates into recruitment dynamics.

Definition of Key Concepts

Environmental degradation: This is defined as the deterioration of the natural environment through processes such as climate change, land degradation, deforestation, biodiversity loss, water scarcity, and pollution, often driven by both natural and anthropogenic factors (UNEP, 2019). In fragile states, environmental degradation is frequently exacerbated by weak regulatory frameworks, extractive economies, and conflict-related destruction.

Fragile states: These are political known as entities characterized by limited institutional capacity, weak governance, contested legitimacy, and an inability or unwillingness to provide basic services and security to their populations (OECD, 2018). Fragility heightens vulnerability to environmental shocks and constrains adaptive responses, thereby intensifying the social impacts of ecological decline.

Armed groups: This means organized non-state actors that employ violence to pursue political, ideological, economic, or religious objectives and operate outside formal state control (Kalyvas, 2006). These groups often emerge and expand in contexts where state authority is weak and alternative forms of governance or economic opportunity are absent.

Recruitment: This can be seen the processes through which armed groups attract, enlist, and retain members. Recruitment is shaped by a combination of coercion, material incentives, ideological appeal, social networks, and structural conditions such as poverty, marginalization, and insecurity (Hegghammer, 2013). This study conceptualizes recruitment not merely as an individual choice but as a socially embedded process influenced by environmental and political contexts.

Environmental Security Theory

Environmental security theory provides a foundational framework for analyzing how environmental change affects peace and conflict. Early proponents argued that environmental scarcity resulting from resource depletion, population growth, and unequal access could directly contribute to violent conflict (Homer-Dixon, 1999). More recent scholarship has refined this claim, emphasizing that environmental degradation rarely causes conflict in isolation but acts as a “threat multiplier” that exacerbates existing political, economic, and social vulnerabilities (Barnett & Adger, 2007).

Within fragile states, environmental stress undermines human security by threatening access to food, water, and livelihoods, thereby increasing exposure to violence and instability (Dalby, 2009). Environmental security theory is particularly useful for understanding recruitment because it highlights how ecological crises weaken state capacity and legitimacy, creating spaces in which armed groups can present themselves as alternative providers of security or economic support. Thus, environmental degradation is conceptualized not simply as an ecological problem but as a security challenge with direct implications for armed mobilization.

Political Ecology Perspective

The political ecology perspective complements environmental security theory by foregrounding power relations, inequality, and governance in shaping environmental outcomes. Political ecologists argue that environmental degradation is not merely the result of natural processes but is deeply embedded in political and economic structures that determine who controls resources and who bears the costs of ecological decline (Blaikie & Brookfield, 1987; Peluso & Watts, 2001). From this perspective, environmental degradation in fragile states often reflects historical patterns of marginalization, exploitative resource extraction, and exclusionary governance. These dynamics disproportionately affect rural communities, pastoralists, and indigenous populations, whose livelihoods depend directly on access to land and natural resources. Armed groups frequently exploit such structural injustices by framing environmental grievances as evidence of state neglect or elite exploitation, thereby mobilizing support among affected populations. Political ecology thus provides a critical lens for understanding recruitment as a response not only to scarcity but also to perceived injustice and power asymmetries.

Grievance and Opportunity Theories of Armed Conflict

Grievance and opportunity theories offer additional insight into why individuals join armed groups in contexts of environmental degradation. Grievance-based explanations emphasize relative deprivation, inequality, and perceived injustice as key motivators for violence (Gurr, 1970). Environmental degradation can intensify grievances by undermining livelihoods, exacerbating inequality, and reinforcing perceptions of state failure or discrimination, particularly where environmental harms are unevenly distributed.

Opportunity-based theories, by contrast, focus on the feasibility and incentives for rebellion, highlighting factors such as economic opportunity costs, access to resources, and weak state enforcement (Collier & Hoeffler, 2004). Environmental degradation lowers the opportunity costs of joining armed groups by reducing viable livelihood alternatives, especially for young men facing unemployment and ecological precarity. In this sense, ecological stress simultaneously fuels grievances and expands opportunities for recruitment, making armed mobilization both more attractive and more feasible.

Integrating these theoretical perspectives reveals a set of interconnected pathways linking environmental degradation to armed group recruitment. Ecological stress disrupts agriculture, fishing, and pastoral systems, leading to income loss, food insecurity, and displacement (FAO, 2018). These livelihood disruptions weaken household and community resilience, erode social cohesion, and increase dependence on external actors for survival. In fragile states, where social safety nets and adaptive institutions are limited, armed groups often fill this void by offering wages, access to resources, or protection. Empirical studies show that areas experiencing environmental shocks such as droughts or floods are more likely to witness increased recruitment and violence when combined with poor governance and existing social tensions (Raleigh & Kniveton, 2012; Ide et al., 2021). Violence, in turn, further degrades the environment through displacement, resource exploitation, and destruction of infrastructure, creating a self-reinforcing cycle of ecological decline and armed mobilization.

Together, environmental security theory, political ecology, and grievance–opportunity frameworks provide a robust conceptual foundation for understanding environmental degradation as a structural driver of armed group recruitment in fragile states. By situating recruitment within broader ecological, political, and socio-economic processes, this integrated framework enables a more nuanced analysis of the environment–conflict nexus and its implications for peace building and sustainable development.

PATTERNS AND FORMS OF ENVIRONMENTAL DEGRADATION IN FRAGILE STATES

Environmental degradation in fragile states manifests in multiple, often interrelated forms that directly undermine livelihoods, governance, and human security. These patterns are rarely

isolated environmental phenomena; rather, they are embedded within political fragility, economic vulnerability, and institutional weakness. This section examines the major forms of environmental degradation prevalent in fragile states and highlights their relevance to insecurity and armed group recruitment.

Climate change constitutes one of the most significant drivers of environmental degradation in fragile states. Rising temperatures, changing precipitation patterns, and increased climate variability have intensified desertification, prolonged droughts, and recurrent flooding, particularly in regions such as the Sahel, the Horn of Africa, and parts of South Asia (IPCC, 2022). Desertification and drought reduce soil fertility and water availability, undermining rain-fed agriculture and pastoral livelihoods that form the economic backbone of many fragile states (Mortimore, 2009).

Conversely, extreme flooding damages infrastructure, displaces populations, and disrupts food systems, further straining already weak state capacities (UNDRR, 2020). These climate-induced shocks often occur in rapid succession, leaving affected communities with limited time or resources to recover. In fragile contexts, the cumulative effects of climate change exacerbate poverty, intensify competition over scarce resources, and heighten the risk of violence, particularly where adaptive governance mechanisms are absent (Barnett & Adger, 2007).

Resource depletion and land degradation represent another critical pattern of environmental decline in fragile states. Overgrazing, unsustainable farming practices, mining, and uncontrolled resource extraction contribute to soil erosion, declining land productivity, and the loss of arable land (FAO, 2018). These processes are often driven by population pressure, poverty, and the absence of effective land-use regulation. Land degradation has profound socio-political consequences. As productive land becomes scarce, disputes over access and ownership intensify, particularly in contexts where land tenure systems are unclear or contested (Boone, 2014). In fragile states, such conflicts frequently intersect with ethnic, communal, or religious divisions, creating fertile ground for armed mobilization. Armed groups may exploit land-related grievances by positioning themselves as defenders of marginalized communities or by forcibly controlling degraded but strategically valuable territories.

Deforestation and biodiversity loss are widespread in fragile states, driven by agricultural expansion, illegal logging, charcoal production, and conflict-related displacement (UNEP, 2012). Forests often serve as critical sources of fuel, food, and income for rural populations, and their degradation disproportionately affects the poor and environmentally dependent communities. Beyond their ecological impacts, deforestation and biodiversity loss have important security implications. Forested areas frequently become spaces of refuge and operation for armed groups, while illegal logging and wildlife trafficking provide sources of revenue for insurgent and criminal networks (Nellemann et al., 2016). The erosion of biodiversity also weakens ecosystem resilience, reducing communities' capacity to adapt to climate shocks and increasing long-term vulnerability to instability and violence.

Pollution associated with extractive industries constitutes a particularly acute form of environmental degradation in fragile states. Oil spills, gas flaring, toxic waste dumping, and mining-related contamination of land and water have devastating effects on local ecosystems and public health (Watts, 2008). These impacts are often most visible in resource-rich but institutionally weak regions, where regulatory oversight is minimal and corporate accountability is limited. Environmental pollution not only destroys livelihoods but also generates deep-seated grievances against the state and multinational corporations perceived as complicit in environmental injustice. In such contexts, armed groups and militant movements often emerge as vehicles for resistance, mobilizing affected populations around narratives of exploitation, marginalization, and environmental harm. The Niger Delta exemplifies how pollution and extractive governance failures can contribute to cycles of protest, militancy, and repression (Obi, 2010).

Underlying these patterns of environmental degradation is the pervasive weakness of environmental governance in fragile states. Limited regulatory capacity, corruption, lack of enforcement, and overlapping institutional mandates undermine effective environmental management (OECD, 2018). Environmental policies, where they exist, are often poorly implemented, while local communities are excluded from decision-making processes that affect their resources and livelihoods. Institutional failure exacerbates environmental degradation and its security consequences by allowing unsustainable practices to persist unchecked. It also erodes public trust in state institutions, reinforcing perceptions of neglect and injustice. In this governance vacuum, armed groups frequently step in to regulate resource access, extract rents, or provide alternative forms of order, further entrenching cycles of environmental harm and violence (Ide et al., 2021).

PATHWAYS LINKING ENVIRONMENTAL DEGRADATION TO ARMED GROUP RECRUITMENT

Environmental degradation does not translate mechanically into armed violence or recruitment; rather, it operates through a set of interconnected social, economic, and political pathways that increase vulnerability to armed mobilization in fragile states. This section examines the principal mechanisms through which ecological decline contribute to armed group recruitment, emphasizing how environmental stress reshapes livelihoods, social relations, and state–society interactions.

i. Loss of Livelihoods and Economic Marginalization

One of the most direct pathways linking environmental degradation to armed group recruitment is the destruction of livelihoods and the resulting economic marginalization. In many fragile states, large segments of the population depend on climate-sensitive sectors such as agriculture, fishing, forestry, and pastoralism. Environmental degradation through droughts,

desertification, flooding, pollution, and land degradation significantly reduces productivity in these sectors, leading to income loss, food insecurity, and unemployment (FAO, 2018; IPCC, 2022).

Youth are particularly affected by this economic precarity. As traditional livelihood opportunities disappear and alternative employment remains scarce, the opportunity costs of joining armed groups decline (Collier & Hoeffler, 2004). Armed groups often exploit these conditions by offering wages, food, or access to resources, presenting armed participation as a rational survival strategy rather than an ideological choice (Kalyvas, 2006). In this way, environmental degradation transforms economic vulnerability into a recruitment pool for armed actors.

ii. Competition over Scarce Natural Resources

Environmental degradation also intensifies competition over increasingly scarce natural resources such as land, water, and pasture. As ecological stress reduces resource availability, competition among communities, livelihoods groups, and ethnic or religious constituencies becomes more acute (Homer-Dixon, 1999). In fragile states, where mechanisms for dispute resolution and resource governance are weak or contested, such competition frequently escalates into localized violence.

Armed groups often intervene in these conflicts, either by aligning with specific groups, enforcing access rules, or monopolizing resources through force. By positioning themselves as protectors or arbiters in resource disputes, armed groups can gain legitimacy and recruit members from aggrieved communities (Benjaminsen et al., 2012). Resource-based conflicts thus provide both a grievance narrative and an operational entry point for armed mobilization.

iii. Forced Migration and Displacement

Forced migration and displacement constitute another critical pathway connecting environmental degradation to recruitment. Climate change–related disasters, land degradation, and pollution frequently compel individuals and communities to abandon their homes in search of safety and livelihoods. The United Nations estimates that environmental factors increasingly contribute to internal displacement, particularly in fragile and conflict-affected states (UNHCR, 2021). Displacement disrupts social networks, erodes economic stability, and exposes displaced populations to new forms of insecurity. In displacement settings such as informal camps or urban peripheries armed groups often find fertile recruitment environments, exploiting the lack of protection, employment, and social support (Raleigh & Kniveton, 2012). Displaced youth, in particular, may join armed groups as a means of coping with uncertainty, reclaiming dignity, or securing material support.

iv. Social Fragmentation and Erosion of Traditional Coping Mechanisms

Environmental degradation also undermines social cohesion and weakens traditional coping mechanisms that historically helped communities manage ecological stress. Communal resource-sharing arrangements, customary land tenure systems, and informal conflict resolution institutions are often strained or collapse under prolonged environmental pressure (Ostrom, 1990). As ecological stress intensifies, trust between groups diminishes, and social fragmentation increases. This erosion of social capital creates openings for armed groups to insert themselves into local governance structures. By providing alternative norms, identities, and systems of authority, armed groups can substitute for weakened traditional institutions and recruit members seeking belonging and protection (Wood, 2003). Environmental degradation thus contributes indirectly to recruitment by destabilizing the social fabric that might otherwise resist armed mobilization.

Perhaps the most significant pathway linking environmental degradation to armed group recruitment is state incapacity and the resulting legitimacy deficit. Fragile states often lack the institutional capacity, financial resources, or political will to respond effectively to environmental crises. Failure to provide disaster relief, regulate resource use, or support adaptation strategies reinforces perceptions of state neglect and injustice (OECD, 2018).

As environmental harms accumulate without adequate state response, citizens' trust in public institutions erodes. Armed groups exploit this legitimacy vacuum by portraying the state as incapable or illegitimate and presenting themselves as viable alternatives for governance, security, and welfare provision (Ide et al., 2021). Recruitment in this context is not merely driven by coercion or incentives but by a broader crisis of authority in which environmental degradation exposes and deepens state fragility.

Taken together, these pathways demonstrate that environmental degradation contributes to armed group recruitment through complex and mutually reinforcing processes. By disrupting livelihoods, intensifying resource competition, driving displacement, fragmenting social cohesion, and exposing state incapacity, ecological decline reshapes the structural conditions under which armed groups emerge and recruit. Understanding these pathways is essential for designing integrated policy responses that address both environmental vulnerability and conflict dynamics in fragile states.

ARMED GROUPS AND THE EXPLOITATION OF ENVIRONMENTAL VULNERABILITY

Armed groups operating in fragile states do not merely emerge in response to environmental degradation; they actively exploit ecological vulnerability to expand their influence, consolidate control, and sustain recruitment. Environmental stress creates material hardship, social dislocation, and governance vacuums that armed actors strategically manipulate. This

section examines how armed groups capitalize on environmental vulnerability through recruitment strategies, ideological framing, resource control, and conflict-related environmental degradation.

a. Recruitment Strategies Targeting Environmentally Affected Populations

Armed groups frequently tailor their recruitment strategies to populations most affected by environmental degradation, particularly rural communities, displaced persons, and unemployed youth. These groups identify ecological hardship as an entry point for mobilization, offering material incentives such as wages, food, access to land, or protection in exchange for participation (Kalyvas, 2006; Hegghammer, 2013). In contexts where environmental shocks have eliminated traditional livelihoods, such incentives can be decisive in lowering resistance to recruitment.

Beyond material inducements, armed groups also exploit the psychosocial effects of environmental stress. Loss of livelihoods and displacement often generate feelings of humiliation, frustration, and hopelessness, especially among young men who face diminished prospects for social mobility (Gurr, 1970). Armed groups frame participation as a means of restoring dignity, purpose, and belonging. Recruitment thus becomes embedded in everyday survival strategies shaped by ecological precarity rather than driven solely by ideological commitment.

b. Use of Resource Grievances in Ideological Narratives

Environmental degradation provides powerful symbolic and ideological resources for armed groups. Grievances related to land dispossession, water scarcity, pollution, and unequal access to natural resources are frequently incorporated into recruitment narratives that portray the state and economic elites as corrupt, exploitative, or complicit in environmental injustice (Peluso & Watts, 2001). These narratives resonate strongly in fragile states where environmental harm is visibly linked to governance failure. Armed groups strategically frame ecological grievances within broader ideological discourses whether religious, ethnic, or political transforming environmental suffering into moral claims for resistance or rebellion. In doing so, they recast environmental degradation as evidence of systemic injustice that legitimizes violence (Watts, 2008). Such narratives are particularly effective in mobilizing communities whose environmental losses are perceived as deliberate or neglectful acts by the state or external actors.

c. Control and Exploitation of Natural Resources by Armed Groups

Beyond recruitment narratives, armed groups often seek direct control over natural resources as a means of financing operations and sustaining territorial authority. In environmentally degraded and weakly governed regions, resources such as timber, minerals, oil, wildlife, and fertile land become critical sources of revenue (Le Billon, 2001). Armed groups extract rents through taxation, smuggling, or direct exploitation, often using forced labor or coercion.

Control over natural resources also enhances recruitment capacity. By monopolizing access to land, water, or forests, armed groups can selectively distribute resources to loyal members and supporters, reinforcing patronage networks and dependence (Ross, 2012). In this way, environmental degradation and resource scarcity not only generate grievances but also become instruments of power through which armed groups consolidate their organizational strength.

d. Environmental Degradation as a Tool and Consequence of Armed Conflict

Environmental degradation is not only a precondition for armed group recruitment but also a tool and outcome of armed conflict itself. Armed groups may deliberately degrade the environment through scorched-earth tactics, illegal mining, deforestation, or the destruction of water infrastructure to weaken civilian populations, displace communities, or deny resources to rivals (UNEP, 2009). Such practices further undermine livelihoods and increase civilian dependence on armed actors for survival. At the same time, prolonged conflict accelerates environmental degradation by disrupting environmental governance, facilitating illicit extraction, and increasing pressure on fragile ecosystems due to displacement and survival-driven exploitation (Nellemann et al., 2016). This creates a self-reinforcing cycle in which environmental harm fuels recruitment, and recruitment-driven conflict deepens ecological decline.

In sum, armed groups in fragile states actively exploit environmental vulnerability as both a recruitment resource and a strategic asset. Through targeted recruitment of environmentally affected populations, ideological framing of resource grievances, control over natural resources, and conflict-driven environmental destruction, armed groups embed ecological degradation within their operational logic. Recognizing these dynamics is essential for understanding the persistence of armed mobilization and for designing interventions that address the environmental dimensions of conflict and insecurity.

GENDER, YOUTH, AND ENVIRONMENTAL INSECURITY

Environmental degradation does not affect all social groups equally. Its impacts are mediated by age, gender, and social position, producing differentiated vulnerabilities to insecurity and armed group recruitment. In fragile states, youth and women are often among the most affected by ecological stress, yet in distinct and intersecting ways. This section examines how environmental degradation shapes youth employment prospects, generates gendered vulnerabilities, and fuels identity crises and frustration that armed groups exploit in their recruitment strategies.

Youth constitute a significant proportion of the population in many fragile states, yet they also face some of the highest levels of unemployment and underemployment. Environmental degradation exacerbates this challenge by undermining sectors that traditionally absorb young labor, particularly agriculture, fishing, forestry, and pastoralism (FAO, 2018). Climate shocks

such as droughts, floods, and land degradation reduce productivity and eliminate entry-level opportunities, leaving young people with few viable livelihood alternatives.

In contexts of limited industrialization and weak labor markets, environmental decline thus intensifies youth economic marginalization. Studies show that unemployment and economic insecurity among youth significantly lower the opportunity costs of joining armed groups, especially where armed participation offers immediate income or access to resources (Collier & Hoeffler, 2004; Urdal, 2006). Armed groups strategically target unemployed youth, framing recruitment as both an economic opportunity and a pathway to social recognition in environments where legal employment is increasingly inaccessible.

Environmental degradation also has pronounced gendered dimensions that shape vulnerability to armed group recruitment. Women in fragile states often bear primary responsibility for securing water, food, and fuel for households, making them disproportionately affected by resource scarcity and environmental decline (UN Women, 2018). As water sources dry up or arable land becomes less productive, women's workloads increase, while their exposure to health risks, gender-based violence, and economic insecurity intensifies.

Beyond material deprivation, environmental degradation contributes to a deeper crisis of youth identity and belonging in fragile states. The collapse of traditional livelihoods disrupts established pathways to adulthood, social status, and economic independence, generating what some scholars describe as a condition of "waithood" among young people (Honwana, 2012). Prolonged uncertainty and exclusion foster frustration, resentment, and a sense of betrayal by political and social institutions. Armed groups exploit these psychosocial dimensions by offering alternative identities rooted in solidarity, purpose, and moral certainty. Recruitment narratives often resonate with youth experiences of injustice and marginalization, framing armed struggle as a means of reclaiming dignity and agency in the face of environmental and political abandonment (Gurr, 1970; Hegghammer, 2013). Environmental insecurity thus contributes not only to economic vulnerability but also to identity-driven mobilization, particularly where youth perceive violence as the only viable route to recognition and empowerment.

POLICY AND GOVERNANCE IMPLICATIONS

The analysis of environmental degradation as a structural driver of armed group recruitment carries important implications for policy, governance, and peacebuilding in fragile states. Conventional security-focused responses that emphasize military containment or counterterrorism have proven insufficient in addressing the root conditions that sustain recruitment. This section argues for an integrated policy approach that situates environmental protection, governance reform, and livelihood resilience at the core of conflict prevention and sustainable peace.

a. Integrating Environmental Protection into Peacebuilding Strategies

Peacebuilding frameworks in fragile states have historically treated environmental issues as peripheral concerns rather than central components of security. However, growing evidence suggests that environmental degradation directly undermines peace by eroding livelihoods, intensifying grievances, and weakening state legitimacy (UNEP, 2012). Integrating environmental protection into peacebuilding strategies therefore requires reframing ecological sustainability as a peace and security priority. This integration can take multiple forms, including the incorporation of environmental risk assessments into conflict analysis, the rehabilitation of degraded ecosystems in post-conflict settings, and the use of shared natural resource management as a platform for cooperation among divided communities (Conca & Dabelko, 2002). Environmental peacebuilding initiatives such as joint water management or land restoration projects—can simultaneously reduce ecological stress and rebuild trust between communities and the state. By addressing environmental grievances alongside political and security concerns, peacebuilding strategies can weaken the structural conditions that facilitate armed group recruitment.

b. Strengthening Environmental Governance in Fragile States

Effective environmental governance is critical for mitigating the security risks associated with ecological degradation. In fragile states, weak regulatory frameworks, corruption, and limited institutional capacity often allow unsustainable resource exploitation to persist unchecked (OECD, 2018). Strengthening environmental governance entails improving regulatory enforcement, clarifying land and resource tenure systems, and enhancing transparency and accountability in natural resource management. Decentralized and inclusive governance arrangements are particularly important. Empowering local communities to participate in environmental decision-making can reduce perceptions of exclusion and injustice that armed groups frequently exploit (Ostrom, 1990). Moreover, aligning environmental governance reforms with broader state-building efforts can help restore public trust in institutions, thereby reducing the legitimacy deficits that fuel recruitment by non-state armed actors.

c. Climate Adaptation and Livelihood Resilience as Conflict-Prevention Tools

Climate adaptation and livelihood resilience represent critical entry points for preventing conflict and reducing armed group recruitment. Investments in climate-resilient agriculture, sustainable water management, and diversified income-generating activities can reduce communities' vulnerability to environmental shocks and economic marginalization (FAO, 2018). Such interventions are particularly effective when they target youth and environmentally dependent populations, whose exclusion from economic opportunities often drives recruitment. From a conflict-prevention perspective, livelihood resilience initiatives help raise the opportunity costs of joining armed groups by expanding legal and sustainable employment options (Collier & Hoeffler, 2004). When combined with social protection

programs and early warning systems for climate-related disasters, adaptation strategies can mitigate the destabilizing effects of environmental stress before they translate into violence.

d. Role of Regional and International Actors

Regional and international actors play a crucial role in supporting environmentally informed peacebuilding and governance reforms in fragile states. Many environmental challenges such as climate change, trans boundary water management, and ecosystem degradation transcend national borders and require coordinated regional responses (Conca, 2006). Regional organizations can facilitate cooperation, share best practices, and mediate resource-related disputes that might otherwise escalate into conflict.

At the international level, development partners and multilateral institutions can provide financial resources, technical expertise, and capacity-building support to strengthen environmental governance and climate adaptation efforts. However, external interventions must be context-sensitive and aligned with local priorities to avoid reinforcing dependency or undermining domestic legitimacy (UNDP, 2020). Integrating environmental objectives into security assistance and peacebuilding programs can enhance policy coherence and long-term effectiveness.

Overall, addressing armed group recruitment in fragile states requires moving beyond narrow security responses toward holistic governance strategies that recognize the centrality of environmental sustainability. By integrating environmental protection into peacebuilding, strengthening governance institutions, investing in climate adaptation and livelihoods, and fostering regional and international cooperation, policymakers can address the ecological roots of insecurity and contribute to more durable and inclusive peace.

CONCLUSION

This study has examined the complex interplay between environmental degradation and armed group recruitment in fragile states, highlighting the structural mechanisms through which ecological stress translates into insecurity. The analysis demonstrates that environmental degradation manifested through climate change, land degradation, resource depletion, deforestation, and pollution interacts with weak governance, economic marginalization, and social fragmentation to create conditions conducive to armed mobilization. Armed groups exploit these vulnerabilities by offering material incentives, framing environmental grievances within ideological narratives, controlling natural resources, and leveraging state incapacity to legitimize recruitment.

A key finding of this study is the identification of multiple pathways linking environmental degradation to recruitment, including livelihood loss, competition over scarce resources, forced migration, social fragmentation, and legitimacy deficits in state institutions. Additionally, the

research underscores the differentiated impacts of ecological stress on youth and women, highlighting how age, gender, and social position mediate vulnerability to armed mobilization.

The study contributes to environmental security and conflict research by situating recruitment within broader ecological and socio-political processes, thereby expanding the focus beyond traditional ideological or ethnic explanations of armed mobilization. It also emphasizes the importance of integrating environmental governance, climate adaptation, and livelihood resilience into security and peacebuilding strategies, providing practical insights for policymakers and development actors.

In conclusion, sustainable peace in fragile ecological contexts requires addressing the environmental roots of insecurity. Strengthening governance, protecting ecosystems, and building resilient livelihoods are not ancillary to security; they are fundamental to preventing recruitment into armed groups and fostering durable stability in fragile states.

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