

WEATHERING RISK

Executive Summary

Climate, Peace, and Security Assessment: Papua New Guinea

How climate and environmental
change reshape security dynamics

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EXECUTIVE SUMMARY

Papua New Guinea (PNG) is at a pivotal moment, facing the converging threats of climate change, environmental degradation and persistent insecurity. As one of the world's most ecologically and culturally diverse nations, PNG's communities are deeply connected to their environments. Yet this interdependence makes them particularly vulnerable to climate- and environment-related shocks and cascading risks. The Climate, Peace and Security Assessment, led by adelphi in partnership with ADB and UNDP, reveals that climate change is not simply an environmental challenge, but a force that is reshaping the landscape of conflict, vulnerability and development across the country.

1 Climate and Environmental Security Pathways

Our assessment identifies six interconnected pathways through which climate and environmental changes amplify security risks in PNG. These pathways are not isolated; they interact with deep-seated social, economic and governance challenges, often compounding existing vulnerabilities and creating new ones.

Pathway 1: Environmental and climate change impacts contributing to sorcery accusation-related violence:

Climate-related and other environmental challenges leading to death, crop failures and unusual weather patterns are increasingly interpreted through sorcery-related beliefs. These events can trigger accusations of sorcery, leading to targeted violence, displacement and deep trauma, especially for women and marginalised groups. A lack of climate awareness, weak law enforcement, the ambiguous roles of churches and village leaders, and the amplification of incidents through (social) media all contribute to the normalisation and upsurge of sorcery accusation-related violence (SARV) across the country, with climate change expected to further exacerbate such incidents.

Pathway 2: Climate and environmental impacts aggravating conflicts over natural resources:

Conflicts over land, forests and fisheries are widespread across PNG and intensifying as climate change accelerates environmental degradation, disrupts traditional management systems and shifts resource availability. Economic pressures, weak governance and demographic change further compound these challenges, leading to new and more frequent disputes. Climate change intensifies these challenges by shifting land fertility, erasing natural boundaries, declining fish stocks, increasing deforestation and forest degradation, and driving displacement. The resulting conflicts and tensions frequently manifest in violent confrontations, particularly affecting communities whose livelihoods and cultural identities are intrinsically linked to these resources.

Pathway 3: Disaster and conflict driving displacement:

Displacement in PNG represents a growing security challenge driven by both violent conflict- and climate-related disasters. These displacement events create cascading vulnerabilities, strain host communities and generate new conflicts. Displaced populations face heightened risks of violence, food insecurity and loss of access to basic services, with women and children particularly vulnerable. With limited institutional capacity,

complex land ownership systems and increasing climate risks, displacement is becoming one of PNG's most urgent and intractable security challenges.

Pathway 4: Climate change impacts and conflict driving internal migration and security risks in urban areas:

Rapid internal migration to urban centres such as Port Moresby (POM) and Lae is reshaping PNG's demographic landscape. Migrants are often driven by a combination of climate-impacted livelihood insecurity, rural violence and the search for better opportunities. However, unplanned urban growth has led to informal settlements with poor infrastructure, high unemployment, heightened exposure to climate risks and increased crime. Youth are especially vulnerable – both as victims and as potential perpetrators – amid weakening traditional support systems. Urban areas are emerging as climate-security hotspots where environmental and social risks converge.

Pathway 5: Conflicts and tensions around the extractives sector – mining, oil and gas:

The extractives sector remains a significant driver of tensions and conflicts in PNG. Large-scale mining, oil and gas projects have historically triggered disputes over environmental impacts, land rights and benefit sharing, often entangled with broader conflict dynamics and continue to do so. Weak oversight and the lack of effective social and environmental safeguards exacerbate these issues. Climate change further amplifies risks by, for example, increasing the likelihood of landslides, flooding and pollution, putting additional strain on relationships between communities, companies and government.

Pathway 6: Response measures intensifying tensions and conflicts:

While development, adaptation and disaster-response projects aim to build resilience, they can inadvertently fuel new tensions if not implemented with sensitivity to local conflict dynamics. Unequal aid distribution, land disputes and inadequate community consultations exacerbate grievances, while corruption and favouritism deepen mistrust. Gender dynamics further complicate responses, with women frequently excluded from decision-making processes despite facing disproportionate impacts. However, conflict-sensitive and gender-responsive approaches have shown the potential to address these challenges effectively, highlighting the importance of integrating peacebuilding and climate change adaptation to reduce conflict risks and foster resilience as climate change impacts intensify.

2 Case Studies: Regional Dynamics and Lessons

The Highlands region: Hela and Southern Highlands Province (SHP): They represent PNG's most complex environment, where climate impacts, persistent communal violence and weak governance intersect. Severe climate impacts including rising temperatures, landslides and erratic rainfall compound existing challenges like SARV, displacement and extractive conflicts. Together, they create a volatile landscape where insecurity and vulnerability are deepening, and climate change accelerates and intensifies existing security challenges.

Coastal areas: Bougainville: Bougainville is one of PNG's most climate-vulnerable regions, where rising sea levels, intensifying extreme weather and environmental degradation compound the lasting effects of civil war. Communities across Bougainville – including atoll, coastal and inland areas – face severe threats of displacement, resource disputes, livelihood disruption, SARV and persistent tensions around mining activities. As Bougainville navigates its path towards potential independence, the intertwined challenges of climate impacts, disaster vulnerability and unresolved grievances are fundamentally altering the region's security landscape and development trajectory.

Urban Areas: POM and Lae: These cities emerge as climate-security hotspots where migration, environmental vulnerability and insecurity converge. Both cities are under increasing pressure from rapid urbanisation, fragile governance and the persistent legacy of colonial planning. Climate change – through rising temperatures, flood and drought risks – exacerbates vulnerabilities, particularly in informal settlements. These combined pressures erode social cohesion, intensify competition over land and resources and increase risks of crime and violence, particularly among marginalised youth. The evolving interplay of climate and social stressors is driving new patterns of risk and instability, making urban resilience a critical priority for PNG's future.

3 Breaking the Cycle: Integrated Solutions

This assessment reveals that PNG's climate- and environment-related security challenges are deeply interconnected, requiring integrated responses that address root causes rather than symptoms. Eight priority recommendation areas are key:

- 1. Integrate Peacebuilding, Climate Adaptation and Development:** Develop holistic approaches that combine climate resilience with conflict prevention and sustainable livelihoods. This includes community-level planning, climate-sensitive infrastructure development and programmes that link environmental awareness with peacebuilding efforts.
- 2. Enhance Youth Engagement and Alternative Livelihoods:** Create comprehensive programmes that provide youth with future prospects and diversify livelihood options for climate resilience across all communities. This includes investing in vocational training, leadership development and climate-resilient economic opportunities to reduce youth vulnerability to violence and crime. Focus on both agricultural and non-agricultural sectors while addressing underlying social issues and marginalisation.
- 3. Address Sorcery Accusation-Related Violence:** Develop multi-sectoral interventions that tackle the links between environmental change and SARV. This includes integrating climate and SARV education within schools, strengthening victim-protection mechanisms and engaging traditional leaders and community organisations in prevention efforts.
- 4. Strengthen Disaster Risk Management and Displacement Response:** Build robust systems for disaster preparedness and displacement management that prevent conflict and maintain social stability. This includes establishing comprehensive data collection on displacement, making disaster preparedness and response conflict sensitive, and developing durable resettlement solutions with meaningful community participation.
- 5. Build Urban Resilience:** Develop inclusive urban development strategies that address the convergence of climate change vulnerability and insecurity in cities. This includes conflict-sensitive urban planning, upgrading informal settlements with climate-resilient infrastructure and creating violence prevention programmes that engage youth and marginalised communities.
- 6. Improve Sustainable Natural Resource Management:** Develop integrated approaches to managing PNG's natural resources that balance economic development with environmental conservation and conflict prevention. This includes supporting community-based management initiatives with built-in conflict resolution mechanisms, strengthening land rights and governance systems, ensuring extractive industries adhere to environmental and social safeguards with equitable benefit-sharing, and empowering women's participation and leadership in resource management decisions.
- 7. Improve Governance, Law Enforcement and Data Systems:** Strengthen institutional capacity for managing climate- and environment-related security risks through better governance and evidence-based decision-making. This includes enhancing local conflict resolution mechanisms, improving resource management systems and building comprehensive monitoring and analysis capabilities.

- 8. Enhance Data Collection and Analysis for Evidence-Based Interventions:** Establish robust systems for collecting and analysing climate and environmental security data to enable more targeted and effective interventions. This includes developing comprehensive monitoring of displacement, SARV incidents, and climate- and environment-related conflicts, conducting regular local-level assessments, and building capacity of local institutions to explore climate-conflict dynamics and share lessons learned regionally.

PNG's ability to navigate the challenges of climate change and insecurity will depend on coordinated, inclusive and context-sensitive action. By bridging climate adaptation, peacebuilding and development, decision-makers can turn risks into opportunities – building a more resilient, peaceful and equitable future for all Papua New Guineans.



Rural village in Southern Highlands Province, Papua New Guinea. Source: © adelphi research

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