

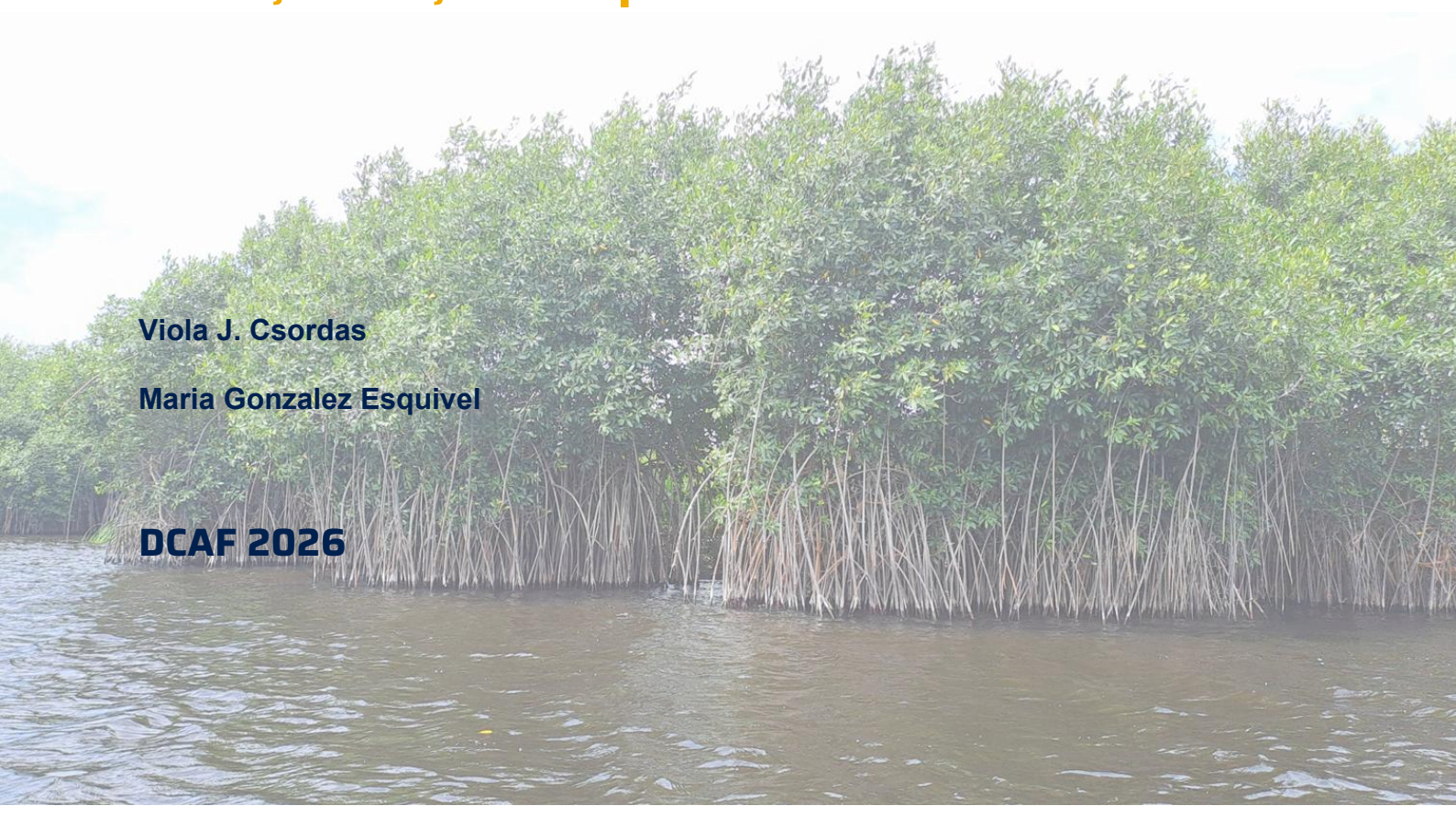
Security sector governance's contribution to protecting national parks

**A comparative synthesis of protected areas in
Benin, Brazil, and Nepal**

Viola J. Csordas

Maria Gonzalez Esquivel

DCAF 2026



About DCAF

DCAF – Geneva Centre for Security Sector Governance is dedicated to improving the security of states and their people within a framework of democratic governance, the rule of law, respect for human rights, and gender equality. Since its founding in 2000, DCAF has contributed to making peace and development more sustainable by assisting partner states, and international actors supporting these states, to improve the governance of their security sector through inclusive and participatory reforms. It creates innovative knowledge products, promotes norms and good practices, provides legal and policy advice and supports capacity-building of both state and non-state security sector stakeholders.

DCAF - Geneva Centre for Security Sector Governance

Maison de la Paix
Chemin Eugène-Rigot 2E
1202 Geneva, Switzerland
Tel: +41 22 730 94 00
info@dcaf.ch
www.dcaf.ch

Cover photo: Viola Csordas

Contents

About DCAF	1
Contents	2
Abbreviations	4
Executive summary	5
Introduction	5
Governance models.....	5
Emerging Good Practice Principles	6
What this means for SSG/R.....	6
1. Introduction.....	7
Climate, Environment, and Security Case studies	7
Rationale for a Security Sector Governance/Reform (SSG/R) Approach	7
Objectives	8
2. Methodology and analytical framework	8
3. Case studies.....	9
3.1 Benin: W-Arly-Pendjari (WAP) Complex and maritime protected areas	9
Context: ecosystems and security dynamics	9
Actors	10
Governance.....	11
3.2 Brazil: Serra do Divisor National Park	11
Context: ecosystems and security dynamics	11
Actors	12
Governance.....	12
3.3. Nepal: Chitwan National Park and Conservation Enforcement and Community Rights	13
Context: ecosystems and security dynamics	13
Actors	14
Governance.....	14
4. Comparative Analysis.....	15
4.1 Governance	15
Governance Models and Definitions of Protection.....	15
Accountability and Oversight	16
Coordination and participation	18

4.2 Security Dynamics and Responses	20
Operational Logic of Security Provision	20
Transborder Dynamics.....	22
Communities as security actors	23
4.3 SSG/R's Contribution to Navigating Key Trade-offs.....	25
5. Emerging governance models and factors that shape security, community and conservation outcomes.....	26
5.1 Emerging governance models in the case studies	27
5.2 Emerging factors for what good security sector governance would look like	27
Strategic, policy and governance level	28
Security institutions	28
Community and livelihood-focused	29
6. Implications for international programming.....	29
7. Conclusion	30
Annex summary case study by country.....	32

Abbreviations

ABeGIEF	Agence béninoise de gestion intégrée des espaces frontaliers (Beninese Agency for Integrated Borderlands Management)
APN	African Parks Network
CENAGREF	Centre National de Gestion des Réserves de Faune (National Center for Wildlife Reserve Management)
DNPWC	Department of National Parks and Wildlife Conservation
FAB	Forces Armées Béninoises
FUNAI	National Foundation for Indigenous Peoples
GEFRON	Special Border Operations Group
GGIF	Integrated Border Management Offices
GSI	Institutional Security Cabinet of the Presidency of the Republic
HDP	Humanitarian-Development-Peace Nexus
IBAMA	Brazilian Institute of Environment and Renewable Natural Resources
ICMBio	Chico Mendes Institute for Biodiversity Conservation
HDP	Humanitarian-development-peace Nexus
NGO	Non-Governmental Organization
NTNC	National Trust for Nature Conservation
SSG/R	Security Sector Governance and Reform
SNUC	National System of Conservation Units
WAP	W-Arly-Pendjari complex
WCCB	Wildlife Crime Control Bureau

Executive summary

Introduction

Protected areas – particularly vast, sparsely populated national parks with limited state presence– have emerged as complex governance spaces at the intersection of security, conservation, and livelihoods. While originally designed as conservation sites, they increasingly function as areas where illicit activities occur, including armed group hideouts, terrorist infiltration, trafficking routes (wildlife, drugs, human), illegal logging, and informal mining. Their proximity to borders often further complicates enforcement dynamics, while they play an increasingly strategic role in the functioning of trade corridors and access to critical raw materials.

These structural conditions –remoteness, porous borders, low population density and uneven state presence– make protected areas vulnerable to exploitation. As a result, they have become strategically important not only for biodiversity conservation and local livelihoods, but also for national security concerns such as terrorism, organised crime, cross-border trafficking, migration flows and ensuring access to critical raw materials and trade corridors.

In this context, the role of security actors in and around protected areas deserves greater attention within people-centered Security Sector Governance and Reform (SSG/R). By comparing protected area governance models in Benin, Brazil and Nepal, this study provides a comparative overview of how different institutional arrangements shape the interaction between conservation authorities, security actors, conservation and livelihood outcomes. The analysis draws directly on the findings of the three case studies, which illustrate how different governance configurations influence both security and conservation outcomes in practice.

Governance models

Across contexts, three categories of actors shape protected area governance:

1. **Conservation actors:** Environmental protection ministries and agencies responsible for park management, including park administrations and ranger services. In some cases, this category includes private or public–private conservation partners, such as African Parks Network (APN), which may adopt militarized operational models.
2. **Armed forces:** Often deployed in response to terrorism, insurgency, or cross-border threats, sometimes assuming significant operational roles in park security.
3. **Law enforcement actors:** National and local police, border agencies, intelligence services, wildlife and forest protection units, and environmental police responsible for enforcing environmental and criminal law.

The three cases illustrate distinct governance logics in structuring the relationship between conservation authorities, armed forces, and law enforcement actors. Outcomes are shaped less by the presence of security actors per se, and more by different institutional arrangements between these three groups, whose logic prevails and how mandates are distributed, coordinated, and constrained.

Notably, **non-state security actors** such as armed groups, organized criminal networks and terrorist organizations play a substantial role in the protected areas studied; while not governance actors per se, SSG/R needs to develop mechanisms for engaging with them and integrating them into existing arrangements.

Across the three cases, protected areas are governed through three broad but partially overlapping models:

- a **centralised security-led model** in Benin, characterised by strong executive control, hybrid public-private-security arrangements, and high operational intensity;

- a **civilian-led participatory model** in Brazil, anchored in environmental law, civilian leadership, and structured participation mechanisms;
- a **militarised integrated model** in Nepal, combining permanent military enforcement with institutionalised community participation in buffer zones.

A key finding of the study is that there are persistent trade-offs between territorial control and community presence, enforcement and legitimacy, and conservation objectives and livelihood realities. Where one dimension is prioritised at the expense of others, outcomes risk becoming unsustainable, undermining legitimacy, cooperation, and long-term effectiveness. Good governance of the security sector can serve as a key tool to reconcile competing objectives and develop inclusive and sustainable solutions.

Emerging Good Practice Principles

To navigate these trade-offs, the analysis identifies a set of emerging governance principles for effective and legitimate security sector engagement in protected areas.

At the strategic level, effective approaches are characterised by integrated national frameworks that link environmental protection, security provision, and socio-economic development. These frameworks require coherent legal and regulatory systems that clearly define mandates, roles, and use-of-force standards across actors, including in hybrid governance settings. Strong oversight, accountability, and grievance mechanisms are critical to ensure that enforcement remains consistent with legal standards and maintains public trust.

At the institutional level, operational effectiveness depends on coordinated action between security and conservation actors. This includes inter-agency cooperation, shared operational protocols, and clear command structures, as well as the professionalisation of ranger and environmental enforcement services. Differentiated enforcement approaches that distinguish between subsistence activities and organised criminal or terrorist threats, and that integrate community-based information in a structured and safeguarded manner, are essential to balance effectiveness with legitimacy.

At the community level, sustainable outcomes depend on the extent to which governance arrangements recognise communities as stakeholders rather than only subjects of enforcement. This includes support to local governance structures, mechanisms to mitigate conflict, and the alignment of conservation objectives with viable livelihood options. Where access restrictions are not matched by participation and economic alternatives, enforcement efforts risk undermining cooperation and long-term sustainability.

What this means for SSG/R

While the case studies focus primarily on national governance arrangements and do not constitute a comprehensive mapping of international interventions, they highlight recurring structural challenges that are directly relevant for international programming.

Protected areas are increasingly linked to core security concerns, including violent extremism, organised crime, illicit trafficking, and the stability of border regions and trade corridors. As such, they represent important entry points for advancing objectives across the humanitarian–development–peace nexus, including sustainable peace and resource governance.

Core security sector governance principles remain applicable, particularly the need to balance security assistance with accountability and oversight, prioritise long-term institutional development, and support coordinated approaches. At the same time, protected areas require adapting these principles in several key ways.

First, they are **hybrid governance environments**, where security functions are shared across state, private, and conservation actors, often with blurred mandates and uneven accountability. Programming therefore needs to address mandate clarity, oversight, and coordination across diverse actor constellations.

Second, **communities play a dual role** as both stakeholders and contributors to monitoring and early warning. While this can strengthen situational awareness, it also exposes communities to risks, requiring safeguards, protection measures, and structured engagement approaches.

Third, **environmental monitoring systems increasingly function as security tools**, creating new governance challenges related to data use, ownership, and accountability that are not yet systematically addressed.

Fourth, governance in protected areas is shaped by **persistent trade-offs** between access and control, enforcement and legitimacy, and conservation and livelihoods. Programming that focuses narrowly on enforcement or institutional capacity risks overlooking these tensions and undermining sustainability.

Finally, these integrated challenges contrast with the **sectoral organisation of international assistance**, which often separates security, conservation, and development funding. Without deliberate alignment, programming risks reinforcing fragmentation. Integrated programme design and cross-sector coordination are therefore critical.

Taken together, these findings suggest that effective international support is less about expanding the role of security actors, and more about strengthening how their roles are governed, coordinated, and embedded within broader environmental and socio-economic systems.

1. Introduction

Climate, Environment, and Security Case studies¹

Climate change, biodiversity loss, and environmental degradation increasingly affect both national and human security. Protected ecosystems function as carbon sinks, water regulators, and buffers against extreme weather. At the same time, they are often located in remote or border regions affected by illicit economies, organised crime, and violent extremism, while they play an increasingly strategic role for the functioning of trade corridors and access to critical raw materials.

National parks therefore represent strategic sites where environmental, security, and development challenges converge. Their governance has implications not only for conservation outcomes but also for social stability, livelihoods, and state legitimacy.

Rationale for a Security Sector Governance/Reform (SSG/R) Approach

Security sector actors such as militaries, police, border agencies, environmental enforcement bodies, and rangers, play central roles in enforcing the regulations around protected areas. Through these functions, they can play a crucial role in supporting not only security and the rule of law, but also community trust, and sustainable resource management. However, when poorly governed, the activities of these actors are at risk of contributing to corruption, abuse, and environmental harm. Previous DCAF research² and donor mapping

¹ This report synthesises findings from three case studies, which provide the empirical basis for the analysis and can be shared upon request: Safeguarding Benin's protected areas in light of security and livelihood dynamics (Viola Csordas 2025), Security sector governance's contribution to protecting national parks from a security, community livelihood and environmental perspective: Serra do Divisor National Park/ Brazil (Tássio Franchi, Luciano Stremel Barros, Eloiza Dal Pozzo, Mila Campbell 2026); Security sector governance's contribution to securing national parks from a PVE/ CT, community livelihood and environmental perspective at the Chitwan National Park, Nepal (Deepak Prakash Bhatt, PhD, Abhaya Raj Joshi, Ujwal Adhikari, Anil Bogati, 2026).

² Csordas, Robinson, and Wallin 2022; González Esquivel et al. 2023; Csordas, Bennett, and Wallin 2023; Csordas, De Klerk Wolters, and Keske 2023; Robinson, Csordas, and Wallin 2023; Csordas, Keske, and Wallin 2024.

exercises³ in Benin and other contexts indicate that international engagement in environmental security remains fragmented, which is mirrored at national level. Conservation, security, and development interventions are frequently designed and implemented in parallel. This study seeks to address this gap by examining three case studies regarding the level of integration of their governance approaches. It focuses primarily on national governance arrangements in protected areas, while also drawing out implications for international actors supporting conservation, security, and governance interventions.

Objectives

The report aims to:

- 1) Analyse how security sector governance influences protected area management
- 2) Identify good practices and risks in different governance models
- 3) Provide practical guidance for national SSG/R practitioners and international partners
- 4) Contribute to evidence-based programming across the HDP nexus

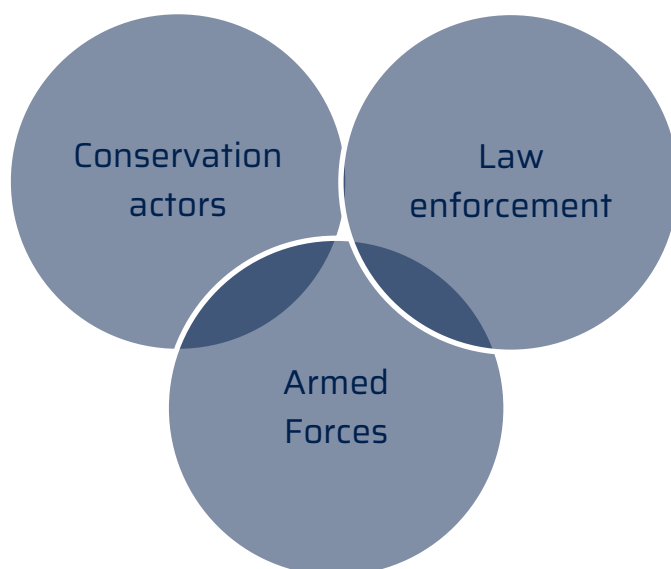
2. Methodology and analytical framework

The study is based on three country case studies selected to reflect diverse ecological, political, and security contexts:

- Benin: W-Arly-Pendjari complex and maritime protected areas
- Brazil: Serra do Divisor National Park
- Nepal: Chitwan National Park

Each case study uses a mixed-methods approach combining desk review of laws, policies, and academic and policy literature; review of institutional and operational documents; semi-structured interviews with government officials, security actors, conservation staff, community representatives, and civil society organisations; and field-based observations where feasible. Each study follows a harmonised structure to ensure comparability. The synthesis report builds on these case-specific findings rather than introducing new empirical material.

Across contexts, the three categories of actors shaping protected area governance are analyzed in their mandates, de facto functions and coordination mechanisms:



³ DCAF - Geneva Centre for Security Sector Governance 2022; DCAF - Geneva Centre for Security Sector Governance 2021; DCAF - Geneva Centre for Security Sector Governance 2023.

1. **Conservation actors:** Environmental protection ministries and agencies responsible for park management, including park administrations and ranger services. In some cases, this category includes private or public–private conservation partners, such as African Parks Network, which may adopt militarized operational models.
2. **Armed forces:** Often deployed in response to terrorism, insurgency, or cross-border threats, sometimes assuming significant operational roles in park security.
3. **Law enforcement actors:** National and local police, border agencies, intelligence services, wildlife and forest protection units, and environmental police responsible for enforcing environmental and criminal law.

Notably, **non-state security actors** such as armed groups, organized criminal networks and terrorist organizations play a substantial role in the protected areas studied; while not governance actors per se, SSG/R needs to develop mechanisms for engaging with them and integrating them into existing arrangements.

The analysis further integrates three interrelated dimensions:

1. Security Sector Governance (SSG)	2. Environmental protection	3. Livelihood and social dimensions
<ul style="list-style-type: none"> ▪ Legal mandates and institutional arrangements ▪ Coordination mechanisms ▪ Oversight and accountability ▪ Professional standards and training 	<ul style="list-style-type: none"> ▪ Ecosystem characteristics and threats ▪ Enforcement of environmental regulations ▪ Climate mitigation and adaptation functions ▪ Environmental crime dynamics 	<ul style="list-style-type: none"> ▪ Access to natural resources ▪ Benefit-sharing mechanisms ▪ Socio-economic vulnerability ▪ Participation and inclusion

The framework assesses how governance arrangements manage trade-offs and synergies between these dimensions.

While the analytical framework focuses on national actors shaping governance arrangements, international partners influence these dynamics indirectly through funding, technical support, and programme design, which are reflected in the implications section.

3. Case studies

3.1 Benin: W-Arly-Pendjari (WAP) Complex and maritime protected areas

Context: ecosystems and security dynamics

Benin forms part of the transboundary W-Arly-Pendjari (WAP) complex, one of West Africa’s most significant protected areas⁴, where conservation efforts increasingly overlap with rising security threats from armed groups. These border areas are increasingly affected by violent extremist groups, cross-border trafficking networks, and informal mining activities.⁵ Armed groups exploit remote terrain and weak state presence to establish transit routes and hideouts.⁶ Such security threats intersect with poaching, illegal grazing, and

⁴ UNESCO World Heritage Center, “W Arly Pendjari Complex – Nomination & Management Planning (IUCN/WHC Documentation),” 2017, <https://whc.unesco.org/document/159773>.

⁵ “Violent Extremism in the Sahel | Global Conflict Tracker,” accessed July 16, 2025, <https://www.cfr.org/global-conflict-tracker/conflict/violent-extremism-sahel>; António Sampaio et al., ARMED GROUPS AND CONFLICT ECONOMIES IN THE NATIONAL PARKS OF BURKINA FASO, NIGER AND BENIN, n.d.; Inst. Study War, “Africa File, April 24, 2025: JNIM’s Growing Pressure on Benin; Turkey to Somalia; Salafi-Jihadi Cells Continue to Grow Across Nigeria.”

⁶ “From the Plains to the Parks.”; António Sampaio et al., ARMED GROUPS AND CONFLICT ECONOMIES IN THE NATIONAL PARKS OF BURKINA FASO, NIGER AND BENIN, n.d.

charcoal production. The tri-border geography of the W-Arly-Pendjari complex amplifies these risks, as instability in neighbouring Sahelian states facilitates cross-border movement of armed actors and illicit goods.⁷ This means that park rangers and conservation teams are operating in a high-threat environment shaped by the presence of terrorist groups.

At the same time, Benin's maritime protected areas along its coast face a different set of pressures linked to economic development. The Niger-Benin oil pipeline and increased tanker traffic from Nigeria have intensified concerns about marine conservation, local fishing livelihoods, and regulatory enforcement. Along Benin's coastal and maritime zones along the Gulf of Guinea, illicit fuel trafficking, fisheries crime, and smuggling networks exploit maritime routes and weak regional coordination, linking environmental pressures with broader security risks.⁸

Actors

Protected area governance in Benin's terrestrial protected areas is characterised by strong executive leadership and increasing securitization as the state has responded through joint military-ranger patrols, deployment of surveillance drones, sensor systems, and reinforced border controls.⁹ Since the deterioration of the regional security situation in northern Benin, counter-terrorism imperatives have significantly shaped conservation management. The Forces Armées Béninoises (FAB), together with border management authorities such as ABeGIEF have assumed a central role in patrols and perimeter security, often operating jointly with park rangers, especially hybrid actors such as African Parks Network (APN)¹⁰. APN functions as a delegated management authority, responsible for day-to-day operations, infrastructure development, and ranger management. This public-private partnership model has enhanced technical capacity and financial resources but has also blurred lines of non-combatants and combatants in an ongoing military operation, raising questions about status, protection and accountability. Civilian environmental management is led by the Centre National de Gestion des Réserves de Faune (CENAGREF)¹¹ under the Ministry of the Living Environment¹², while long-term delegated operational management of Pendjari¹³ and W¹⁴ parks is carried out by the APN through public-private partnership agreements.¹⁵

Along the coast, different types of maritime protected areas, such as marine protected areas (MPAs) and coastal RAMSAR sites¹⁶, are governed through multi-ministerial arrangements. Environmental management, shipping and the maritime economy falls under the Ministry of the Living Environment and Transport, while the Ministry of Agriculture, Livestock and Fisheries oversees the management of living marine resources. Maritime security and surveillance are carried out by the Ministry of Defence and the Navy, with operational

⁷ "W-Arly-Pendjari Complex | World Heritage Outlook."; Marie Furtado, "Interview with Mamadou Karama, Executive Director of AGEREF/CL in Burkina Faso," UICN, July 12, 2023, <https://www.programmeppi.org/en/interview-with-mamadou-karama-executive-director-of-ageref-cl-in-burkina-faso/>.

⁸ *Mar. Oceans*, "Benin and the Sea, a Historic and Forward-Looking Relationship"; "IPE_SWAIMS_Final_Evaluation_Report.Pdf"; Sampaio et al., ARMED GROUPS AND CONFLICT ECONOMIES IN THE NATIONAL PARKS OF BURKINA FASO, NIGER AND BENIN; "Containing Militancy in West Africa's Park W | International Crisis Group."

⁹ APA- Cotonou (Benin), "Benin Enhances Counterterrorism Capabilities with EU-Donated Surveillance Aircraft," BENIN | BENIN, APANews - African Press Agency, March 7, 2025, <https://apanews.net/benin-enhances-counterterrorism-capabilities-with-eu-donated-surveillance-aircraft/>; "European Peace Facility: Council Adopts an Assistance Measure in Support of Beninese Armed Forces," Consilium, accessed July 17, 2025, <https://www.consilium.europa.eu/en/press/press-releases/2023/09/25/european-peace-facility-council-adopts-an-assistance-measure-in-support-of-beninese-armed-forces/>; Wilén, What's Brewing in Benin? Security.

¹⁰ "CENAGREF," accessed July 21, 2025, <https://www.gbif.org/fr/publisher/979d1285-e8ac-4731-9403-297ea0b99149>.

¹¹ "CENAGREF," accessed July 21, 2025, <https://www.gbif.org/fr/publisher/979d1285-e8ac-4731-9403-297ea0b99149>.

¹² "Parks.It - Parks, Reserves, and Other Protected Areas in Benin," accessed July 21, 2025, <https://www.parks.it/world/BJ/Eindex.html>.

¹³ "Décret N° 1961-132 du 06 mai 1961," Secrétariat général du Gouvernement du Bénin, accessed July 16, 2025, <https://sgg.gouv.bj/doc/decret-1961-132/>.

¹⁴ "Benin Government Commits to Long-Term Protection of W National Park in Benin," accessed July 16, 2025, <https://www.africanparks.org/benin-government-commits-long-term-protection-w-national-park>.

¹⁵ "A Major Agreement to Revitalise the Last Large Wildlife Reserve in West and Central Africa," accessed July 16, 2025, <https://www.africanparks.org/major-agreement-revitalise-last-large-wildlife-reserve-west-and-central-africa>.

¹⁶ "Ramsar Site - Glossary - UNESCO World Heritage Centre," accessed July 18, 2025, <https://whc.unesco.org/en/glossary/344>. Ramsar sites refer to sites listed on the List of Wetlands of International Importance, also known as the Ramsar List. These sites are designated because they meet the [Criteria for identifying Wetlands of International Importance](#). The first criterion refers to Sites containing representative, rare or unique wetland types, and the other eight cover Sites of international importance for conserving biological diversity. These criteria emphasize the importance the Convention places on sustaining biodiversity.

coordination provided by the Préfet Maritime.¹⁷ In 2023, Benin established the National Coastal Protection and Management Office to coordinate coastal governance and foster regional cooperation.

Governance

Regarding terrestrial protected areas, legal frameworks governing conservation, defence, and land use remain only partially harmonized.¹⁸ Coordination across ministries is largely driven by executive directives rather than institutionalised mechanisms. Parliamentary oversight and independent monitoring remain limited¹⁹ in light of the military operation.

In terms of access and operational roles, terrestrial protected areas in Benin - particularly within the W-Arly-Pendjari complex - have increasingly been treated as high-risk security perimeters.²⁰ Civilian environmental agencies such as CENAGREF retain formal mandates, but operational leadership on the ground lies with security actors during joint patrols and counter-terrorism deployments.²¹ Entry, movement, and livelihood activities are tightly regulated²²: while the formal conservation framework in Benin already limits human access within core national park zones, the current militarised security context has further tightened restrictions on movement and resource use²³. Mediation committees and early-warning systems (EWS) exist but remain fragmented and lack stable funding.²⁴ At the same time, state actors such as ABeGIEF have supported social cohesion, mediation, and local engagement efforts, indicating that securitised responses have been accompanied by more limited preventive and community-oriented measures.

Governance of maritime protected areas in Benin differs from terrestrial conservation zones in that it is structured around overlapping but functionally distinct regimes, including wetlands, mangroves and fisheries zones. Given the economic importance of the coastal economy, they allow regulated use rather than strict exclusion. Coastal communities, especially fishing populations, remain present, both as economic actors and as potential contributors to monitoring and local governance.

Coordination across sectors is shared between institutions such as the National Coastal Protection and Management Office and the Prefet Maritime, the latter playing a central operational coordination role without exercising full strategic authority. In practice, governance is shaped by the interaction of three parallel policy logics: maritime security (focussed on trafficking and piracy), economic development (linked to trade corridors, coastal infrastructure and fisheries), and conservation oriented initiatives such as the Integrated Management of Benin's Coastal Zone (GIZMaC) project²⁵. This results in a governance configuration where conservation, security, and economic objectives are not fully integrated within a single strategic framework.

3.2 Brazil: Serra do Divisor National Park

Context: ecosystems and security dynamics

Serra do Divisor National Park, located in the far west of Acre along Brazil's border with Peru, protects one of the most biodiverse areas of the Amazon, including unique mountain formations, endemic species, and

¹⁷ Csordas, Viola, Benin Climate and Environmental Security Mapping, unpublished (DCAF, 2024); "IPE_SWAIMS_Final_Evaluation_Report.Pdf," n.d., accessed July 17, 2025, https://www.unodc.org/documents/evaluation/Independent_Project_Evaluations/2024/IPE_SWAIMS_Final_Evaluation_Report.pdf; "Parks.It - Parks, Reserves, and Other Protected Areas in Benin," accessed July 21, 2025, <https://www.parks.it/world/BJ/Eindex.html>;

¹⁸ Aaron Ross, "Insight: Park Rangers Enter Fray in West Africa's Battle with Militants," Africa, Reuters, April 26, 2022, <https://www.reuters.com/world/africa/park-rangers-enter-fray-west-africas-battle-with-militants-2022-04-26/>; "A Major Agreement to Revitalise the Last Large Wildlife Reserve in West and Central Africa."

¹⁹ "Anonymous, Interviews DCAF Mission."

²⁰ "Anonymous, Interviews DCAF Mission."

²¹ Benin Report, pp. 18-21; 7-9

²² Wilén, What's Brewing in Benin? Security.

²³ Nina Wilén, *What's Brewing in Benin? Security*, n.d.

²⁴ "From the Plains to the Parks."

²⁵ *Mar. Oceans*, "Benin and the Sea, a Historic and Forward-Looking Relationship."

critical freshwater systems.²⁶ Its remote location and porous borders make it particularly vulnerable to illegal logging, wildlife trafficking, unregulated mining, and other transnational environmental crimes linked to organized networks.²⁷ Criminal networks exploit cross-border routes and weak law enforcement capacity in remote areas.²⁸ Serra do Divisor's location along the Peru–Brazil border places the park within regional trafficking corridors, where rivers and forest trails are used as secondary transit routes for organised crime networks.²⁹

Actors

Management and security in Serra do Divisor involve a broad multi-level range of actors. Civilian environmental governance is led primarily by the Chico Mendes Institute for Biodiversity Conservation (ICMBio), supported by IBAMA as the federal environmental enforcement authority.³⁰ Security and territorial control functions are carried out by the Brazilian Armed Forces in a subsidiary role, alongside the Federal Police, the Military Police of Acre, the Special Border Operations Group (GEFRON), and intelligence actors participating in Integrated Border Management Offices (GGIF).³¹ Additional stakeholders include FUNAI - in relation to Indigenous territories-, state and municipal governments, and community residents who contribute to surveillance and governance through consultative mechanisms.³² Joint operations involving the Brazilian Army, Federal Police, IBAMA, and ICMBio are regularly conducted. These operations combine patrols, aerial surveillance, riverine controls, and intelligence sharing.³³

These initiatives are supported by collaboration with local Amazonian communities, many of whom live within or near the park and contribute to surveillance, park maintenance, and tourism. Indigenous and traditional populations maintain long-standing relationships with park ecosystems through fishing, small-scale agriculture and non-timber forest products.³⁴ Drawing on deep ecological knowledge, communities play a key role in informing management and enforcement actions, while maintaining traditional livelihoods rooted in the park's natural resources.³⁵

Governance

The park operates under the National System of Conservation Units (SNUC) and is managed by the Chico Mendes Institute for Biodiversity Conservation (ICMBio).³⁶ This framework, established under the SNUC,

²⁶ Instituto Chico Mendes de Conservação da Biodiversidade. (2025). Fauna e flora. <https://www.gov.br/icmbio/pt-br/assuntos/biodiversidade/unidade-de-conservacao/unidades-de-biomas/amazonia/lista-de-ucs/parna-da-serra-do-divisor/novo-layout/fauna-e-flora>; UNESCO. (s.d.). Serra do Divisor National Park. UNESCO World Heritage Centre. <https://whc.unesco.org/en/tentativelists/1121/>

²⁷ UNODC. (2025). Monitoring of territories with presence of coca crops 2023. UNODC; UNODC–Perú. (2024). Monitoreo de cultivos de coca 2023. Devida.

²⁸ United Nations Office on Drugs and Crime (UNODC). (2023). Research Brief: The Drugs–Crime Nexus in the Amazon Basin. Vienna: UNODC

²⁹ International Crisis Group. (2024). A Three-Border Problem: Holding Back the Amazon's Criminal Economies

³⁰ Brazil. Law No. 11,516, of August 28, 2007 – Creates the Chico Mendes Institute for Biodiversity Conservation (ICMBio) and regulates its activities: Scope of action and main responsibilities of ICMBio: Management of Federal Conservation Units (UCs), Environmental Police Power, Research and Monitoring, Implementing Sustainable Use and Traditional Populations, Environmental Education, Ecotourism.; Brazil. Law No. 7,735 of February 22, 1989 – Creation of IBAMA. Scope of action and main responsibilities: Environmental police power, Environmental licensing, Environmental quality control, Use of natural resources,

Monitoring and control, Federal Technical Registry

³¹ Brasil. (1988). Constituição da República Federativa do Brasil de 1988. Diário Oficial da União. https://www.planalto.gov.br/ccivil_03/constituicao/constituicao.htm; Brasil. (1989, June 16). Decreto nº 97.839, de 16 de junho de 1989. Cria o Parque Nacional da Serra do Divisor. Diário Oficial da União

³² Fundação Nacional do Índio & Instituto Chico Mendes de Conservação da Biodiversidade. (2014, September 9). Instrução Normativa Conjunta nº 01, de 9 de setembro de 2014, Diário Oficial da União; Franchi, Tássio, Stremel Barros, Luciano, Dal Pozzo, Eloiza, & Campbell, Mila. (2025). The contribution of security sector governance to the protection of national parks from the perspectives of security, community livelihoods, and the environment: Serra do Divisor, Brazil. IDESF.

³³ Global Initiative Against Transnational Organized Crime. (2023). Amazon Underworld: Criminal Economies in the World's Largest Rainforest.

³⁴ Chaves, W. A., Silva, F. P. C., Constantino, P. A. L., Silva, M. V., & Drumond, P. M. (2018). A caça e a conservação da fauna silvestre no estado do Acre. Biodiversidade Brasileira.

³⁵ Ranzi, Tiago Juruá Damo, Fonseca, Rogerio, & Da Silveira, Ronis. (2018). A legalidade da caça de subsistência no contexto das unidades de conservação na Amazônia Brasileira. Biodiversidade Brasileira, 8(2), 26–41.

³⁶ Brasil. (2000, July 18). Lei nº 9.985, de 18 de julho de 2000. Institui o Sistema Nacional de Unidades de Conservação da Natureza – SNUC. Diário Oficial da União; Instituto Chico Mendes de Conservação da Biodiversidade. (2025). Fauna e flora.

clearly defines management objectives, zoning rules, and enforcement mandates. Brazil's model defines protected areas primarily through civilian environmental law rather than security doctrine. The Serra do Divisor National Park allows regulated presence of resident and surrounding communities, reflecting the Brazilian interpretation of national parks as ecological territories with controlled but legitimate human use.³⁷

With ICMBio, there is a clear civilian lead authority, supported by IBAMA environmental enforcement officers. Security actors play complementary roles focused on transnational crime and border-related enforcement.³⁸ Coordination is supported by a multi-stakeholder consultative council that includes representatives from security agencies, indigenous organisations, municipal authorities, civil society, and local communities. The council provides a formal space for planning, coordination, and dispute resolution³⁹, which together with co-management initiatives, allows communities to contribute to monitoring, maintenance, and visitor services.⁴⁰

However, in some instances border governance arrangements and federal coordination mechanisms link park management with national security priorities.⁴¹ For example, within the framework of Brazil's National Border Policy, and with strategic coordination from the Institutional Security Cabinet of the Presidency of the Republic (GSI), joint operations have brought together the Brazilian Army, federal police, environmental agencies, and park authorities to strengthen enforcement.⁴² For these types of operations, informal communication platforms complement formal coordination mechanisms⁴³, creating parallel channels of communication.

3.3. Nepal: Chitwan National Park and Conservation Enforcement and Community Rights

Context: ecosystems and security dynamics

Nepal, known for its remarkable biodiversity, encompasses several protected areas⁴⁴ which provide critical habitats for globally threatened species such as the Bengal tiger, one-horned rhinoceros, snow leopard, and red panda. Managed under the National Parks and Wildlife Conservation Act of 1973 and supported by Nepal's commitments to the Ramsar Convention,⁴⁵ these areas nonetheless face challenges, including illegal wildlife trade and poaching, resource-use conflicts, and the increasing militarization of conservation. Chitwan National Park, as Nepal's first national park and a UNESCO World Heritage Site,⁴⁶ is widely recognized for pioneering community-based conservation through buffer zone management, eco-tourism, and anti-poaching

<https://www.gov.br/icmbio/pt-br/assuntos/biodiversidade/unidade-de-conservacao/unidades-de-biomas/amazonia/lista-de-ucs/parna-da-serra-do-divisor/novo-layout/fauna-e-flora>

³⁷ Brasil. (1988). Constituição da República Federativa do Brasil de 1988. Diário Oficial da União.

https://www.planalto.gov.br/ccivil_03/constituicao/constituicao.htm; Ranzi, Tiago Juruá Damo, Fonseca, Rogerio, & Da Silveira, Ronis. (2018). A legalidade da caça de subsistência no contexto das unidades de conservação na Amazônia Brasileira. Biodiversidade Brasileira, 8(2), 26–41.

³⁸ Brazil, Complementary Law No. 97/1999 authorizes the Armed Forces to conduct subsidiary actions in support of federal authorities, including assistance to environmental agencies in combating environmental crimes and in securing sensitive border areas; Law No. 7,735 of February 22, 1989 – Creation of IBAMA: Scope of action and main responsibilities: Environmental police power, Environmental licensing, Environmental quality control, Use of natural resources, Monitoring and control, Federal Technical Registry.

³⁹ ICMBio Instruction No. 9 of December 5, 2014 – guidelines for the formation, implementation and modification of the composition of the Management Councils of federal UCs; IBAMA Ordinance No. 78/2002 (5 July 2002)

⁴⁰ Brazil. (2000). Lei nº 9.985 – Sistema Nacional de Unidades de Conservação da Natureza (SNUC).

⁴¹ Integrated Border Protection Program (PPIF) - Established by Federal Decree No. 8,903 of November 16, 2016; National Border Policy (PNFron) Published through Decree No. 12,038 of May 29, 2024

⁴² Brazil. Decree No. 12.038, of 29 May 2024 – National Border Policy (PNFron); Brazil. Decree No. 8.903 of 16 November 2016 – Integrated Border Protection Program (PPIF)

⁴³ Instituto de Pesquisa Econômica Aplicada (IPEA). (2023). Border governance and public security coordination in Brazil's frontier regions. Brasília: IPEA.

⁴⁴ Government of Nepal. (2023). Department of National Parks and Wildlife Conservation Annual Report. Kathmandu: DNPWC

⁴⁵ Government of Nepal. (1973). National Parks and Wildlife Conservation Act. Kathmandu.

⁴⁶ UNESCO World Heritage Centre. (2023). Chitwan National Park – World Heritage Site Description.

programmes.⁴⁷ Despite these achievements, the park continues to grapple with human-wildlife conflict, poaching, habitat encroachment affecting Indigenous communities, and allegations of human rights violations linked to law enforcement.⁴⁸

Actors

Chitwan National Park governance is shaped by a network of civilian and security actors. The park is managed by the Department of National Parks and Wildlife Conservation and park wardens under the Ministry of Forests and Environment lead civilian management, supported by the National Trust for Nature Conservation (NTNC).⁴⁹ The Chief Warden oversees daily operations, supported by rangers and military personnel. There is substantive engagement by the Nepal Army⁵⁰, which has maintained a permanent presence in the park since 1975⁵¹ and operates alongside park rangers, forest guards, specialised anti-poaching units, and the Wildlife Crime Control Bureau. Additional roles are played by Nepal Police and local governments, while buffer-zone user committees and community-based anti-poaching groups institutionalise community participation.⁵²

Governance

With the Department of National Parks and Wildlife Conservation, there is a clear lead for civilian management, but the Nepal Army maintains a permanent operational presence and often shapes enforcement practices.⁵³ Moreover, security actors like park rangers, forest guards, the Wildlife Crime Control Bureau, the Nepal Police, and community-based anti-poaching units collectively form an integrated enforcement architecture.⁵⁴

Nepal's definition of protected areas combines strict core-zone protection with buffer-zone access regimes. Inside Chitwan National Park, military and ranger patrols enforce strong restrictions on resource use, while surrounding buffer zones allow regulated community activities and participatory governance.⁵⁵ Buffer zone regulations institutionalise community participation and revenue-sharing mechanisms.⁵⁶ These provisions allocate a percentage of park revenues to local development projects.⁵⁷ However, while these community institutions exist, strategic decision-making remains largely centralized at national level⁵⁸.

⁴⁷ Baral, N., & Heinen, J. T. (2007). Decentralization and people's participation in conservation: A comparative study from the western Terai of Nepal. *International Journal of Sustainable Development & World Ecology*; Thapa, K., et al. (2013). Effectiveness of anti-poaching patrols and community engagement in reducing rhino poaching in Chitwan National Park. *Oryx*.

⁴⁸ Amnesty International. (2021). "They protect the forest, but who protects the people?" Human rights violations by Nepal Army in conservation areas.

⁴⁹ National Trust for Nature Conservation (NTNC). (2021). Annual Report. Kathmandu.

⁵⁰ Government of Nepal. (1973). National Parks and Wildlife Conservation Act. Kathmandu.

⁵¹ Nepal Army. (2018). Nepal Army in Nature Conservation. Directorate of Public Relations.

⁵² Department of National Parks and Wildlife Conservation (DNPWC). (2017). Buffer Zone Management Guideline.

⁵³ Nepal Army. (2018). Nepal Army in Nature Conservation. Directorate of Public Relations.

⁵⁴ Government of Nepal. (2010). Wildlife Crime Control Bureau (WCCB) Establishment and Operational Framework. Kathmandu.

⁵⁵ UNESCO World Heritage Centre. (2023). Chitwan National Park World Heritage Site Description.

⁵⁶ Department of National Parks and Wildlife Conservation (DNPWC). (2017). Buffer Zone Management Guideline. Kathmandu.

⁵⁷ Government of Nepal. (1993; amended 2017). National Parks and Wildlife Conservation Regulations. Kathmandu.

⁵⁸ Baral, N., & Heinen, J. T. (2007). Decentralization and people's participation in conservation: A comparative study from the western Terai of Nepal. *International Journal of Sustainable Development & World Ecology*.

4. Comparative Analysis

4.1 Governance

Governance Models and Definitions of Protection

This section compares governance arrangements across Benin, Brazil, and Nepal, focusing on how different definitions and regimes of protected areas shape the roles, mandates and accountability of security actors operating within.

Notably, the meaning of “protection” varies a heavily across contexts and models. Protected areas are generally governed through zoning systems determining who may enter, reside, move, or extract resources, and which authorities are responsible for monitoring and enforcement; determining which activities, such as hunting, grazing, logging, fishing, or settlement, are permitted, regulated, or prohibited. These rules often differentiate between core zones, where biodiversity protection is prioritised and human activity is highly restricted, and surrounding areas where regulated community access or livelihood activities may be allowed.⁵⁹ Across the three case studies, it is apparent that these design choices produce distinct patterns of access, participation and vulnerability.

In conflict-affected regions such as northern Benin, conservation regimes have increasingly been superseded by security restrictions⁶⁰ Particularly within the W-Arly-Pendjari complex, national parks have long been legally designated as restricted conservation zones,⁶¹ but the deteriorating security context has further reinforced their treatment as security-sensitive territories.⁶² Since the launch of military counter-terrorism operations such as Operation Mirador, access, mobility, and livelihood activities have become even more tightly controlled, with some areas effectively closed to civilians or reclassified as military zones⁶³, with security actors assuming primary operational authority and civilian oversight playing a more limited role.

In contrast to the W-Arly-Pendjari (WAP) complex, maritime protected areas in Benin reflect a more fragmented and permissive governance configuration. While WAP is characterised by territorial control, militarised enforcement, and limited civilian presence, coastal zones operate through overlapping sectoral mandates that allow continued economic activity and community presence. This creates a fundamentally different governance dynamic: one prioritises control and exclusion to address security threats, while the other relies on coordination across economic, environmental, and security actors without a single dominant logic, resulting in fragmented authority and unclear alignment between security, conservation, and regulatory mandates.

In Brazil's Serra do Divisor National Park, protection is defined primarily through civilian environmental legislation under the National System of Conservation Units (SNUC), where ecological preservation is the main objective but local communities may continue to inhabit or interact with surrounding landscapes under

⁵⁹ Benin: IUCN. 2013. *Guidelines for Applying Protected Area Management Categories*. Gland: IUCN, pp. 26, 44-45; UNESCO. 1996. *Biosphere Reserves: The Seville Strategy and the Statutory Framework of the World Network*. Paris: UNESCO, pp. 16-17.; Brazil: Convention on Biological Diversity (CBD) Adopted 22 May 1992 (Rio); entered into force 1993 (Convention on Biological Diversity, Provides the international basis for national systems of protected areas (e.g. Brazil's SNUC) and for conservation targets applied to national parks like Serra do Divisor; supports obligations on management plans, monitoring of species and ecosystem protection in Acre. Nepal: Government of Nepal. 1973. *National Parks and Wildlife Conservation Act (NPWC Act)*. Kathmandu: Ministry of Forests and Environment; amended 1993, 2017 (Establishes the legal framework governing Nepal's protected areas, including zoning regimes, restrictions on resource use, and the authority of park officials and security forces to regulate entry, settlement, hunting, grazing, and other activities within national parks and buffer zones); Department of National Parks and Wildlife Conservation (DNPWC). 2017. *Buffer Zone Management Guideline*. Kathmandu: DNPWC, pp. 5–12 (Defines the buffer zone governance system surrounding protected areas such as Chitwan National Park, including community participation mechanisms, regulated livelihood activities, and revenue-sharing arrangements).

⁶⁰ IUCN. 2013. *Guidelines for Applying Protected Area Management Categories*. Gland: IUCN, pp. 26, 44-45; UNESCO. 1996. *Biosphere Reserves: The Seville Strategy and the Statutory Framework of the World Network*. Paris: UNESCO, pp. 16-17.

⁶¹ “Décret N° 1961-132 du 06 mai 1961,” Secrétariat général du Gouvernement du Bénin, accessed July 16, 2025, <https://sgg.gouv.bj/doc/decret-1961-132/>.

⁶² Nina Wilén, *What's Brewing in Benin?* Security, n.d.

⁶³ Nina Wilén, *What's Brewing in Benin?* Security, n.d.

regulated zoning arrangements and participatory governance structures.⁶⁴ Within this model, civilian authorities retain clear leadership and initiative (such as the Public Prosecutor’s right to initiate investigations), while security actors operate in a supporting role focused on environmental enforcement and transnational crime.

In Nepal, protected area governance combines strict protection within core park zones with more flexible access regimes in surrounding buffer zones, where communities may participate in tourism, forest management, and development initiatives linked to conservation benefits.⁶⁵ Enforcement authority is heavily shaped by the permanent presence of the Nepal Army, resulting in an integrated military–conservation model with unified operational structures but where oversight and decision-making remain concentrated and less exposed to external scrutiny.. However, overlapping mandates, centralised decision-making, and limited decentralisation constrain local autonomy.

Across the three cases, the definition of “protection” directly determines are not only environmental classifications but choices on who exercises authority, how enforcement is organised, and the extent to which security actors operate under civilian oversight, parallel or autonomous command structures. These access regimes also shape patterns of community presence and vulnerability.

Accountability and Oversight

Accountability mechanisms determine whether security and conservation actors operate within legal and ethical boundaries.

In Benin, accountability is weakened by the application of exceptional security frameworks in protected areas. Counter-terrorism deployments blur the boundaries between civilian law enforcement and military operations, without always clarifying whether rules governing armed conflict or standard policing rules apply. While the government frames operations in northern Benin within the context of a non-international armed conflict against armed groups. This distinction matters because the legal standards for the use of force, arrest powers, and protection of civilians differ depending on whether International Humanitarian Law applies. A further concern relates to APN. Their integration into joint patrols with the Forces Armées Béninoises strengthens operational capacity but raises questions about who responsibility for the use of force, which rules apply to rangers, and which authority investigates incidents involving civilians. Oversight of security operations in protected areas remains weak, particularly with regard to the regulation of force and interactions with civilian populations. As militarised deployments expand, community perceptions of securitisation have increased in some localities, contributing to mistrust and fear. Oversight remains largely administrative, with limited independent monitoring of hybrid public-private security arrangements.⁶⁶

Brazil benefits from relatively strong formal oversight through administrative courts, public prosecutors, parliamentary committees, and civil society monitoring.⁶⁷ These mechanisms increase transparency and enable legal remedies. Environmental enforcement actions remain embedded within civilian legal frameworks, and consultative councils provide additional scrutiny by enabling civil society, indigenous

⁶⁴ Law No. 9,985/2000 established the National System of Nature Conservation Units (SNUC) and sets criteria and rules for the creation, implementation, and management of conservation units

⁶⁵ Government of Nepal. 1973. National Parks and Wildlife Conservation Act (NPWC Act). Kathmandu: Ministry of Forests and Environment; amended 1993, 2017; Department of National Parks and Wildlife Conservation (DNPWC). 2017. Buffer Zone Management Guideline. Kathmandu: DNPWC, pp. 3–10.

⁶⁶ Nina Wilén, What’s Brewing in Benin? Security, n.d.; Antônio Sampaio et al., ARMED GROUPS AND CONFLICT ECONOMIES IN THE NATIONAL PARKS OF BURKINA FASO, NIGER AND BENIN, n.d.; Aaron Ross, “Insight: Park Rangers Enter Fray in West Africa’s Battle with Militants,” Africa, Reuters, April 26, 2022, <https://www.reuters.com/world/africa/park-rangers-enter-fray-west-africas-battle-with-militants-2022-04-26/>; “Violent Extremism in the Sahel | Global Conflict Tracker,” accessed July 16, 2025, <https://www.cfr.org/global-conflict-tracker/conflict/violent-extremism-sahel/>; Anonymous, Interviews DCAF Mission.”; “A/HRC/58/47/Add.1: Visit to Benin - Report of the Special Rapporteur on the Promotion and Protection of Human Rights and Fundamental Freedoms While Countering Terrorism - Advance Unedited Version,” OHCHR, accessed July 17, 2025, <https://www.ohchr.org/en/documents/country-reports/ahrc5847add1-visit-benin-report-special-rapporteur-promotion-and-> “From the Plains to the Parks.”;

⁶⁷ Brasil. (1988). Constituição da República Federativa do Brasil de 1988. Diário Oficial da União. https://www.planalto.gov.br/ccivil_03/constituicao/constituicao.htm; Instituto de Pesquisa Econômica Aplicada. (2023). Fronteiras do Brasil: Uma avaliação de política pública. https://repositorio.ipea.gov.br/bitstream/11058/12597/7/BRUA_30_Artigo_2_frenteiras_brasil.pdf

representatives, and local authorities to monitor decision-making and raise disputes.⁶⁸ The Public Prosecutor's Office plays a particularly important role as an independent oversight body, able to initiate investigations and public civil actions related to environmental protection and the legality of security operations.⁶⁹ Judicial decisions can also activate coordinated enforcement actions by federal and state security agencies, illustrating the judiciary's capacity to influence security deployments in protected areas.⁷⁰ This makes Brazil stand out, as judicial and prosecutorial actors can actively shape enforcement priorities, rather than merely reviewing them after the fact. Oversight of security operations is therefore embedded within Brazil's broader administrative and judicial accountability framework, including environmental courts and prosecutorial oversight.⁷¹ At the same time, limited personnel, logistical constraints, and the remoteness of many Amazonian territories can affect the consistency of enforcement and the accessibility of accountability mechanisms for local communities.⁷² Broader regional dynamics also shape oversight challenges: infrastructure and integration projects—such as proposed road links connecting Peru and Brazil—may increase environmental pressures and criminal opportunities, illustrating how expanding connectivity can simultaneously support development while complicating security and environmental governance.⁷³

In Nepal, accountability structures appear more institutionalised than in Benin but remain heavily internalised within state hierarchies. The Department of National Parks and Wildlife Conservation formally oversees park governance, yet the Nepal Army's permanent deployment shapes enforcement practices and limits external scrutiny.⁷⁴ Oversight of security actors is largely administrative, with few independent review mechanisms or accessible grievance channels for communities.⁷⁵ Similarly to Benin, overlapping mandates among the Nepal Army, park authorities, and police forces can blur responsibility for enforcement actions, while buffer-zone committees provide participation but limited influence over strategic decisions.⁷⁶ In addition, operational plans may describe duties and coordination arrangements but remain silent on formal codes of conduct, grievance mechanisms, and independent civilian oversight structures, including clearer rules of engagement and safeguards governing the use of force in conservation enforcement. Allegations of excessive use of force and arbitrary detention have periodically affected community relations.⁷⁷ While the integrated military–conservation model has strengthened enforcement outcomes, the concentration of authority within security hierarchies can reduce transparency and limit external scrutiny, creating tensions between conservation success and rights-based governance expectations.⁷⁸ Community interviews highlight delayed grievance

⁶⁸ Fundação Nacional do Índio & Instituto Chico Mendes de Conservação da Biodiversidade. (2014, September 9). Instrução Normativa Conjunta nº 01, de 9 de setembro de 2014. Diário Oficial da União; Brasil. (2000, July 18). Lei nº 9.985, de 18 de julho de 2000. Instituto do Sistema Nacional de Unidades de Conservação da Natureza – SNUC. Diário Oficial da União.

⁶⁹ Brasil. (1988). Constituição da República Federativa do Brasil de 1988. Diário Oficial da União. https://www.planalto.gov.br/ccivil_03/constituicao/constituicao.htm; organização do Ministério Público da União. Presidência da República. https://www.planalto.gov.br/ccivil_03/leis/lcp/lcp75.htm;

⁷⁰ Instituto de Pesquisa Econômica Aplicada. (2023). Fronteiras do Brasil: Uma avaliação de política pública. https://repositorio.ipea.gov.br/bitstream/11058/12597/7/BRUA_30_Artigo_2_frenteiras_brasil.pdf

⁷¹ Brasil. (1988). Constituição da República Federativa do Brasil de 1988. Diário Oficial da União. https://www.planalto.gov.br/ccivil_03/constituicao/constituicao.htm

⁷² Franchi, Tássio, Stremel Barros, Luciano, Dal Pozzo, Eloiza, & Campbell, Mila. (2025). The contribution of security sector governance to the protection of national parks from the perspectives of security, community livelihoods, and the environment: Serra do Divisor, Brazil. IDESF.

⁷³ Santos, Lauro da Veiga. (2024). Efeitos da via de integração Cruzeiro do Sul (AC) e Pucallpa (PE), no contexto atual e na ótica da geopolítica local (Monografia de graduação). Escola Superior de Guerra, CAEPE; SOS Amazônia. (2023). Parecer do MPF reforça necessidade de anulação de edital da estrada Cruzeiro do Sul–Pucallpa. <https://sosamazonia.org.br/tpost/h7rd2uxxz1-parecer-do-mpf-reforca-necessidade-de-anul>

⁷⁴ Government of Nepal. 1973. National Parks and Wildlife Conservation Act (NPWC Act). Kathmandu: Ministry of Forests and Environment; amended 1993, 2017.

⁷⁵ Department of National Parks and Wildlife Conservation (DNPWC). 2017. Buffer Zone Management Guideline. Kathmandu: Government of Nepal.

⁷⁶ Baral, N., & Heinen, J. T. 2007. Decentralization and people's participation in conservation: A comparative study from the western Terai of Nepal. *International Journal of Sustainable Development & World Ecology* 14(5): 520–531.

⁷⁷ Amnesty International. 2021. "They protect the forest, but who protects the people?" Human rights violations by Nepal Army in conservation areas. London: Amnesty International.

⁷⁸ Thapa, K., et al. 2013. Effectiveness of anti-poaching patrols and community engagement in reducing rhino poaching in Chitwan National Park. *Oryx* 47(3): 404–410.

handling and compensation disputes, illustrating a gap between formal participation structures and practical accountability.

Across the three cases, accountability is not only shaped by institutional design but by how security roles are framed within protected area governance. Where security actors operate under exceptional or hybrid arrangements, as in Benin, legal ambiguity and diffuse responsibility weaken oversight and increase risks for civilian protection. In Nepal, integrated military–conservation structures enable operational coherence but concentrate authority within security hierarchies, limiting external scrutiny and effective grievance redress. By contrast, Brazil’s civilian-led model embeds security functions within established legal and judicial oversight systems, although implementation remains uneven in remote areas. Across all contexts, weak or inaccessible grievance mechanisms emerge as a critical gap, undermining early conflict resolution, community trust, and the long-term legitimacy of both conservation and security interventions.

Coordination and participation

To ensure coherence and navigate multiple policy objectives, effective coordination mechanisms across sectors and government levels are essential in multi-actor environments where national and local security, environmental, and development institutions operate simultaneously. Community and indigenous engagement shape how protected areas function not only as conservation landscapes but also as social and security spaces. Across the three case studies, governance models produce distinct patterns of access, participation, and vulnerability.

In the case of Benin’s WAP complex, centralization and military dominance prioritize efficiency over other aspects: centralised command structures allow rapid mobilisation and integrated patrols with hybrid actors such as APN. However, the absence of institutionalised civilian-led coordination platforms leads to an exclusion of conservation and livelihood considerations as well as long-term strategic planning. Moreover, the reliance on executive directives rather than standing coordination mechanisms increases vulnerability to political change and may weaken cross-sector learning between environmental, development, and security institutions.⁷⁹ In its maritime protected areas, governance is shaped by the coexistence of multiple policy and regulatory frameworks, including maritime security strategies, blue economy and fisheries policies, integrated coastal management initiatives, and environmental protection regimes. The *Préfet Maritime* plays a central role in coordinating state action at sea, mostly focussed on security but increasingly including environmental aspects, but does not consolidate these different sectoral logics within a unified strategic framework. While this enables flexibility and supports economic activity, it diffuses responsibility across institutions and limits the alignment of security operations with conservation and resource management objectives.

Brazil’s system of multi-stakeholder councils enhances policy coherence and the inclusion of diverse policy objectives and community interests. However, while Brazil’s participatory governance model reduces unilateral decision-making, it introduces coordination challenges of its own. Multi-stakeholder councils improve legitimacy and transparency, yet they require sustained facilitation and resources to avoid fragmentation or decision-making delays.⁸⁰ Coordination gaps may further emerge where federal security actors operate through separate border or crime-prevention frameworks, creating parallel chains of communication to state level and civilian actors. Pushing back against such power imbalances requires a continuous negotiation to maintain civilian leadership and environmental mandates.⁸¹

In Nepal, integration of enforcement actors under the leadership of the Nepal Army simplifies operational coordination because actors share command structures and training frameworks. However, it can create coordination blind spots, particularly regarding external oversight, grievance handling, and inter-agency accountability. Community institutions may participate in implementation but often have limited influence over

⁷⁹ “Anonymous, Interviews DCAF Mission.”

⁸⁰ Instituto Chico Mendes de Conservação da Biodiversidade. (2025). Fauna e flora. <https://www.gov.br/icmbio/pt-br/assuntos/biodiversidade/unidade-de-conservacao/unidades-de-biomas/amazonia/lista-de-ucs/parna-da-serra-do-divisor/novo-layout/fauna-e-flora>

⁸¹ Instituto de Pesquisa Econômica Aplicada. (2023). Fronteiras do Brasil: Uma avaliação de política pública. https://repositorio.ipea.gov.br/bitstream/11058/12597/7/BRUA_30_Artigo_2_frenteiras_b_rasil.pdf

strategic planning, which reduces trust and create friction between local governance structures and security actors.⁸²

Across the three cases, coordination challenges do not stem primarily from a lack of interaction between actors, but from how authority and mandates are structured within governance systems. In Benin, coordination is driven by centralised command, enabling rapid action but limiting cross-sector integration. In Nepal, integrated enforcement structures facilitate operational coherence but concentrate decision-making and reduce horizontal accountability. In Brazil, coordination is institutionalised through participatory mechanisms, improving inclusivity but requiring sustained resources and negotiation to remain effective. These differences highlight that coordination is not only a technical issue, but a governance function shaped by the distribution of authority, the role of security actors, and the extent to which different policy objectives are institutionally aligned.

Participation mechanisms also differ in their degree of institutionalisation. Brazil's consultative councils and co-management arrangements provide structured platforms for indigenous and traditional community involvement in decision-making, dispute resolution, and environmental monitoring, contributing to surveillance, tourism, and environmental monitoring. In Nepal, buffer-zone committees and community forest user groups offer institutionalised participation, supported by revenue-sharing mechanisms linked to conservation and tourism. In Benin, by contrast, community engagement is more limited and takes place primarily through mediation mechanisms and informal early-warning mechanisms⁸³, with less formalised influence over governance decisions.

Nevertheless, participation remains uneven across all three contexts. Decision-making authority continues to be concentrated at central levels, and benefit-sharing mechanisms remain inconsistent. Where communities lack meaningful influence over resource allocation or enforcement priorities, participation risks remaining symbolic rather than transformative.

Across the three case studies, three critical enabling factors for coordination emerge:

- **Permanent multi-stakeholder platforms:** Brazil's consultative council provides a structured forum for regular dialogue, joint planning, and dispute resolution. It reduces institutional silos and promotes shared ownership of decisions. In contrast, Benin relies largely on inter-ministerial directives and security-led coordination,⁸⁴ while Nepal depends on hierarchical command structures and intermediary committees.⁸⁵ ***Where permanent platforms are absent or weak, coordination risks becoming reactive and personality-driven, increasing institutional fragility.***
- **Interoperable information systems:** Information sharing across agencies remains uneven. In Benin, ecological monitoring systems increasingly support security operations, but without clear data governance rules.⁸⁶ In Nepal, intelligence sharing is largely internal to security institutions.⁸⁷ Brazil has more developed inter-agency communication systems, supplemented by informal digital

⁸² Amnesty International. (2021). "They protect the forest, but who protects the people?" Human rights violations by Nepal Army in conservation areas.

⁸³ Csordas, Viola, Benin Climate and Environmental Security Mapping; *Mar. Oceans*, "Benin and the Sea, a Historic and Forward-Looking Relationship."; "From the Plains to the Parks."

⁸⁴ "W-Arly-Pendjari Complex | World Heritage Outlook."; African Parks Network (2020). Co-management arrangements in Pendjari and W National Parks; Franchi, T., Stremel Barros, L., Dal Pozzo, E., & Campbell, M. (2025). The contribution of security sector governance to the protection of national parks: Serra do Divisor, Brazil. IDESF; iCMBio Instruction No. 9 of December 5, 2014 – guidelines for the formation, implementation and modification of the composition of the Management Councils of federal UCs; Instituto de Pesquisa Econômica Aplicada. (2023). *Fronteiras do Brasil: Uma avaliação de política pública* https://repositorio.ipea.gov.br/bitstream/11058/12597/7/BRUA_30_Artigo_2_frenteiras_b_rasil.pdf; Department of National Parks and Wildlife Conservation (DNPWC) (2017). National park governance and buffer zone management framework.

⁸⁵ Government of Nepal. 1973. National Parks and Wildlife Conservation Act (NPWC Act). Kathmandu: Ministry of Forests and Environment; amended 1993, 2017.

⁸⁶ Aaron Ross, "Insight: Park Rangers Enter Fray in West Africa's Battle with Militants," *Africa*, Reuters, April 26, 2022, <https://www.reuters.com/world/africa/park-rangers-enter-fray-west-africas-battle-with-militants-2022-04-26/>; "A Major Agreement to Revitalise the Last Large Wildlife Reserve in West and Central Africa."; "Benin Government Commits to Long-Term Protection of W National Park in Benin."; "European Peace Facility: Council Adopts an Assistance Measure in Support of Beninese Armed Forces," Consilium, accessed July 17, 2025, <https://www.consilium.europa.eu/en/press/press-releases/2023/09/25/european-peace-facility-council-adopts-an-assistance-measure-in-support-of-beninese-armed-forces/>; Franchi, T., Stremel Barros, L., Dal Pozzo, E., & Campbell, M. (2025). The contribution of security sector governance to the protection of national parks: Serra do Divisor, Brazil. IDESF; Instituto de Pesquisa Econômica Aplicada. (2023). *Fronteiras do Brasil: Uma avaliação de política pública*

⁸⁷ Nepal Army. 2018. Nepal Army in Nature Conservation. Kathmandu: Directorate of Public Relations.

platforms.⁸⁸ Across the three cases, **gaps in interoperability reduce situational awareness and can undermine joint responses.**

- **Clear vertical coordination across government levels:** All three cases demonstrate challenges in aligning national policies with provincial and local implementation. In Nepal, centralised authority limits local autonomy.⁸⁹ In Benin, parallel ministerial chains complicate planning.⁹⁰ Brazil shows relatively stronger vertical integration, but coordination gaps remain in remote areas.⁹¹ **Effective vertical coordination is necessary to ensure policy coherence and accountability.**

4.2 Security Dynamics and Responses

Across the three case studies, security risks emerge from similar structural conditions: vast protected landscapes, limited permanent state presence, and porous international borders. Low population density and difficult terrain create opportunities for both environmental crime and broader illicit activities, while the ecological and strategic value of protected areas makes them attractive transit corridors or hideouts. These structural conditions generate different security responses across contexts, ranging from militarised counter-terrorism operations to civilian-led environmental enforcement models.⁹²

Operational Logic of Security Provision

Across the three case studies, security provision in protected areas is shaped not only by threat environments, but by how states organise authority, information flows, and operational roles. Rather than focusing on risks themselves, this section examines how different governance models translate into distinct operational logics of security provision.

In Benin's terrestrial protected areas, security provision has become increasingly surveillance-led and operationally integrated under the framework of counter-terrorism efforts such as Operation Mirador, including heavy reliance on the use of force and surveillance. In practice, assets originally introduced for conservation purposes and by conservation actors like APN, including drones, aerial sensors, VHF communication systems, and rapid response units associated with park management, have become embedded in joint security operations and contribute to early warning and threat detection. These operations are often conducted through joint patrol structures combining military units and APN-supported ranger forces, further blurring distinctions between civilian conservation and security functions. This has enabled a shift toward continuous monitoring and rapid intervention, strengthening situational awareness across large and remote protected landscapes. Intelligence flows draw on a combination of sensor-based surveillance, APN-generated field intelligence, and informal community reporting. While this enhances operational reach, the absence of a harmonised legal framework defining how conservation-generated data may be shared, used, and governed within security operations introduces uncertainty around data governance, accountability, and applicable rules of engagement. In practice, intelligence flows increasingly support military-led decision-making, but without clearly codified safeguards regarding responsibility, oversight, or the protection of civilian actors operating within these systems.

⁸⁸ Brazil. 2016. Decreto nº 8.903 – Programa de Proteção Integrada de Fronteiras (PPIF). Brasília: Presidência da República

⁸⁹ Baral, N., & Heinen, J. T. 2007. Decentralization and people's participation in conservation: A comparative study from the western Terai of Nepal. *International Journal of Sustainable Development & World Ecology* 14(5): 520–531.

⁹⁰ "Parks.It - Parks, Reserves, and Other Protected Areas in Benin," accessed July 21, 2025, <https://www.parks.it/world/BJ/Eindex.html>; "CENAGREF," accessed July 21, 2025, <https://www.gbif.org/fr/publisher/979d1285-e8ac-4731-9403-297ea0b99149>; Csordas, Viola, Benin Climate and Environmental Security Mapping, unpublished (DCAF, 2024); "Containing Militancy in West Africa's Park W | International Crisis Group."; *Mar. Oceans*, "Benin and the Sea, a Historic and Forward-Looking Relationship."; Franchi, T., Stremel Barros, L., Dal Pozzo, E., & Campbell, M. (2025). The contribution of security sector governance to the protection of national parks: Serra do Divisor, Brazil. IDESF.; Instituto de Pesquisa Econômica Aplicada. (2023). *Fronteiras do Brasil: Uma avaliação de política pública* https://repositorio.ipea.gov.br/bitstream/11058/12597/7/BRUA_30_Artigo_2_frenteiras_b_rasil.pdf.

⁹¹ Instituto de Pesquisa Econômica Aplicada (IPEA). 2023. *Governança e coordenação institucional nas regiões de fronteira do Brasil*. Brasília: IPEA

⁹² Franchi, T., Stremel Barros, L., Dal Pozzo, E., & Campbell, M. (2025). The contribution of security sector governance to the protection of national parks from the perspectives of security, community livelihoods, and the environment: Serra do Divisor, Brazil. IDESF; Government of Nepal, Department of National Parks and Wildlife Conservation (DNPWC). (2017). *National Parks and Wildlife Conservation governance framework and buffer zone management guidelines*. Kathmandu: Government of Nepal; Government of Benin / African Parks Network. (2020). *Management and security governance of the W-Arly-Pendjari complex*.

In Benin's maritime protected areas, security provision follows a distinct but equally operationalised logic centred on state action at sea. Under the coordination of the Préfet Maritime, the Navy and associated agencies conduct coastal patrols, monitor shipping lanes, and target illicit activities such as fuel trafficking, illegal fishing, and smuggling. Recent investments in radar-based systems and coastal surveillance technologies, including the Vissim monitoring platform, have expanded the state's capacity to track maritime activity, detect anomalies, and respond to incidents in real time. This reflects a model focused on monitoring flows rather than controlling territory, adapted to the fluid and transnational nature of maritime space. However, as in terrestrial contexts, operational capacity has evolved faster than the frameworks governing its use. While real-time maritime domain awareness has improved incident response, it remains only partially integrated with fisheries management, environmental monitoring, and coastal governance systems.

Across both terrestrial and maritime domains, Benin's security dynamics illustrate a model characterised by high operational intensity, growing reliance on surveillance technologies, and increasing integration of hybrid actors into security functions. While this has strengthened the state's ability to detect and respond to threats, it also highlights emerging governance challenges related to role clarity, data governance, and the alignment of security practices with conservation and community-based approaches.

In Brazil, security provision is operationalised through a civilian-led, intelligence-driven enforcement model embedded within environmental governance structures. Enforcement is targeted rather than permanent, focusing on disrupting organised environmental crime networks operating across remote and transboundary areas⁹³. Operations are typically triggered by intelligence signals rather than continuous territorial presence.

In practice, this model relies on joint operations bringing together environmental authorities (notably ICMBio and IBAMA) with federal and state security actors. These operations combine aerial surveillance, riverine controls, and intelligence-based targeting to address illegal logging, mining, wildlife trafficking, and cross-border criminal activity. Unlike territorial control models, enforcement is not centred on continuous presence, but on identifying and intervening in specific high-risk activities and networks.

A key feature of this approach is the role of environmental agencies themselves in generating and acting on operational intelligence. Monitoring systems, field-based information, and community inputs contribute to identifying illegal activities and informing enforcement actions. This enables a shift from reactive patrols toward selective, intelligence-led interventions, while maintaining civilian leadership over enforcement priorities. At the same time, this model remains highly dependent on effective inter-agency coordination, which can be uneven across regions and operations.

Overall, Brazil's model reflects a form of security provision through intelligence-led environmental enforcement, where civilian authorities retain strategic control and security actors operate in support roles⁹⁴. While this enhances the ability to target complex criminal networks, it depends on sustained coordination and the effective integration of intelligence, enforcement, and environmental governance functions.

In Nepal, to counter threats from poaching, illegal logging, wildlife trafficking, and encroachment by criminal networks targeting high-value species, particularly rhinoceros, ⁹⁵ which are also shaped by Nepal's open Nepal–India frontier and regional trafficking routes⁹⁶, security actors' focus is on enforcement of environmental protection laws.

The Nepal Army plays a central role in patrols, intelligence gathering, and anti-poaching operations. Joint patrols with rangers and community informants have contributed to notable reductions in poaching.⁹⁷ Security dynamics therefore centre primarily on wildlife crime prevention rather than broader insurgent or organised criminal activity. Security deployment is highly institutionalised, with permanent army presence,

⁹³ UNODC & Europol. (2021). *The illicit trade of cocaine from Latin America to Europe: From oligopolies to free-for-all?* United Nations Office on Drugs and Crime.

⁹⁴ Brazil. (2000). Law No. 9.985 of 18 July 2000 establishing the National System of Conservation Units (SNUC).

⁹⁵ Dinerstein, E., et al. (2007). The fate of wild tigers. *BioScience*, 57(6), 508–514.

⁹⁶ United Nations Office on Drugs and Crime (UNODC). (2020). *World Wildlife Crime Report: Trafficking in Protected Species*. Vienna: UNODC.

⁹⁷ Thapa, K., et al. (2013). *Effectiveness of anti-poaching patrols and community engagement in reducing rhino poaching in Chitwan National Park*. *Oryx*, 47(3), 404–410.

fixed security posts, and routine joint patrols forming a continuous enforcement architecture. Security deployment is highly institutionalised, with army posts, ranger units, and specialised anti-poaching teams operating through integrated command structures that prioritise rapid response and territorial control.⁹⁸ Information flows include ranger reporting and community-derived inputs, rather than formalised intelligence systems. Recent evidence also highlights the strategic role of informal community-based intelligence networks - supported in part through incentivised reporting mechanisms- in strengthening enforcement outcomes.⁹⁹ However, the concentration of operational authority within security structures tends to prioritise rapid enforcement and territorial control, while limiting the incorporation of external inputs and locally grounded information into operational decision-making.

These models differ not only in how force is deployed, but in how information is generated, shared, and translated into operational decisions. In Benin, security provision is driven by integrated, surveillance-heavy systems that prioritise continuous monitoring and rapid response. In Brazil, it is based on selective, intelligence-triggered interventions under civilian leadership. In Nepal, it relies on permanent, hierarchical deployment structures combining military and conservation functions. These operational logics shape not only effectiveness, but also accountability, civilian oversight, and the extent to which security provision can be aligned with conservation objectives and community dynamics.

Transborder Dynamics

Protected areas located in border regions are particularly exposed to transnational threats, including trafficking, organised crime, and the movement of armed groups. Their ecological characteristics, such as large size, difficult terrain, and limited state presence, make them attractive as transit corridors, hideouts, and resource extraction zones. This would make it paramount to focus on regional cooperation across borders – both regarding the protection of cross-border ecosystems, but similarly to tackle transnational crime and livelihoods. However, this is an area where current SSG/R approaches are still structurally insufficient.

In Benin, violent extremist groups and smuggling networks from neighboring Sahel countries use the parks as strategic hideouts and corridors, particularly within the transboundary W-Arly-Pendjari complex spanning Benin, Burkina Faso, and Niger.¹⁰⁰ The deterioration of regional stability in neighbouring Sahelian states has disrupted previous frameworks for regional conservation and security cooperation within the WAP complex and enabled armed groups to exploit porous frontiers.¹⁰¹ Regional frameworks for maritime cooperation such as the Yaoundé Code of Conduct, focus primarily on maritime security threats such as piracy and trafficking, with limited integration of environmental protection and fisheries governance objectives.

In Brazil, organised crime, including drug trafficking and illegal resource extraction, operates through to cross-border riverine routes connecting the Amazon basin with neighbouring countries.¹⁰² As the Serra do Divisor region lies along the Peru–Brazil border, transnational criminal networks use forest trails and river routes to move drugs and other illicit goods through the Amazon basin.¹⁰³ Where bilateral agreements exist, they focus mostly on ad-hoc border security issues rather than environmental protection; on the other hand, environmental diplomacy initiatives like the Amazon Treaty Organization (ACTO) have limits regarding

⁹⁸ Nepal Army. (2018). *Nepal Army in Nature Conservation*. Kathmandu: Nepal Army Directorate of Public Relations.

⁹⁹ Baral, N., & Heinen, J. (2007). Decentralization and people's participation in conservation: A comparative study from the western Terai of Nepal. *International Journal of Sustainable Development & World Ecology*, 14(5), 520–531.

¹⁰⁰ Antônio Sampaio et al., *ARMED GROUPS AND CONFLICT ECONOMIES IN THE NATIONAL PARKS OF BURKINA FASO, NIGER AND BENIN*, n.d.; Inst. Study War, "Africa File, April 24, 2025: JNIM's Growing Pressure on Benin; Turkey to Somalia; Salafi-Jihadi Cells Continue to Grow Across Nigeria."; "From the Plains to the Parks."

¹⁰¹ Antônio Sampaio et al., *ARMED GROUPS AND CONFLICT ECONOMIES IN THE NATIONAL PARKS OF BURKINA FASO, NIGER AND BENIN*, n.d.; Inst. Study War, "Africa File, April 24, 2025: JNIM's Growing Pressure on Benin; Turkey to Somalia; Salafi-Jihadi Cells Continue to Grow Across Nigeria."

¹⁰² Global Initiative Against Transnational Organized Crime. (2023). *Amazon Underworld: Criminal Economies in the World's Largest Rainforest*. Geneva: GI-TOC.

¹⁰³ Global Initiative Against Transnational Organized Crime. (2023). *Amazon Underworld: Criminal Economies in the World's Largest Rainforest*. Geneva: GI-TOC.

operational coordination, resulting in parallel governance systems where environmental and security cooperation remain insufficiently integrated.

In Nepal, the open Nepal–India border facilitates wildlife trafficking networks targeting high-value species such as rhinoceros and tiger, requiring coordinated enforcement and intelligence sharing between neighbouring states¹⁰⁴ to tackle regional trafficking dynamics.¹⁰⁵ Similarly to the ACTO, the South Asia Wildlife Enforcement Network does not extend to full operational coordination and relies significantly on informal and locally driven coordination mechanisms rather than institutionalised cross-border enforcement systems.

A key structural challenge across the three cases lies in the mismatch between ecological systems, which are transboundary, and security governance, which remains predominantly organised at the national level. This creates gaps in surveillance and enforcement continuity that can be exploited by illicit actors particularly where legal and operational cross-border discontinuities persist.

Cross-border cooperation is further constrained by asymmetries in state capacity and security conditions. In Benin, instability in neighbouring Sahelian states has reduced the effectiveness of joint responses, while in Brazil and Nepal, differences in institutional capacity and coordination frameworks continue to shape uneven enforcement outcomes.

While cross-border governance mechanisms, such as joint patrols, intelligence cooperation, and conservation agreements, exist in all three contexts, they remain unevenly implemented and insufficiently integrated across sectors. As a result, protected areas located in border regions are governed through predominantly national-focused security and conservation frameworks that are not well adapted to transnational threat environments. This creates a structural gap between the scale of ecological and security challenges and the scale at which governance and security provision are organised. Addressing this gap requires moving beyond ad hoc cooperation toward more institutionalised, cross-sectoral, and operationally integrated regional approaches.

Communities as security actors

Evidence from the case studies suggests that communities play an indirect but significant role in shaping security outcomes in protected areas by contributing to situational awareness, informal surveillance, and early warning in areas where permanent state presence is limited. Approaches that restrict community access alone do not necessarily reduce security risks as they may weaken informal monitoring and early warning capacity in remote areas.¹⁰⁶

In Benin, this tension is particularly pronounced. While highly securitised zones aim to deny space to armed groups, the absence of trusted local presence can reduce situational awareness. At the same time, reliance on community-based information is complex and risky. Local residents, including transhumant and pastoralist groups operating across border regions, often possess valuable knowledge of territorial dynamics and may contribute to early warning and reporting. However, their proximity to armed actors has also led to increased suspicion and, in some cases, misidentification as collaborators¹⁰⁷. This has resulted in displacement, restricted mobility, and the stigmatisation of certain livelihood groups, particularly in the context of intensified counter-terrorism operations. Efforts to control mobility¹⁰⁸, such as restrictions on transhumance routes or sedentarisation policies, have further altered the relationship between communities

¹⁰⁴ United Nations Office on Drugs and Crime (UNODC). (2020). *World Wildlife Crime Report: Trafficking in Protected Species*. Vienna: UNODC.

¹⁰⁵ Thapa, K., et al. 2013. Effectiveness of anti-poaching patrols and community engagement in reducing rhino poaching in Chitwan National Park. *Oryx* 47(3): 404–410; Department of National Parks and Wildlife Conservation (DNPWC). 2023. *Annual Report*. Kathmandu: Government of Nepal.

¹⁰⁶ African Parks Network. (2020). *Management of Pendjari and W National Parks*.

¹⁰⁷ Sampaio et al., *ARMED GROUPS AND CONFLICT ECONOMIES IN THE NATIONAL PARKS OF BURKINA FASO, NIGER AND BENIN*.

¹⁰⁸ “From the Plains to the Parks.”

and security actors. While intended to reduce risk, these measures can undermine trust in state institutions and increase socio-economic vulnerability, in some cases heightening exposure to recruitment by armed groups. This illustrates the tension between leveraging locally embedded knowledge and ensuring the protection of civilian actors.

In contrast, models that maintain regulated community presence, such as Brazil's model of regulated community presence rather than exclusion enables communities to remain present within conservation landscapes and institutionalised participation through consultative councils and co-management structures. This helps strengthen surveillance and reduces reliance on purely militarised enforcement approaches.¹⁰⁹ Nevertheless, climate change impacts and limited access to markets continue to affect livelihoods.¹¹⁰ Similarly, Nepal's buffer-zone participation mechanisms, illustrates how local populations can contribute to surveillance and information flows.¹¹¹

In Nepal, buffer zone committees, community forests, and Community-based Anti-Poaching Units participate not only in park governance and conservation awareness¹¹² but also monitoring and enforcement. Access to core park areas remains restricted, but surrounding buffer zones provide structured opportunities for community involvement in tourism, guiding, and anti-poaching initiatives.¹¹³ Community members often collaborate with rangers and army units as informants or guides, strengthening enforcement but also creating potential risks related to unequal power dynamics or retaliation.¹¹⁴ In Nepal, formal incentives for information-sharing, such as payments and rewards, have contributed to the growth of local surveillance networks, strengthening enforcement but increasing the importance of safeguards against retaliation and abuse.¹¹⁵ Human–wildlife conflict and slow compensation mechanisms continue to undermine trust, particularly among vulnerable households.¹¹⁶ This highlights that buffer-zone governance is central not only to participation and revenue-sharing, but also to managing the social costs of conservation, particularly human–wildlife conflict and compensation claims.

Collaborating with security actors is not without risks to local populations – e. g. those participating in Nepal's community based security mechanisms such as Community-Based Anti-Poaching Units, are exposed to threats from poachers, intra-community tensions and even legal liabilities¹¹⁷, while in Benin populations face risk of retaliation from armed groups or trafficking networks¹¹⁸, highlighting the need for protective safeguards.

A key enabling factor across contexts is trust, which is closely linked to the proportionality and differentiation of enforcement responses. Evidence from Nepal suggests that subsistence-driven resource use is more effectively addressed through livelihood support and community-based approaches, whereas organised wildlife trafficking requires intelligence-led enforcement and cross-border cooperation. Where enforcement

¹⁰⁹ ICMBio. (2014). Orientações para Conselhos Gestores de Unidades de Conservação Federais.

¹¹⁰ Ranzi, T., Damo, J., Fonseca, R., & da Silveira, R. (2018). A legalidade da caça de subsistência no contexto das unidades de conservação na Amazônia Brasileira. Biodiversidade Brasileira.

¹¹¹ Department of National Parks and Wildlife Conservation (DNPWC). (2017). Buffer Zone Management Guideline. Kathmandu: Government of Nepal; and Brazil. (2000). Law No. 9.985 establishing the National System of Conservation Units (SNUC).

¹¹² Department of National Parks and Wildlife Conservation (DNPWC). (2017). Buffer Zone Management Guideline. Government of Nepal.

¹¹³ Baral, N., & Heinen, J. (2007). Decentralization and people's participation in conservation in Nepal. *International Journal of Sustainable Development & World Ecology*.

¹¹⁴ Nepal Army. (2018). Nepal Army in Nature Conservation. Kathmandu.

¹¹⁵ Thapa, K., et al. (2013). Effectiveness of anti-poaching patrols and community engagement in reducing rhino poaching in Chitwan National Park. Oryx.

¹¹⁶ Lamichhane, B. R., et al. (2018). Human–wildlife conflict and compensation mechanisms in Nepal's protected areas. Oryx.

¹¹⁷ Interview with Conservation Officer of CNP

¹¹⁸ Sampaio et al., ARMED GROUPS AND CONFLICT ECONOMIES IN THE NATIONAL PARKS OF BURKINA FASO, NIGER AND BENIN.

fails to distinguish between these categories, it risks undermining cooperation and reducing the effectiveness of community engagement.¹¹⁹

Taken together, the cases show that security provision in protected areas is not only a function of state presence, but also of how community roles are structured and governed. In Benin, community involvement remains informal and high-risk, shaped by securitisation and mistrust. In Brazil, it is more institutionalised and embedded in civilian governance frameworks. In Nepal, it is operationally integrated into enforcement structures but exposes communities to specific risks. Where community engagement is absent, poorly integrated, or generates risks for civilians, opportunities for early warning, local knowledge, and preventive action may be reduced. Across contexts, a key gap lies in the absence of clearly defined roles, safeguards, and accountability mechanisms governing community involvement in security functions

4.3 SSG/R's Contribution to Navigating Key Trade-offs

Protected area governance operates at the intersection of security, conservation, and socio-economic systems. Across the three case studies, recurring tensions emerge not simply from competing objectives, but from how authority, access, and enforcement are structured in practice. These trade-offs shape not only operational effectiveness, but also legitimacy, sustainability, and long-term governance outcomes.

1. Centralised control vs. inclusive and adaptive governance

Centralised governance structures, often driven by executive authority and security institutions, enable rapid decision-making, unified command, and strategic coherence, particularly in high-risk environments. This is especially relevant in contexts where states face acute security threats and require coordinated territorial control.

However, these models often come at the cost of limited inclusion, reduced community participation, and weak local adaptability. Decision-making becomes concentrated, civilian environmental actors may be marginalised, and governance systems may struggle to integrate local knowledge or respond to context-specific dynamics.

Conversely, more inclusive and participatory governance models can strengthen legitimacy, local ownership, and adaptability, but they require sustained coordination, time, and resources. The need for consultation and negotiation can slow decision-making and create operational complexity, particularly where multiple actors with different mandates are involved.

2. Restriction of access vs. communities as security and intelligence actors

Security approaches in protected areas often rely on restricting access to deny space to armed groups, traffickers, or poachers. This can strengthen territorial control and deterrence, and may also support conservation objectives by reducing pressure on ecosystems. Increased proximity to protected areas may raise conservation risks, including human–wildlife conflict, particularly in buffer zones.

However, restricting community access can weaken informal monitoring, local knowledge, and early warning capacity, particularly in remote areas. Communities often possess detailed knowledge of territorial dynamics and can contribute to the detection of illicit activity.

Where access is regulated rather than excluded, a synergy can emerge: community presence supports livelihoods while also strengthening situational awareness and intelligence flows.

Involving communities in security-related functions also introduces significant risks. Individuals may face retaliation, stigmatisation, or misidentification as collaborators, especially in highly securitised contexts.

¹¹⁹ Thapa, K., et al. (2013). Effectiveness of anti-poaching patrols and community engagement in reducing rhino poaching in Chitwan National Park. *Oryx*, 47(3), 404-410.

Without clear legal frameworks, defined roles, and protective safeguards, such participation can expose civilians to harm and undermine trust.

This trade-off reflects a core tension between controlling territory and accessing information, and highlights the need for carefully regulated access regimes that balance security, conservation, and livelihood objectives in the design of access regimes.

3. Enforcement effectiveness vs. long-term legitimacy and sustainability

Security provision in protected areas often relies on force-intensive and securitised enforcement approaches, ranging from military counter-terrorism operations in park areas to highly controlled anti-poaching regimes. These approaches can generate rapid and visible results, including improved anti-terrorism campaigns, reduced illicit activity, and, in some cases, strengthened conservation outcomes.

However, such gains may come at the cost of limited accountability, human rights risks, and weakened community trust. Where security actors dominate operational decision-making, enforcement priorities may shift toward territorial control or species protection without sufficient consideration of social impacts or governance safeguards. In Nepal, for example, strong enforcement has contributed to conservation success, but has also raised concerns regarding proportionality, oversight, and the treatment of local populations. In Benin, military-led operations in protected areas have strengthened security presence but risk disrupting conservation management and blurring the boundaries between security and environmental mandates.

A central challenge lies in the lack of differentiation in enforcement approaches. While force-based or intelligence-led interventions may be effective against organised crime, armed groups, or large-scale environmental exploitation, they are often poorly suited to addressing subsistence-driven resource use. Where enforcement does not distinguish between these categories, it risks criminalising vulnerable populations, undermining cooperation, and eroding the legitimacy of both conservation and security actors.

By contrast, more sustainable approaches combine targeted enforcement against high-risk actors with livelihood-sensitive and community-based measures for lower-level offences. Recognising and enabling legitimate livelihood activities, where compatible with conservation objectives, can reduce incentives for illegal practices while strengthening trust and cooperation.

This trade-off highlights a broader tension between short-term enforcement effectiveness and long-term governance outcomes. Security and conservation gains are more likely to be sustained where enforcement is embedded in frameworks that ensure accountability, proportionality, and trust, and where communities are recognised not only as subjects of control, but as stakeholders in managing both security and environmental risks.

5. Emerging governance models and factors that shape security, community and conservation outcomes

This section synthesises the comparative insights from the three case studies to identify emerging governance models and the institutional factors that shape security, conservation, and community outcomes in protected areas. Rather than restating general principles, it draws directly on observed governance dynamics in Benin, Brazil, and Nepal to identify where specific arrangements have enabled - or constrained - effective outcomes.

Across all three cases, protected areas emerge not simply as conservation sites, but as contested governance spaces where authority over territory, resources, and populations is actively negotiated between security actors, conservation institutions, and communities. The effectiveness of these arrangements depends less on the intensity of enforcement, and more on how authority is structured, coordinated, and constrained.

5.1 Emerging governance models in the case studies

Across the three case studies, protected areas are governed through distinct but partially overlapping models that shape how authority, coordination, and accountability are organised in practice.

1. Centralised security-led model (Benin)

In Benin's W-Arly-Pendjari complex, protected areas have increasingly been treated as security-sensitive perimeters under counter-terrorism operations such as *Operation Mirador*. Access, mobility, and livelihood activities are tightly controlled, and operational authority is largely exercised by the armed forces in joint patrols with ranger units, including those managed by African Parks Network.

This model enables rapid deployment and strong territorial control in a high-risk environment. However, the concentration of authority and the integration of hybrid actors blur lines of responsibility, weaken civilian oversight, and limit community engagement. While it strengthens short-term control, it raises persistent concerns regarding accountability, proportionality, and long-term legitimacy.

2. Civilian-led participatory model (Brazil)

In Serra do Divisor, protected area governance is anchored in environmental law under the National System of Conservation Units, with ICMBio as the lead authority. Regulated community presence and multi-stakeholder consultative councils structure participation, while security actors operate in support roles through targeted, intelligence-led operations.

This model allows for differentiated enforcement and integrates community knowledge into monitoring and decision-making, strengthening legitimacy and transparency. At the same time, coordination depends on sustained facilitation and political support, and parallel mandates of security actors can create operational gaps or delays.

3. Militarised integrated model (Nepal)

In Chitwan National Park, conservation enforcement is organised through a permanent military presence alongside civilian park authorities, forming an integrated enforcement system. Buffer-zone institutions institutionalise community participation and revenue-sharing, while core park areas remain under strict protection enforced through joint patrols.

This model has contributed to strong anti-poaching outcomes and rapid information flows. However, the central role of the military in enforcement, combined with limited external oversight and persistent human–wildlife conflict, creates tensions around proportionality, accountability, and community trust.

Taken together, the cases show that outcomes are shaped less by the presence of security actors than by how their authority is structured, coordinated, and overseen. Centralised and militarised approaches strengthen control and responsiveness, while participatory approaches strengthen legitimacy and inclusion. Each model therefore addresses some dimensions of security, conservation, and livelihoods, but leaves others underdeveloped.

Rather than converging toward a single model, the evidence suggests that more sustainable outcomes depend on how these elements are combined in practice. Security sector governance plays a critical role in balancing territorial control with accountability, enforcement with trust, and conservation objectives with livelihood realities.

5.2 Emerging factors for what good security sector governance would look like

These emerging good practice principles for SSG/R in protected areas reflect practical ways to navigate the trade-offs identified in the comparative analysis, particularly between centralised control and inclusion, territorial restriction, trust and situational awareness, and enforcement effectiveness and long-term legitimacy. The following principles highlight key governance factors that shape effective and legitimate security sector engagement in protected areas to inform national reform efforts and identify entry points for programming..

Strategic, policy and governance level

- **Integrated national frameworks** that explicitly link environmental protection, security provision, and socio-economic development. On the other hand, a proliferation of fragmented and separate strategies poses obstacles to cross-sectoral collaboration. Such strategies need to carefully weigh the trade-offs between security, conservation and livelihood objectives. To be effective, they need to include formal coordination mechanisms at ministerial level as well as permanent multi-stakeholder platforms involving government agencies, local authorities, communities, and civil society; and coordination tools such as joint task forces, shared planning processes, and regular reporting arrangements.
- **Legal and regulatory coherence** emerges as an important enabling factor for effective conservation governance in contexts where security actors play a role, defining institutional mandates and responsibilities. The growing use of surveillance technologies, drones, and ecological monitoring systems in conservation contexts introduces new governance considerations. Where legislation governing conservation, security operations, and community rights is fragmented or ambiguous, coordination becomes more difficult, lines of responsibility blurred and accountability challenging. This is especially problematic where hybrid arrangements come into play or large-scale surveillance is used without clear governance frameworks. Good practice includes harmonising legislation governing environmental enforcement and security operations; clarifying the legal status and powers of rangers and conservation actors, environmental police, and military units operating in protected; establishing legal standards for cooperation with private and non-state conservation actors including their legal status; developing clear rules governing the use of force; and transparent policies governing data collection, storage and sharing of environmental and security-related data.
- **Oversight, accountability and grievance mechanisms** are another factor shaping legitimacy, people-centered security and long-term sustainability. Protected area governance therefore needs to make sure that communities have credible channels to raise concerns about enforcement practices or conservation policies, where tensions between local populations and security actors can be managed constructively. Strong civilian oversight institutions need to play a key role here, including parliamentary committees, inspectorates, ombudsperson offices, and judicial. To be effective, oversight institutions require access to operational information, field monitoring capabilities, and independent review and investigation mechanisms. Moreover, design needs to consider community needs. Effective mechanisms tend to include culturally and linguistically accessible complaint systems at park and district levels, safeguards against retaliation, and clear links between administrative and judicial remedies.

Security institutions

- **Operational inter-agency coordination on joint enforcement mechanisms and data governance** to enable operational coordination between security forces and conservation authorities is emerging as a critical determinant of effective enforcement and legitimate use of technology and data. Operating in isolation, duplication and gaps in response are more likely. By contrast, integrated operational frameworks and data sharing can improve situational awareness and resource efficiency. Good practice includes joint training programmes for military, police, and conservation personnel; shared operational protocols and standard operating procedures including clear command and control arrangements for joint operations; memoranda of understanding between institutions; joint planning and patrol arrangements; and communication systems that enable real-time information exchange. To ensure accountability, clear rules governing the use of force, including escalation procedures and civilian protection safeguards, need to be put in place.
- **Professionalization of ranger and environmental enforcement services** emerge as important determinants of effectiveness and legitimacy. Professional status and career development of environmental enforcement actors such as park rangers, forest guards and environmental inspectors need to be clearly defined. This enables standardized recruitment, vetting, adequate training, equipment and remuneration, codes of conduct to strengthen operational capacity, institutional credibility and cooperation with other security actors.

- **Differentiated enforcement and structured use of community-driven information** in conservation and security efforts are crucial contributions to ensuring people-centered security as well as increasing situational awareness. A clear differentiation between subsistence driven activities and organized criminal or terrorist activities together with trust-based engagement can enhance information flows, reduce enforcement costs, and improve legitimacy and long-term sustainability of enforcement operations. Good practice needs to include operational models that integrate community engagement and dialogue into enforcement activities, mechanisms that support local participation in monitoring and early warning systems while providing sufficient safeguards, and training frameworks that encourage security actors to adopt conflict-sensitive and community-oriented approaches.

Community and livelihood-focused

- **Community institutions and locally rooted governance structures** play an important role in mediating relationships between conservation authorities, security actors, and communities. Formalized institutions like buffer zone committees and community forest groups are key for supporting participation in decision-making processes, and capacity-building support that enables local actors to engage effectively in conservation governance. To be effective, they require concrete and institutionalized participatory planning using tools such as joint risk assessments, community impact reviews, and adaptive zoning. This helps balance competing priorities while mitigating unintended social or environmental consequences.
- **Conflict-mitigation measures** for human–wildlife conflict and tensions arising from conservation restrictions are a prerequisite for sustaining community support for conservation policies. This will become increasingly important in light of climate change and/ or armed conflict further increasing livelihood pressures on available natural resources. Practical tools include early warning systems, physical mitigation infrastructure, mediation platforms, and insurance or risk-sharing schemes designed to reduce the socio-economic impacts of conservation-related risks.
- **Equitable benefit-sharing, alternative livelihoods and incentive structures** play an important role in shaping security and conservation outcomes. Where local populations derive tangible and predictable benefits from protected areas, incentives for illegal resource use tend to decrease, and cooperation with authorities is more likely. This includes revenue-sharing arrangements, compensation mechanisms, and support for sustainable economic activities that align with conservation objectives. Conversely, where access restrictions are not matched by viable livelihood alternatives, enforcement efforts risk increasing socio-economic vulnerability and weakening compliance. Good practice therefore requires transparent eligibility criteria, predictable benefit-sharing mechanisms, as well as governance approaches that recognise livelihood realities as part of broader security and conservation strategies.

6. Implications for international programming

While the case studies focus primarily on national governance arrangements and do not constitute a comprehensive mapping of international interventions, they highlight recurring governance challenges that are directly relevant for international programming.

As protected areas are increasingly linked to core security concerns, including violent extremism, organised crime, illicit trafficking, and the stability of border regions and trade corridors, they are becoming critical spaces for international partner engagement. As such, investments in their governance offer a concrete entry point to advance broader objectives across the humanitarian–development–peace nexus and sustainable peace, as well as maintaining access to critical natural resources, combating organized crime and anti-terrorism efforts.

Core security sector governance principles remain directly relevant in protected area contexts. These include the need to balance capacity building and security assistance with accountability and governance elements, prioritizing long-term institutional engagement and supporting holistic and coordinated approaches.

At the same time, protected areas present distinct challenges that require adapting and extending these principles. They are not conventional security environments, but hybrid governance spaces where conservation, security, and livelihood systems intersect. Security functions are often shared across state, private, and conservation actors; environmental monitoring systems increasingly serve security purposes; and communities play a dual role as both stakeholders and sources of information, often under conditions of heightened risk. As a result, security provision in these contexts is not only about institutional performance, but about managing structural trade-offs between territorial control, ecological protection, and socio-economic resilience.

The following interrelated features shape these dynamics and have direct implications for international programming:

- **Hybrid governance and blurred mandates**
In protected areas, a hybrid actor landscape involves military, police, state conservation authorities, private actors (including conservation NGOs or companies, sometimes with quasi-militarised functions) as well as non-state security actors like armed groups. SSG/R needs to move beyond a state-centric approach to ensure mandate clarity wherever possible, create innovative models for accountability, and ensure oversight across actor types.
- **Communities as both partners and risk-bearers**
Analogously to community and intelligence-led policing, communities are key resources for local knowledge, monitoring, and early warning. At the same time, such roles require trust and expose them to risks of retaliation, this produces unique protection dilemmas for international partners operating in such spaces and requires a strong focus on safeguards and protection mechanisms.
- **Environmental monitoring data as security intelligence**
Technologies initially deployed for conservation purposes, such as drones, sensors, and ecological monitoring systems, are increasingly integrated into security operations. SSG/R programming needs to proactively address new governance challenges related to data use, AI regulation, ownership, and accountability from a civilian protection perspective.
- **Trade-offs as a core governance challenge**
Even more than in more conventional SSG/R settings, governance challenges in protected areas are structured around persistent trade-offs between access and control, enforcement and legitimacy, and conservation and livelihoods. Effective programming must therefore move beyond an institution-focused approach to support inclusive dialogue and decision-making frameworks that explicitly manage these tensions.
- **Structural misalignment in international support**
The integrated nature of these challenges contrasts with the sectoral organisation of international assistance, which usually separates between security, conservation, and development programs (and budget lines). However, without integrated approaches, programming risks reinforcing the very fragmentation it seeks to address.

Taken together, these findings suggest that effective international support is less about expanding the role of security actors in protected areas, and more about strengthening how their roles are governed, coordinated, and embedded within broader environmental and socio-economic systems.

7. Conclusion

Protected areas are not only ecological assets, but complex governance arenas where security, conservation, and livelihoods intersect. Across Benin, Brazil, and Nepal, the analysis shows that outcomes

are shaped less by enforcement capacity alone than by how security roles are governed, coordinated, and embedded within broader conservation and social systems.

A central finding is that security provision in these contexts is structured around persistent trade-offs, such as between territorial control and community presence, enforcement and legitimacy, and conservation objectives and livelihood realities. These tensions cannot be resolved through capacity-building alone, but require governance approaches that explicitly recognise and support the balancing of competing priorities.

The comparison also demonstrates that no single model provides a universal solution. Securitised approaches can enable rapid control but risk undermining accountability and trust; civilian-led and participatory models strengthen legitimacy but require greater coordination and resources; integrated models can enhance enforcement but may concentrate authority and limit oversight. More sustainable outcomes emerge where these elements are balanced in practice.

For SSG/R practitioners and international partners, this implies a shift in focus and priorities to enable cross-sectoral approaches, develop tools for engaging in hybrid security environments, enabling inclusive community voices and participation, and governing the new data and surveillance landscape.

Ultimately, sustainable protection depends not only on controlling territory, but on governing it in ways that balance security imperatives with environmental stewardship, social inclusion, and long-term legitimacy.

Annex summary case study by country

	Benin	Brazil	Nepal
Context & ecosystem:	The W-Arly-Pendjari (WAP) complex is one of West Africa's most significant protected ecosystems, hosting savannah habitats and endangered species. Benin's maritime protected areas further support fisheries and coastal resilience. These ecosystems are strategically located near borders and transport corridors.	Serra do Divisor National Park protects highly biodiverse Amazonian ecosystems, including mountain formations and freshwater systems. The park lies along the Brazil–Peru border and is affected by transnational crime dynamics.	Chitwan National Park comprises riverine forests, grasslands, and wetlands that support flagship species such as rhinoceros and tigers. It is surrounded by densely populated buffer zones.
Governance frameworks:	Governance is characterised by strong executive leadership and increasing military involvement, particularly in the context of counter-terrorism operations. APN plays a major operational role, resulting in hybrid public–private governance arrangements. Legal frameworks exist for conservation and security, but integration remains limited. Parliamentary oversight and independent review mechanisms are weak.	The park operates under the National System of Conservation Units (SNUC) and is managed by ICMBio. A multi-stakeholder consultative council provides institutionalised participation and deliberation. Border governance frameworks and federal coordination bodies support integrated management.	The park is managed by the Department of National Parks and Wildlife Conservation with substantial military involvement. Buffer zone regulations institutionalise community participation. Overlapping mandates and centralised decision-making complicate accountability.
Security dynamics:	Key threats include violent extremist groups, trafficking networks, and cross-border smuggling. These threats intersect with poaching, illegal grazing, and informal mining. Surveillance technologies and joint patrols are increasingly used, but data governance rules are underdeveloped. Oversight of joint military–conservation operations is limited, raising concerns about proportionality and civilian protection.	Illegal logging, wildlife trafficking, drug trafficking, and informal mining constitute major challenges. Joint operations involve the army, federal police, and environmental agencies. Oversight mechanisms are embedded in federal administrative and judicial systems, although capacity constraints persist.	Poaching, illegal logging, and wildlife trafficking remain major threats. The Nepal Army plays a central enforcement role. Oversight is primarily administrative, with limited independent review.
Community engagement & livelihoods:	Pastoralist, farming, and fishing communities are affected by mobility restrictions and access limitations. Social cohesion and mediation initiatives exist, but are fragmented and insufficiently resourced. Blue economy and	Indigenous and traditional communities participate through councils, monitoring schemes, and community-based tourism. Informal communication channels enhance responsiveness. Climate impacts on fisheries	Buffer zone committees and community forests facilitate participation, but benefit-sharing is uneven and compensation mechanisms are slow. Human–wildlife conflict remains a major concern.

	alternative livelihood initiatives remain at pilot stage.	and agriculture affect livelihoods.	
Assessment:	Benin demonstrates strong operational capacity but weak governance safeguards. Hybrid arrangements lack clear accountability frameworks, and community trust remains fragile.	Brazil presents the strongest formal governance framework among the three cases. Its effectiveness depends on sustained political commitment, funding, and institutional coordination.	Nepal combines strong enforcement capacity with participatory structures, but legitimacy is undermined by weak grievance mechanisms and uneven benefit distribution.