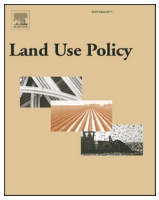
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Conservation governance challenges in the Karakoram: Analyzing the institutional transitions of Central Karakoram National Park, Pakistan

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ABSTRACT

Global commitments to conserve 30% of land by 2030 place renewed emphasis on protected areas (PAs), yet governance shortcomings and distributional conflicts often undermine both conservation and socio-economic development outcomes. This paper examines PA governance in Central Karakoram National Park (CKNP), Pakistan's largest national park in Gilgit-Baltistan (GB), a region marked by constitutional ambiguity, contested land tenure, and infrastructure-driven market integration. Using a historical institutionalist lens, we examine CKNP's historical trajectories and critical junctures, institutional continuity and change, input and output legitimacy, and implications for co-management. We combine archival and institutional analysis of legislation and management plans with field observations, semi-structured interviews and focus group discussions involving state agencies, park authorities, NGOs, and local communities in seven buffer-zone valleys. We find that administrative reforms and departmental restructuring shifted conservation authority to GB, while participatory, zoning, sustainable-use, and benefit-sharing provisions were layered onto a centralized, exclusionary 1975 legal framework. Input legitimacy remains constrained by uneven consultation, limited decision-making influence, and inadequate information for meaningful participation, whereas output legitimacy is weakened by limited implementation capacity associated with chronic understaffing, project dependence, and limited public financing. Dispersed implementation responsibilities and unresolved property and access rights concerns undermine both decision-making processes and governance performance, leaving co-management largely consultative and uneven. We conclude that co-management could be advanced through valley-level forums with clear decision-making mandates and representation, strengthened and trusted field staffing, sustained public resourcing, and transparent and equitable benefit-sharing. The study highlights how frontier conditions, historical institutional legacies, and valley-specific dynamics shape PA governance.

1. Introduction

Establishing protected areas (PAs) is a key instrument for area-based conservation (Dudley et al., 2014; Geldmann et al., 2019; Gissibl et al., 2012; Maxwell et al., 2020). PA coverage has expanded globally (Lewis et al., 2019), while the Kunming-Montreal Global Biodiversity Framework (GBF) calls for countries to conserve 30% of their territory by 2030 and emphasizes good governance and effective management (Convention on Biological Diversity, 2022; Gurney et al., 2023). Setting aside land as PAs often presents numerous distributional, institutional, and legal challenges, including community displacement and conflict (Knudsen, 1999; Spence, 1999; West et al., 2006), inadequate funding (Leverington et al., 2010), weak governance and corruption (Smith et al., 2003), and legislative gaps (Romero-Vidal et al., 2022). Consequently, PA establishment and management are inherently political (Adams and Hutton, 2007; Brandon et al., 1998), with expectations of PAs increasingly extending to include socio-economic and cultural benefits, and recognition of Indigenous peoples' rights (Armitage et al., 2020; Oldekop et al., 2016; Watson et al., 2014; Zurba et al., 2019).

Moreover, conservation objectives, permitted levels of human use, and governance approaches vary across PAs according to site-specific characteristics (Siltanen et al., 2022), precluding a one-size-fits-all

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governance template (Ostrom, 2007). Governing competing objectives and interests can therefore be difficult (Adams and Hutton, 2007), with PAs sometimes becoming arenas of conflict or, where governance is weak, "paper parks" that exist largely in name (Brandon et al., 1998; Brockington, 2002; Di Minin and Toivonen, 2015). Area-based conservation is thus a multifaceted social enterprise (Brechin et al., 2003), in which conservation and sustainable development are governance system issues (Borrini-Feyerabend et al., 2013; Lockwood, 2010; Petursson and Kristofersson, 2021; Roy and Tisdell, 1998).

PAs as governance systems do not emerge in an institutional vacuum. Their historical contexts shape management and institutional arrangements, conflicts and challenges, and prospects for future institutional change (Brandon, 1998; Petursson and Vedeld, 2017). Historical Institutionalism is therefore particularly useful for examining PA governance over time because it focuses on how institutional trajectories, critical junctures, persistence, incremental change, and power relations shape contemporary arrangements (Capoccia, 2016; Stefes, 2019; Steinmo, 2008). Compared with governance approaches centered primarily on current configurations of actors, arrangements, or performance, historical institutionalist approaches provide a temporal explanation of how present governance has evolved and have accordingly been applied to examine institutional persistence and change in PA governance (Matheus and Shultis, 2025; Petursson and Vedeld, 2015, 2017; Schoon, 2013; Solorzano and Fleischman, 2018; Weber de Morais et al., 2015).

Pakistan is a country of stark geographical contrasts, with almost 60% of its area consisting of high-altitude plateaus and mountainous terrain, including mountain ranges that form part of the wider Hindu Kush Himalaya (HKH) region. Much of the country's wildlife is found at higher elevations, making these areas particularly significant for biodiversity conservation (International Union for Conservation of Nature, 1992). Alongside significant economic, democratic, and demographic transitions in recent decades (Burki, 2015; Hussain et al., 2009; Iqbal et al., 2015; Samad, 2017), Pakistan has also seen a shift in conservation discourse (Javeed et al., 2024; Khan et al., 2011; Khan, 2003; Lázaro, 2020; Young et al., 2021). Central Karakoram National Park (CKNP), Pakistan's largest PA, is one of the few PAs in the country with an approved management plan, developed with input from local communities, state agencies, and NGOs. In doing so, CKNP departs from historically centralized and exclusionary models of PA governance in Pakistan by incorporating co-management aspirations and permitting sustainable resource use by buffer-zone communities, making it a compelling case for examining conservation governance transitions.

Regional PA assessments in the HKH have emphasized coverage and ecological representativeness, while governance research remains limited and the need to strengthen PA management effectiveness and governance has been highlighted (Chaudhary et al., 2022; Chettri et al., 2008; Ojha et al., 2019). Within this regional context, research on PA governance in Pakistan has examined management challenges, community participation, resource rights, and conservation outcomes in several national parks (Khan and Bhagwat, 2010; Khan, 2003; Knudsen, 1999; Nawaz et al., 2008), while research involving CKNP has focused on participatory management, sustainable tourism, and stakeholder and community perspectives (T. Hussain et al., 2017; Imran et al., 2014; Salerno et al., 2010). However, the longer-term institutional evolution of CKNP governance across its establishment and successive management-planning efforts remains comparatively underexplored. This study addresses these research gaps through a longitudinal institutional analysis of CKNP governance, providing a basis for understanding and comparing similar institutional transitions in other PAs in Pakistan and the wider region.

The key objective of this study is to understand how CKNP's historical and institutional development has shaped its current governance arrangements and prospects for effective co-management. This is achieved by tracing the evolution of CKNP's governance system and examining the implications of its contemporary configuration. This entails answering the following research questions:

1. What historical trajectories and critical junctures shaped the establishment and institutional development of CKNP?
2. How have CKNP's governance arrangements evolved over time, and what patterns of institutional continuity or change characterize this evolution?
3. How do current governance arrangements perform in terms of input and output legitimacy, and what are the prospects for effective co-management?

2. Study site and its geopolitical setting

2.1. From Northern Areas to Gilgit-Baltistan

Gilgit-Baltistan (GB), formerly the Northern Areas (NA), is an administrative territory in the northern part of Pakistan (Fig. 1). Bordering China, Afghanistan and India, this 'frontier' region has been shaped by complex colonial and postcolonial developments that have given rise to disputed borders and multiple competing claims (Ali, 2025; Kreutzmann, 2008; Siddiqa, 2017; Sökefeld, 2018). Since partition of British India in 1947, GB has existed in a liminal space as a peripheral territory under Pakistan's administration and left in constitutional and political ambiguity due to its linkage with the wider Kashmir dispute (Feyyaz, 2019; Holden, 2019; Hong, 2013). Consequently, GB has not been officially integrated into Pakistan as a province, and while there exists a regional legislature with limited powers, the region is primarily governed federally (Ahmad, 2020; Dad, 2016; Karrar, 2024).

Despite strong local demand, administrative reforms and political representation at the national level have been slow to materialize. In 1974, the abolition of the princely states and their merger with the Gilgit Agency and Baltistan into a single administrative unit, the Northern Areas, marked the first significant restructuring of the region (Ahmad, 2020). The second major restructuring came in 2009 with the Gilgit-Baltistan Empowerment and Self-Governance Order (GB Order 2009), which renamed the region as Gilgit-Baltistan and introduced a measure of self-governance through a legislative assembly, chief minister, governor, and a council with specified law-making powers (Karrar and Mostowlansky, 2018). The GB Order 2009 was later replaced with the Gilgit-Baltistan Order 2018, which shifted many powers from the council to the elected assembly (Holden, 2019). Although a step forward, the new framework recentralized authority in the office of the Prime Minister, curtailing local autonomy, including through changes in land ownership and control (Ali, 2025).

GB is a heavily glaciated region, with towering mountains and major rivers like the Indus (Hewitt, 2014). The region's formidable terrain limited access and connectivity with the rest of Pakistan until the construction of the Karakoram Highway (KKH) (Fig. 1), which was completed in 1978 and opened to the general public and foreigners in 1984 (Hussain, 2015). Construction of this road was spearheaded by the military in the 1960s, which has since developed technical expertise to both maintain and expand the KKH, as well as mobilizing resources for further infrastructure development in the mountain region (Karrar, 2022). Moreover, the arterial Strategic Highway (S-1) (Fig. 1), which connects the KKH with Skardu, the second-largest urban center in GB, was upgraded by the military in 2021 through its construction arm, Frontier Works Organization (FWO). These two vital highways are the lifeline of the region, as a vast majority of its approximately two million inhabitants live in towns and villages located along these roads or connected to them (Karrar, 2022; Karrar and Mostowlansky, 2018). Today, GB represents Pakistan's principal overland link with China via the KKH and the China-Pakistan Economic Corridor (CPEC) (Karrar, 2024).

Infrastructure development has been a central modality of statecraft in GB, and the military's role, with its technocratic expertise consolidated through prolonged cycles of military rule, has been pivotal (Karrar, 2022). The KKH and accompanying infrastructure have enabled the state to penetrate this remote region, bringing it under more direct

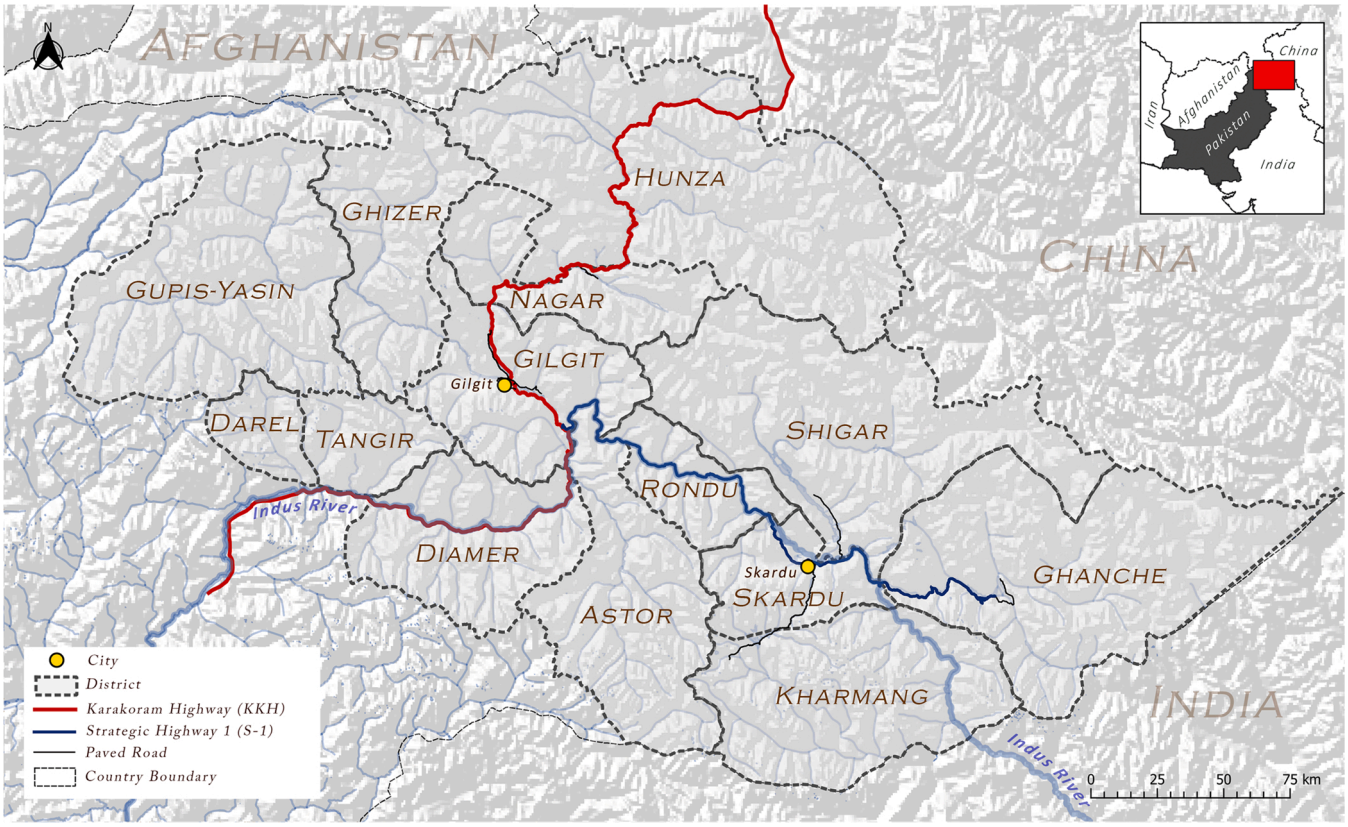


Fig. 1. Gilgit-Baltistan and its administrative districts.
Source: Administrative boundaries from Pakistan – Subnational Administrative Boundaries (World Food Programme, 2017). Road network from roads (Melis, 2014). Map designed by Clinton Cook (cac3@hi.is, University of Iceland). Note: Boundary lines are indicative and do not necessarily reflect accepted national boundaries.

state authority, integrating it into the national economy, and transforming a once 'barren' landscape into a contemporary 'resource frontier' (Ali, 2025). As a result, evolving power relations have left local people increasingly fearful that their control over the land, mountains, and waterscapes central to their collective identity and livelihoods is being eroded (Karrar, 2024). Across GB overall, despite the emergence of new income sources with growing regional and market integration, most notably tourism, employment in government and NGOs, small-scale enterprises, foreign remittances, and trade with China, local livelihoods remain primarily dependent on pastoralism and subsistence agriculture (Karrar, 2024; Nawaz et al., 2017). Land, therefore, emerges as a key arena in which contestations between state power and local autonomy are played out.

Less than 3% of GB's 72,500 km^2 area is suitable for human habitation and agriculture, while the rest is made up of mountains, glaciers, lakes, high-altitude pastures, and inaccessible plains (Abbas and Dad, 2017). Prior to the 2025 Land Reform Act (2025 Act), land in GB was categorized as private, state-owned, communal, or pasture. The extension of colonial-era instruments to assert state ownership over communal lands, coupled with the erosion of customary communal governance, generated longstanding disputes between the state and local communities (Ali, 2025). While the 2025 Act represents an important subsequent development in GB's land governance framework, it postdates the fieldwork undertaken for this study and falls outside the empirical period examined here. Nevertheless, more than 65% of GB's land is classified as PAs (Forest, Wildlife and Environment Department, 2025), which can provide a conservation rationale for efforts to bring extensive tracts of unsettled land and high-altitude pastures under state ownership by invoking conservation imperatives and applying restrictive PA regulations that can constrain customary access and use, thereby creating potential avenues for conflict with local communities. Against this backdrop, CKNP, encompassing nearly 15% of GB, serves as the focus of this research.

2.2. Study area: Central Karakoram National Park

Established in 1993, CKNP covers 10,557 km^2, and contains one of the earth's largest glacial systems outside of the polar regions, glacial lakes, rivers, steep gorges and valleys, some of the tallest mountains in the world, including K2, the world's second highest peak (Fig. 2) (Baig et al., 2022; Invernizzi and Locatelli, 2015; Salerno et al., 2010). Approximately 66.5% of CKNP is covered by snow and glaciers, 15.4% by bare rock and soil, scattered vegetation accounts for 14.7% of the park's area, and the remaining area consists of forests and pastures (Gallo et al., 2020). The park's vegetation includes xeric plants, Artemisia shrubs, junipers, dry temperate coniferous forests, sub-alpine broadleaved forests, alpine meadows, and riparian vegetation. CKNP is home to several threatened and endangered species, including some endemic to the region, and a diverse range of breeding and migratory birds. The Asiatic ibex is the most abundant Caprinae species, found in rocky terrains up to 5800 m. The Himalayan musk deer, listed as Endangered on the International Union for Conservation of Nature (IUCN) Red List, the urial, listed as Vulnerable, and the markhor, listed as Near Threatened, inhabit higher elevations but face threats from habitat loss and overhunting (International Union for Conservation of Nature, 2025). Large carnivores such as the snow leopard, grey wolf, and Himalayan lynx are also present, with the snow leopard classified as Vulnerable on the IUCN Red List due to habitat loss, poaching, and retaliatory killings. The Himalayan brown bear, a critically endangered species in Pakistan, is also found in the park (Hameed et al., 2025).

The park is divided into two main zones, the core and buffer zones, each with different levels of protection and management values. The

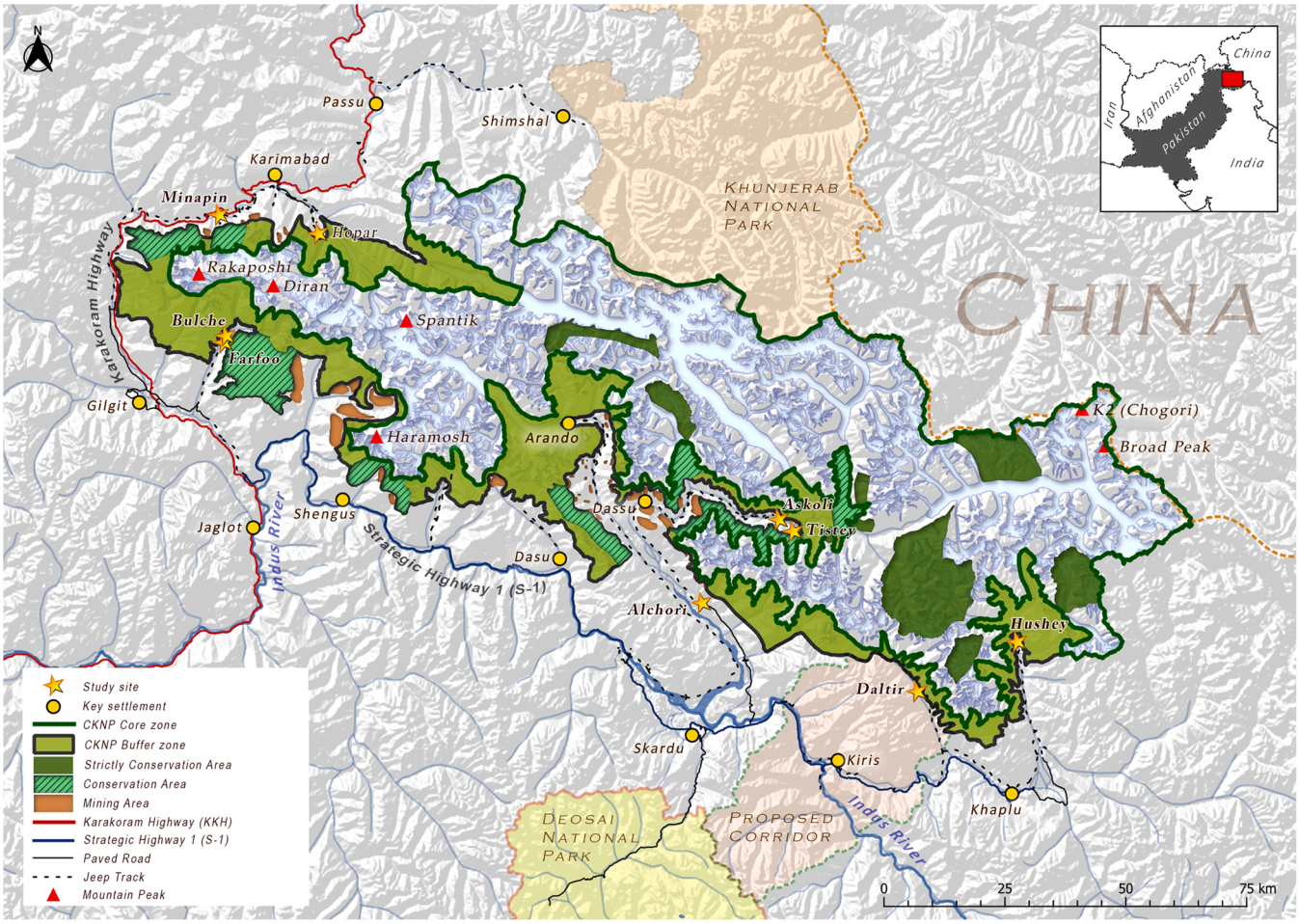


Fig. 2. Map of Central Karakoram National Park in Gilgit-Baltistan showing the study sites.
Source: Base DEM from Global multi-resolution terrain elevation data 2010 (GMTED2010) (Danielson and Gesch, 2011). Administrative boundaries from Pakistan – Subnational Administrative Boundaries (World Food Programme, 2017). Glacier outlines from Glaciers of Central Karakoram National Park (CKNP), Pakistan (International Centre for Integrated Mountain Development, 2007). CKNP geospatial layers from SEED Cartography Collection (Ev-K2-CNR, 2016). Map designed by Clinton Cook (cac3@hi.is, University of Iceland). Note: Map lines delineate study areas and do not necessarily depict accepted national boundaries.

core zone covers about 72% of the total area, designated as such to protect endangered species, high peaks, and glaciers, ensuring ecological integrity. Entry and use of natural resources is generally restricted in this zone, except for residents of local communities. The core zone is further sub-divided into Strictly Conservation Areas (SCAs) and Visitors Intensive-Use Trails (VIUTs). The remaining area is the park's buffer zone, which includes around 230 permanent settlements on the southern and western boundaries, and supports sustainable resource use for local communities (Mari et al., 2014). Primarily traditional agro-pastoralists, these buffer-zone communities rely on the park's natural resources for a range of socio-economic activities, including grazing, firewood collection, hunting, gathering medicinal plants, tourism, mining, and preserving local cultural practices (Gallo et al., 2020; T. Hussain et al., 2017). Additionally, the buffer zone includes conservation and hunting sub-areas managed through a participatory model.

Administratively, CKNP spans five districts of GB: Nagar, Gilgit, Skardu, Shigar, and Ghanche. Across these districts, fifteen distinct valleys form CKNP's buffer zone (Mari et al., 2014). Rondu District was recently created from Skardu District (Nagri, 2024), placing some areas previously administered under Skardu within Rondu. However, CKNP's management and operational documents continue to use the earlier district nomenclature. Accordingly, this study follows the classification used in official CKNP sources. In the west, CKNP's access routes and surrounding valleys are closely tied to the KKH, whereas the eastern approaches rely on the S-1 strategic highway to connect Baltistan to the KKH. While agriculture and livestock remain central to local livelihoods across CKNP's buffer-zone communities, improved road access, particularly in valleys closely linked to the KKH and the S-1 corridor, has enabled tourism-led diversification, with evidence of declining reliance on traditional agro-pastoralist practices in these more accessible areas (A. Hussain et al., 2017). Major threats to the park include pasture degradation from overgrazing, waste accumulation, deforestation, habitat loss, retaliatory carnivore killings, and illegal hunting of ungulates (Gallo et al., 2020).

3. Conceptual framework and methodology

3.1. PA Governance in transition

Shaped by evolving conservation discourse, PA governance has undergone considerable changes in recent decades (Petursson and Vedeld, 2017; Watson et al., 2014). Early PAs commonly followed an exclusionary or "fortress" model of conservation, which sought to separate nature from humans, with PAs managed by centralized authorities, relying on top-down, state-controlled governance (Ayivor et al., 2020; Hutton et al., 2005; Lockwood, 2010; Neumann, 1998; Petursson and Vedeld, 2015). Rooted in European colonialism and Western ideals of wilderness, this approach spread globally, often displacing indigenous populations and relegating them to the status of criminals or poachers in their own lands, fostering resentment towards conservation efforts and

frequently leading to failures in achieving PA goals in many contexts (Adams, 2012; Domínguez and Luoma, 2020; Fanari, 2019; McNeely, 1994; Naughton-Treves et al., 2005; Sharma et al., 2010; Siurua, 2006).

While exclusionary conservation ideas persisted, the 1980s saw a shift towards community-based conservation, emphasizing local participation and inclusion (Doolittle, 2007; Hutton et al., 2005). Moreover, the emergence of the sustainable development approach advanced win-win scenarios for conservation and poverty reduction, strengthening community-based approaches to PA management based on the premise that local involvement and livelihood ties enhance support and compliance with PA rules (Hutton et al., 2005; Pochet, 2014; Wilshusen et al., 2003). Among various governance arrangements, co-management has become an important PA governance model, as it offers a balanced compromise between top-down and bottom-up approaches, and promotes joint decision-making and power sharing among actors, giving communities a greater role in the governance process (Armitage et al., 2007; Berkes, 2009). The degree of authority and responsibility shared between actors also varies in co-management regimes (Fig. 3), ranging from simple information exchange under consultative co-management arrangements, to formal partnerships and delegation of authority in collaborative and delegated co-management types respectively (McConney et al., 2008).

Nonetheless, co-management models face challenges due to diverse and competing local interests, elite benefit capture, and failure to offset costs, which disproportionately affect marginalized groups (Brockington, 2002; Child, 2014). These issues generally stem from context-specific social and political processes, influenced by factors such as conflicts and poor governance (Wilshusen et al., 2002). Pakistan has not been immune to these transitions and the country's conservation policy has followed similar trajectories, but in GB these shifts intersect with constitutional ambiguity, contested land regimes, and infrastructure-driven market integration, conditions that shape how participation and authority are negotiated in practice.

3.2. Theoretical foundation of the study

This study is theoretically rooted within the historical institutionalist perspective, recognizing that institutions and governance systems are a product of historical processes, critical junctures, power relations, and institutional legacies (Pierson, 2016; Steinmo, 2008; Thelen and Steinmo, 1992; Young, 2002). In this context, institutions are defined as conventions, norms, formally sanctioned rules of a society, and humanly devised constraints that shape actors' interactions (North, 1990; Vatn, 2005). While these processes and human constructs can undergo incremental change and develop into new arrangements (Scott, 2014; Vatn, 2015), institutions are often found to be resistant to change – becoming "sticky" or persistent – and show considerable staying power, even if proven to be ill-suited for the conditions in which they operate (Young, 2002). Hence, institutional evolution may exhibit path dependence, whereby earlier institutional choices create patterns that persist unless sufficient forces overcome the resulting inertia, while change may occur through institutional layering, where new rules or arrangements are added alongside existing institutions (Peters, 2019). Moreover, the approach allows analysis of "critical junctures", understood as points of departure from established institutional configurations at which trajectories may branch during institutional evolution (Thelen and Steinmo, 1992).

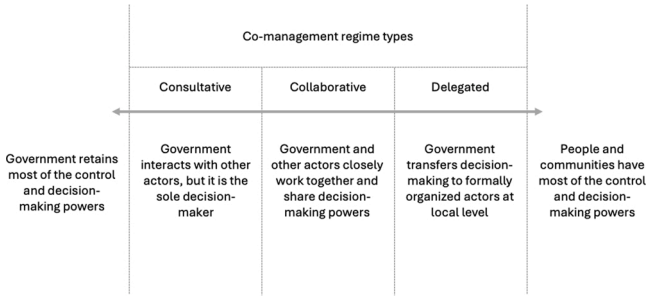


Fig. 3. Co-management types (based on McConney et al., 2008).

Institutional theory provides a framework for analyzing both formal and informal interactions between actors and their relationship with the broader environment (March and Olsen, 1989; Ostrom, 1990; Peters, 2019). In applying this framework, PAs can be understood as governance systems built on three key components: the natural attributes of the area under governance, actors with varying roles and decision-making powers, and institutional frameworks, with interactions among these components shaping governance performance and outcomes (Fig. 4) (Ostrom, 2011; Petursson and Kristofersson, 2021; Vatn, 2005). Institutions, a key focus of this study, structure relationships among actors by defining resource rights, rules of engagement, and the normative basis of governance (Vatn, 2015). This approach also enables analysis of temporal processes and events that influence the origin and evolution of institutions (Fioretos et al., 2016). Accordingly, PA establishment, conservation agreements, rules governing access to resources, and benefit-sharing arrangements are examined for continuity, change, and institutional layering to assess whether and how their development reflects path dependence arising from prior governance arrangements and institutional legacies.

A subsequent question that arises is how the performance of PA governance systems can be assessed. Legitimacy provides one useful criterion, which essentially refers to whether governance authority and its exercise are regarded as justified (Kronsell and Bäckstrand, 2010; Vatn, 2015). At the input level, legitimacy relates to the inclusiveness and representativeness of decision-making, recognition of stakeholder interests, and the quality of participation, while at the output level, legitimacy concerns governance effectiveness and problem-solving capacity, particularly the capacity to implement decisions and achieve stated objectives (Bäckstrand et al., 2021; Petursson and Kristofersson, 2021; Siltanen et al., 2022). In PA governance, input legitimacy thus applies to participation in park establishment and subsequent decisions concerning management planning, zoning, resource-use rules, representation, benefit-allocation arrangements, and access to necessary information for meaningful participation. Similarly, output legitimacy is assessed through the system's implementation and problem-solving capacity, including the adequacy of staffing and financial resources, implementation of management plans, and delivery of intended benefits.

Certain process matters, particularly transparency, accountability and inclusiveness of interactions among actors, may also be conceptualized as throughput legitimacy (Schmidt, 2013). Nevertheless, to maintain a clear analytical distinction, this study applies the input-output legitimacy framework and treats such process-related factors according to whether they primarily affect meaningful participation and decision-making at the input stage, or effective implementation and problem-solving at the output stage.

3.3. Research design, data collection and analysis

This study employed a qualitative multi-method research design, combining archival research, institutional analysis, semi-structured interviews, focus group discussions (FGDs), and field observations. Archival research involved a review of policy documents, historical records, project reports, and relevant grey literature on conservation and land governance in GB. This provided a longitudinal perspective on how conservation discourse and interventions in the region have evolved over time, reflecting a strong tradition within conservation and environmental governance research (Neumann, 1998; Newing et al., 2011; Spence, 1999; Stoler, 2002). Institutional analysis examined legislation, CKNP management plans, and other regulatory texts to identify formal rules, power structures, management arrangements, and

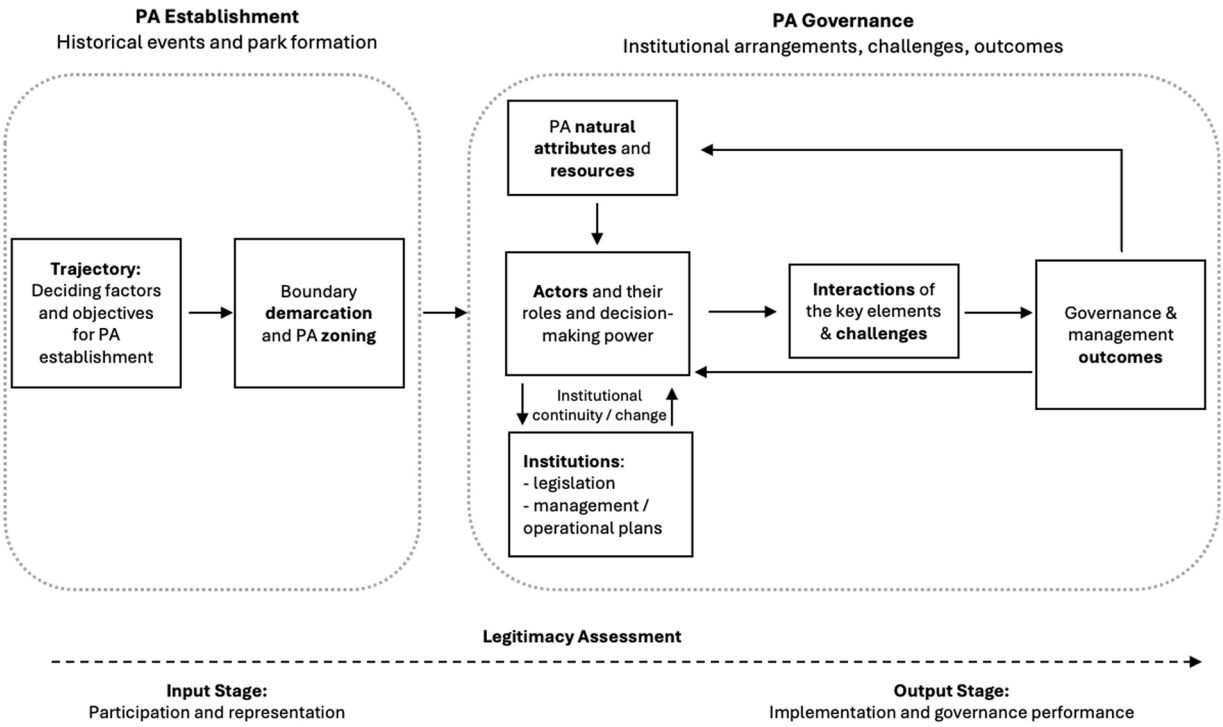


Fig. 4. PA governance system analytical framework and its key components: historical trajectory, institutional arrangements, challenges, legitimacy, and outcomes (adapted from Siltanen et al. (2022) and Vatn (2015)).

decision-making processes that shape access to and control over land, pastures and other natural resources.

Building on this institutional and historical groundwork, primary fieldwork was undertaken in two rounds, during September-October 2022 and May 2024. Twenty semi-structured interviews, including follow-up interviews, were conducted with actors involved in the establishment, planning, administration, and implementation of CKNP, including officials from national and regional government agencies, the CKNP Directorate, and representatives of key NGOs, technical organizations, and consultancies, including IUCN, Hagler Bailly Pakistan (HBP), Everest-K2-Consiglio Nazionale delle Ricerche (Ev-K2-CNR), and the World Wide Fund for Nature (WWF). Community-level research additionally comprised eight FGDs, typically involving 6–8 participants per group, and six key-informant interviews across eleven study sites located in seven CKNP buffer-zone valleys (Table 1).

Participants were selected purposively based on their involvement in CKNP governance, conservation, natural-resource use, or community organizations, with snowball sampling used for additional community participants. Valleys were selected to balance accessibility with broader geographical and governance coverage. In 2022, Bagrote and Thalley valleys were selected initially for accessibility, followed by Shigar and Ghulmat. In 2024, Hushey and Upper Braldu were added for their relevance to conservation, tourism, resource-use, and governance issues, while Hoper extended geographic coverage to the park's westernmost area. Hisper, Haramosh, and Astak were considered but not visited because of time and access constraints. The resulting sample is therefore not representative of all fifteen CKNP valleys but supports comparison of recurring governance patterns and context-specific differences.

Table 1
Data collection sites in CKNP.

Village	Valley	District
Daltir	Thalley	Ghanche
Hushey	Hushey	
Markunja and Alchori	Shigar	Shigar
Askoli and Tistey	Upper Braldu	
Sinaker, Farfoo and Bulche	Bagrote	Gilgit
Minapin	Ghulmat	Nagar
Hoper	Hoper	

Interview and discussion guides covered CKNP's history and objectives, actor roles and authority, boundaries and zoning, resource and property rights, participation, costs and benefits, livelihood concerns, and co-management prospects. Interviews and FGDs were conducted in Urdu, with local-language assistance where necessary. Because discussions included politically and socially sensitive issues, interviews and FGDs were not audio-recorded, and detailed notes were taken during and immediately after each session. Participants provided informed consent, and identifying information was withheld or altered to maintain confidentiality. Names were retained only in the field records, and quotations are reported without personal identifiers. Field observations provided additional contextual evidence on tourism, pasture use, waste management, mining, conservation infrastructure, and other land-use interactions across the study locations.

Field notes were organized by actor category and study site, and individual responses were manually coded using descriptive codes. Coding combined deductive categories derived from the study's historical-institutionalist and legitimacy frameworks, with inductive codes developed from the analysis of the empirical material. Where appropriate, codes were further differentiated using secondary subcodes. Related coded responses were compared and grouped to develop broader themes. No dedicated qualitative analysis software was used. To support consistency in coding and interpretation, the original notes were revisited several times as the thematic narrative developed to check the interpretations against the recorded responses.

Archival, interview, FGD, and observational evidence was compared across actor groups, sources, and valleys to identify recurring patterns as well as divergent interpretations and experiences. Stakeholder perceptions were treated as evidence of how governance arrangements were understood and experienced, rather than as institutional conclusions in themselves. Broader patterns were identified where similar themes recurred across actors or sites and were supported by documentary or observational evidence.

For the legitimacy analysis, evidence concerning participation, representation, decision-making influence, and access to information was examined as input legitimacy, whereas evidence concerning implementation and problem-solving capacity, governance performance, and delivery of intended benefits was analyzed as output legitimacy. Overlapping themes were classified according to the mechanism through which they affected either or both dimensions. Triangulation across documentary and primary evidence was used to assess the consistency of interpretations and to distinguish broadly shared governance patterns from actor or valley-specific experiences.

4. Results and discussion

CKNP's governance trajectory can be traced from the regional administrative and conservation developments that preceded the park's establishment, through park notification and successive management-planning efforts, to the emergence of an approved management framework.

4.1. Conservation in Gilgit-Baltistan

Conservation activities in GB have largely mirrored the administrative and socio-economic changes of the region. The abolition of the local princely states in the early 1970s and implementation of the Northern Areas Wildlife Preservation Act in 1975 (1975 Act) allowed for the creation and management of national parks, wildlife sanctuaries and game reserves in GB, under a top-down governance approach. This legislation was the outcome of the Wildlife Enquiry Committee (WEC), established in 1968 by the Government of Pakistan (GoP) to review existing conservation laws in line with recommendations by the World Wildlife Fund (WWF). The WEC drafted the Pakistan Wildlife Ordinance, 1971, which was later adopted with minor modifications at the provincial level (International Union for Conservation of Nature, 1992; Shafiq, 2005).

Consequently, Khunjerab National Park (KNP), one of the first national parks in Pakistan, driven by external actors, was notified in 1975 (Knudsen, 1999). GoP had also ratified the UNESCO World Heritage Convention in 1976 to protect and preserve natural and cultural sites deemed to hold exceptional value (Khalid, 2021), and chose KNP to be included on the World Heritage List for outstanding natural qualities. That objective, however, hit a stumbling block as KNP was embroiled in prolonged conflict and resistance from affected villages because the national park had been declared without local input, and included traditional grazing grounds within park boundaries (Ali and Butz, 2003; Ali, 2019; Butz, 2002; Hussain, 2015; Knudsen, 1999). KNP remained a "paper park" until the 1990s when GoP engaged IUCN and WWF to help resolve the impasse with the locals. The engagement resulted in a collaborative management plan that led to an agreement between the government and the majority of the affected communities, except for the Shimshalis, who still resist the park regulations due to a perceived threat of territorial dispossession (Hussain, 2015; Kreutzmann, 2025).

These developments ran parallel to the broader conservation movement in Pakistan, which saw the GoP sign the United Nations Convention on Biological Diversity (CBD) in 1992 and ratify it in 1994, making commitments for better management of PAs. Moreover, Pakistan's National Conservation Strategy (NCS), approved in 1992, included goals to increase the number of national parks, prepare management plans, and promote community-based management (Government of Pakistan and International Union for Conservation of Nature, 1992). The NCS, a result of a decade-long collaboration between WWF, IUCN, local experts, and international donors, provided further impetus to move from top-down decision-making (Runnalls, 1995).

Collectively, these developments highlight a broader national conservation policy and discourse increasingly oriented towards community-based management, while the 1975 Act remained the underlying legal framework for PA governance in GB.

4.2. Idea and making of the Central Karakoram National Park

Renewed aspirations for a World Heritage site and a new PA once again led the GoP to seek assistance from IUCN in 1992 to lay the groundwork for a national park near K2 mountain (Fuller and Gemin, 1995; Knudsen, 1999). This resulted in the notification of CKNP and its nomination for inclusion on the UNESCO World Heritage List in 1993 (Hagler Bailly Pakistan, 2005). In the original notification the proposed park had an area of around 3000 km^2, to be bounded by KNP in the north and China to the east, incorporating the major mountain complexes and glaciers in the west and southwest of K2.

Following CKNP's notification, IUCN convened a workshop in Skardu in 1994 to initiate the World Heritage nomination process, bringing together government officials, NGOs, private tour operators, foreign experts, and community representatives from Shigar and Ghanche, areas directly impacted by preliminary park boundaries (Fuller and Gemin, 1995). The meeting, seen as more inclusive than past practices (Knudsen, 1999), foregrounded regional socio-economic concerns and called for community participation, recognition of traditional rights, and a collaborative management plan. However, participants also concluded that a World Heritage nomination should be deferred until foundational steps were taken to strengthen baseline knowledge and implementation capacity (Fuller and Gemin, 1995).

The workshop further revealed competing interests: government actors sought international recognition, local communities prioritized safeguarding resource access and livelihoods, and tourism operators aimed to retain relatively unrestricted access (Fuller and Gemin, 1995). International NGOs largely played a facilitative role, advocating for local community concerns as part of a broader effort to balance social development objectives with conservation goals (Fuller, 1995). Workshop observers also noted persistent power asymmetries, unclear boundaries, and limited local representation, prompting calls for equitable governance and genuine benefit-sharing (Fuller, 1995; MacDonald, 1995).

The GoP's unilateral notification of CKNP and inclusion of settlements within its initial boundaries preceded negotiations over boundaries, customary resource use, and community involvement in management and decision-making, reflecting tensions between top-down state control and community interests rooted in customary rights. A participant in the 1994 Skardu workshop, interviewed for this study in Hushey, corroborated that the immediate concerns of community participants were to convince the authorities to ensure park boundaries did not include community grazing grounds and their limited forest resources.

4.3. Managing the paper park

In 1996, following the recommendations of the Skardu workshop, the GoP amended the original notification of CKNP to remove the reference to "World Heritage Site" and revised park boundaries to increase CKNP's size. Earlier, NGO-facilitated consultation and community engagement had helped shape CKNP's boundary delineation, including a northward adjustment of the proposed southern boundary that placed Hushey and Askoli in the planned buffer zone (Fuller and Gemin, 1995; Knudsen, 1999). The GB Forest Department played an extensive role in wildlife-related conservation in the region under the 1975 Act, regulating hunting, capture, and wildlife trade. Consequently, in the absence of a park director, dedicated staff and a management plan, CKNP was placed under the authority of the Skardu District Forest Officer (DFO).

For preparation of the management plan, the GoP sought technical assistance from IUCN, which produced a draft management plan in 1999. The plan proposed a significant expansion of CKNP's boundaries with direct involvement of local communities in park operations (McDonough, 1999). The plan also addressed several key issues highlighted in the 1994 Skardu workshop, including sustainable resource

use, administrative structure, park entry fee, zoning, visitor management and services, and tourism. Although comprehensive in scope, the 1999 draft management plan was never formally approved by the government and remained a guiding document rather than an operational framework.

IUCN was subsequently involved in further management-planning efforts. In 2005, a consultant, Hagler Bailly Pakistan (HBP), was tasked with delivering a report in preparation for a management plan for CKNP, and a buffer-zone management plan. In 2009, HBP prepared a second draft management plan for CKNP, including its revision in 2010. In both planning documents, HBP proposed a substantial enlargement of park boundaries to include neighboring watershed valleys in the PA as part of controlled-use areas (Hagler Bailly Pakistan, 2005; Nawaz and Shadie, 2010; Nawaz et al., 2009). These documents also emphasized the importance of active involvement of local communities in CKNP's management and aimed to deliver ecological and economic services. However, these efforts did not produce an approved management framework.

Thus, CKNP remained a paper park with continuing uncertainty over boundaries, weak governance, and low local awareness, despite successive management-planning activity incrementally developing proposals for park management and zoning, including participatory and sustainable-use provisions.

4.4. Emergence of the park

Alongside these management-planning efforts, there were some key developments and donor-backed projects in GB that advanced the community-based conservation discourse. Primarily funded by Global Environment Facility (GEF) and United Nations Development Programme (UNDP), and implemented through partnerships involving WWF and IUCN, the twin projects Maintaining Biological Diversity in Pakistan with Rural Community Development (MBDP) (1995–1998) and Mountain Areas Conservancy Project (MACP) (1999–2006) aimed to bolster rural communities' capacity to manage ecosystems and natural resources to integrate biodiversity conservation with local livelihoods. During this period the Aga Khan Rural Support Programme (AKRSP) had also established a foothold in the GB region, setting up various small Village Organizations (VOs) and Local Support Organizations (LSOs), including Valley Conservation Committees (VCCs), to engage with international NGOs, donors, and the government for rural development and conservation matters (Hussain, 2019). These community organizations became key partners in various projects, particularly in market-based conservation interventions, such as the trophy hunting program introduced in Hushey village in 1996 by IUCN as part of the MBDP project (MacDonald, 2004).

Similarly, the HKKH Project (2006–2010), Karakoram Trust, and Social, Economic and Environmental Development (SEED) projects (2009–2015) – implemented through various partnerships involving Ev-K2-CNR, Italian Cooperation, IUCN, WWF, the International Centre for Integrated Mountain Development (ICIMOD), and other organizations – sought to promote sustainable mountain development, conservation, and research, with a particular focus on establishing and operationalizing the management of CKNP. In response to the renewed and growing impetus from international donors and NGOs, the GoP engaged WWF in 2006 to develop a Planning Commission form (PC-1) for CKNP, with the primary management objective of including communities in conservation. Moreover, a key development occurred amid the broader governance reforms in GB. Under the GB Order 2009, decision-making powers concerning protection of flora and fauna were transferred to the GB's elected legislative assembly, while the GB Forest, Wildlife and Environment Department (FWE) was restructured as an independent department in 2010 with considerable decision-making authority. These reforms constituted an important change in the formal allocation of conservation authority, shifting responsibility from the earlier federal administrative structure to the GB level.

As part of the SEED project, Ev-K2-CNR gathered information for an integrated management plan and held community meetings in 2013 for feedback on proposed boundaries and zoning in each valley. The outcome of this process was a five-year management plan (2014–2019) that gave communities a role in management through the Community Management Committee (CMC), and divided CKNP into two zones, a core zone and a buffer zone, with sustainable resource use allowed in the latter (Mari et al., 2014). This management plan (2014 Plan) also received formal approval from the GB Chief Secretary in 2013. Thus, CKNP had its first approved management plan twenty years after its creation. Meanwhile, the GoP also nominated CKNP as a tentative UNESCO World Heritage site in 2016, amid advances in management planning, boundary and zoning delineation, and community involvement in consultation and project activities. These developments represented progress towards addressing several of the foundational gaps in planning and consultation identified at the 1994 Skardu workshop.

Ev-K2-CNR continued to develop a glacier inventory and separate conservation and sustainable development plans for each of the 15 valleys. In parallel, an Italian Agency for Development Cooperation (AICS) project (2017–2021), executed by UNDP and implemented by Ev-K2-CNR, sought to strengthen CKNP's management framework through capacity-building for park managers and local communities, and supported planning for both CKNP and the neighboring Deosai National Park (DNP), including the identification of an ecological connectivity corridor between the two PAs. Subsequently, Ev-K2-CNR prepared a further five-year management plan for CKNP (2020 Plan) in 2020, which was approved in 2024. The 2020 Plan reiterated many recommendations from the 2014 Plan, introduced Buffer Zone Valleys, and identified a connectivity corridor with DNP (Gallo et al., 2020). Table 2 compares the successive management frameworks.

Beyond the management-planning sequence, CKNP's institutional evolution can be understood through two major administrative turning points and a series of conservation-related developments. The 1974–75 restructuring established the centralized administrative and legal baseline for PA governance in GB, whereas the 2009–10 reforms reallocated conservation authority to the regional level without replacing the underlying framework. This trajectory therefore combines continuity in that underlying legal framework with successive institutional layering over time (Fig. 5).

5. Current CKNP governance challenges

CKNP faces a myriad of governance challenges, which are amplified by its complex history, extreme landscapes, and diverse socio-cultural settings. A key dimension for assessing its overall governance performance is legitimacy, which we assess through the input and output dimensions outlined earlier, with overlapping issues considered according to whether they primarily affect participation or implementation.

5.1. Input legitimacy: challenges of participation and representation in decision-making

CKNP's top-down establishment constrained input legitimacy due to limited community participation and representation, and the 1994 Skardu workshop marked an initial effort to address these deficits through consultation. The workshop brought together representatives from Shigar, Hushey, and Khaplu, but communities located west of Shigar were neither invited nor otherwise included in these early discussions. Many of these communities learned of CKNP only later, as its boundaries were gradually expanded to encompass their valleys and rangelands. Limited information and confusion about the park's status and implications have since become central concerns. In community focus groups, respondents repeatedly questioned CKNP's tangible presence, with some asserting that they were entirely unaware of the park's existence, and others insisting that "CKNP exists only on paper". Similar reflections were offered by other stakeholders, who conceded that, in its

Table 2
Key governance changes across CKNP management-planning stages.

Governance dimension	1999 Draft Plan (Unapproved)	2005 Planning Study (Unapproved)	2009–10 Draft Plan (Unapproved)	2014 Management Plan (Approved)	2020 Management Plan (Approved in 2024)
Spatial scope and PA configuration	IUCN national park model; expanded boundary to be finalized	Broader Central Karakoram PA (CKPA) replacing single-park model	CKNP plus wider conservancy forming Central Karakoram Conservation Complex (CKCC)	Single CKNP framework adopted	CKNP retained; Buffer Zone Valleys added
Management structure	Park Director; 3 districts with Community Advisory Boards	4 divisions; Divisional Management Committees (DMCs)	Management Board; Director; Valley Management Committees (VMCs)	Sub-Committee; Community Management Committee (CMC)	Prior structure modified; CMC with Gilgit and Baltistan representation
Participation and representation	Direct community involvement; village representation	Participatory management; representation in DMCs	Co-management with representation through VMCs	Formal CMC role; community-only voting rights	Community/ stakeholder representation retained
Zoning, resource-use and rights provisions	4 zones,including Sustainable Use	3 zones: Conservation Reserves, National Park, Wildlife Sanctuary	3 zones: Protection, Tourism, Controlled Use	Core/Buffer; sustainable use in Buffer	Core/Buffer zoning rules retained
Benefit sharing / revenue arrangements	Entry fees proposed; revenue retained by park	Entry fee; 20:80 government–community sharing model proposed	20:80 government–community model reiterated	25:75 government–community entry-fee sharing through CMC	25:75 park–community entry-fee sharing through CMC



Fig. 5. CKNP's institutional evolution, showing critical junctures, institutional layering, enabling governance context, and continuity of the 1975 legal framework. Read from bottom to top. Abbreviations: GB = Gilgit-Baltistan; FWE = Forest, Wildlife and Environment Department.

early years, CKNP was largely a nominal entity: the park existed in legal and bureaucratic terms, but there was little visible management, enforcement, or outreach on the ground. These early dynamics constrained informed community participation, underscoring the need for more structured engagement, outreach, and clarification of CKNP's objectives.

Although awareness and education about the park feature in every management plan and in multiple NGO-led projects, most participants in community discussions reported little familiarity with CKNP's overall purpose, objectives, or expected outcomes. Limited awareness is not

argued here as a dimension of input legitimacy, but rather as a condition for informed and meaningful participation. Many respondents associated CKNP primarily with a "trophy hunting regime" or an "illegal hunting prevention project," largely because their main points of contact had been CKNP and FWE staff engaged in law enforcement activities. This narrow framing is partly rooted in the historical emphasis on hunting regulation under the 1975 Act, despite the broader conservation, community socio-economic development, and ecotourism objectives integrated in successive management plans. More broadly, there was a lack of shared understanding of CKNP's objectives among the stakeholders interviewed, whose assessments of outcomes often reflected their own, sometimes conflicting expectations.

Community respondents also tended to conflate CKNP with various NGOs and donor-funded operations. A resident of Hushey, who attended the 1994 Skardu workshop, referred to CKNP as an "IUCN project". Another discussant believed that an NGO was the managing authority of the park, while others assumed that the Directorate and Ev-K2-CNR were the same entity. This confusion reflects the large number of organizations and projects active in GB, and particularly in the CKNP buffer-zone valleys, often pursuing overlapping or complementary objectives. In Hushey alone, IUCN is engaged in the trophy hunting programme and the Baltistan Wildlife Conservation and Development Organization (BWCDO) constructs livestock corrals to reduce retaliatory killings of snow leopards and other carnivores, whereas the Directorate is responsible for core-zone waste management activities. For input legitimacy, the significance of this complex stakeholder landscape (Fig. 6) lies in the widespread uncertainty and frequent misperceptions about the management responsibilities of various organizations, their respective mandates, and the channels through which community concerns can influence management decisions.

Beyond uncertainty about CKNP's management and objectives, many discussants were also unable to indicate where the park's core-zone and buffer-zone boundaries lie. This uncertainty was particularly evident in Ghulmat, Shigar, and Hoper, where respondents frequently could not describe the zoning lines with any specificity. In Hushey and Bagrote, some respondents believed that the core zone starts only at the glacier. Others, including respondents from Askoli, could not identify the location of strict conservation areas, while discussants in Ghulmat

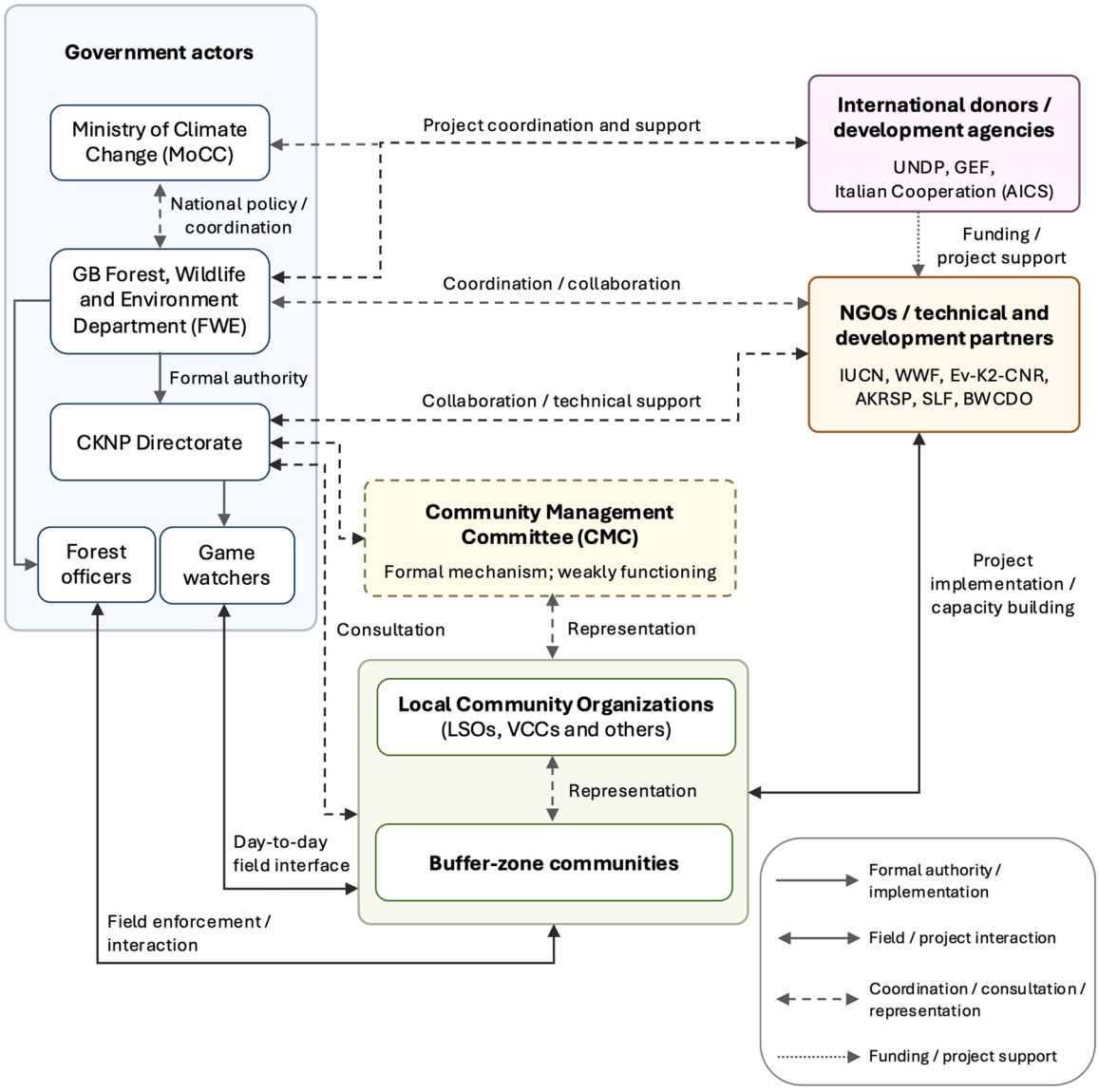


Fig. 6. Key stakeholders in CKNP governance and their principal relationships.Abbreviations: AICS = Italian Agency for Development Cooperation; AKRSP = Aga Khan Rural Support Programme; BWCDO = Baltistan Wildlife Conservation and Development Organization; GEF = Global Environment Facility; IUCN = International Union for Conservation of Nature; LSOs = Local Support Organizations; SLF = Snow Leopard Foundation; UNDP = United Nations Development Programme; VCCs = Valley Conservation Committees; WWF = World Wide Fund for Nature.

and Hoper were unsure about the boundaries of designated mining zones. This uncertainty is compounded by the fact that CKNP management plans are available only in English, creating an additional language barrier to community access to management information. Such information constraints limit informed participation by making it difficult for affected communities to understand applicable rules, identify relevant management decisions, and engage effectively with decision-makers. These constraints also have downstream implications for compliance and resource-use conflicts, discussed later in relation to implementation. Across the communities studied, the level of awareness appeared to vary with exposure to donor-funded projects and associated benefits. Communities described as receiving fewer such benefits, such as Thalley, Bagrote, and parts of Shigar, also appeared to have lower overall awareness of CKNP's operations, objectives, and rules.

Collectively, these findings indicate that consultation and awareness commitments have coexisted with uneven representation, information barriers, and uncertainty about channels for community influence on management decisions. These patterns constrain CKNP's input legitimacy alongside the formal limitations on community decision-making authority examined in Section 5.3.

5.2. Output legitimacy: challenges of implementation capacity and governance performance

At the output stage, CKNP's implementation capacity is constrained by limited on-the-ground presence, chronic understaffing, and funding limitations, while approved management plans remain only partially implemented. Although these plans envisage an extensive management structure, the Directorate remains severely understaffed relative to CKNP's size, and most personnel are employed on one-year contracts. For example, at the time of fieldwork, the park had 24 Game Watchers (GWs) against the Directorate's reported requirement of 211, based on its stated standard of one GW per 50 km^2. This deficit constrains the park's capacity to undertake wildlife and habitat protection, routine monitoring, and park surveys. Similarly, the management plan recommends recruitment of specialized staff, including a glaciologist, wildlife veterinarian, tourism officer, and social organizers, but these posts were vacant. Collectively, these gaps limit CKNP's capacity to pursue its conservation and socio-economic objectives, weakening output legitimacy.

Moreover, the park is chronically underfunded and has limited capacity to generate its own revenue. The park entry fee is minimal and collected at only three locations, Hushey, Askoli and Hisper, while the fee levied for waste management is shared with rights-holding communities. From an output perspective, interview accounts identified dependence on external interventions and project-based financing as a constraint on continuity and the park's capacity to sustain implementation beyond individual project cycles. Historically, CKNP's reliance on external project financing and donor- and NGO-supported interventions has reinforced limited local ownership and perceptions of the park as an externally driven project. The external character of some interventions is also evident in the Visitor Information and Registration Centers in Hushey and Askoli. Interview accounts described their external funding and construction, while field observations showed that both centers were located outside the settlements and differed from local architectural styles. Together, these findings suggest limited integration of the facilities into their local setting. The Askoli center, for example, was characterized in Tistey's community discussion as "an affront." A historical institutionalist analysis of Brazilian national parks similarly identifies persistent underfunding, understaffing, and dependence on external funding as continuing constraints on park management (Matheus and Shultis, 2025).

Furthermore, interview accounts associated stronger resistance to the park with proximity to the core zone and with high dependence on buffer-zone resources. Initial fears of land and resource appropriation were described in accounts concerning Askoli and Farfoo, while opposition based on these perceptions was reported in Arando and Tistey in more than one interview. Unresolved property and access claims affect input legitimacy where customary claims and resource interests are insufficiently considered in decisions over boundaries, zoning and resource-use rules, and output legitimacy where they contribute to resistance, mistrust or non-compliance that constrains implementation. Comparative evidence similarly indicates that land-tenure and property-rights arrangements predating PA establishment can continue to shape relations between communities and conservation governance (Solorzano and Fleischman, 2018).

In every community discussion, respondents referred to resources such as glaciers, forests, pastures, wild animals, and mountains as "their property," which they are "unwilling to give up." These claims reflected concerns about protecting livelihoods and were accompanied by pervasive mistrust of outside actors. Government interviewees repeatedly observed that local communities tend to "mistrust outsiders, including NGOs and state departments," a mistrust they considered to be "rooted in the fear of losing their lands and livelihoods." A common demand across most communities is therefore to have a "local GW" in their valley whom they "can trust." In one instance, even though the GW was from a neighboring village, discussants insisted that a truly local GW was necessary because "the community would trust that individual more, which would improve effectiveness of activities." This suggests that implementation capacity depends not only on staff numbers but also on whether frontline personnel are locally accepted and trusted.

To address these trust deficits and perceived risks, government officials and park management have sought to extend economic benefits to communities. These incentives are largely channeled through NGO-run conservation initiatives in the region, including the Community-based Trophy Hunting Programme (CTHP), livestock insurance schemes, predator-proof corrals, livestock vaccination, waste removal drives, and several smaller projects. Discussions of such projects were a recurring theme across community focus groups, where participants either expressed a desire to bring CTHP and other projects to their village or described the benefits derived from existing initiatives. Although these projects are not exclusive to CKNP, respondents associated visible benefits from such interventions with greater acceptance of and cooperation with the park. Interview accounts described mistrust and non-compliance in Askoli as largely resolved "due to various projects," with further interventions planned to strengthen relationships. By contrast, participants in the Tistey FGD described declining projects because participation would, in their view, signal acceptance and endorsement of CKNP.

An added complexity of these projects and resource regimes is that they are not universally applicable across valleys and villages. While the region shares broad ecological and socio-cultural features, each valley presents distinct management priorities and constraints. Trophy hunting in Hushey is well established and respondents reported increasing ibex numbers, yet expressed reluctance to accept restrictions on the small patch of juniper forest in the valley and reservations about the design of the predator-proof corrals. Upper Braldu, as the gateway to K2, attracts substantial adventure tourism and mountaineering. As a result, the management of trails and base camps, designated camping areas, and cleanliness on the Baltoro glacier emerge as priority concerns in this part of CKNP. Participants in a community discussion in Upper Braldu described the glacier as an "area in crisis" due to "littering, poor sanitation, and use of mules," which has left the trails with "waste and animal carcasses." The problem is perceived to be so acute that park officials report feeling "like employees of a waste management department" rather than of a national park. By contrast, communities in Hushey, Thalley, and Bagrote are keen to increase tourism but lack the basic infrastructure needed to accommodate visitors. Further west, valleys such as Hoper and Ghulmat have experienced sustained growth in tourism due to their connection with the KKH and an improved road network, making tourist accommodation and waste management key concerns in Hoper. Comparative analysis of PAs in Nepal similarly found

that governance outcomes varied with both governance approaches and local contexts (Nyaupane et al., 2022).

Across the studied area, these patterns indicate that CKNP's output legitimacy is constrained by chronic staffing and funding shortfalls and reliance on project-based financing. These constraints interact with valley-specific management pressures, livelihood dependence, and unresolved property and resource claims, affecting the park's capacity to respond effectively to locally differentiated management problems.

5.3. Transition towards co-management: constraints and the way forward

CKNP's transition towards co-management reflects the addition of participatory provisions to a conservation framework that retains centralized authority. The 1975 Act remains the principal framework regulating access to, and use of, natural resources in GB's PAs. The Act embodies a fortress conservation approach, establishing a top-down management structure with no provisions for community participation, and heavily restricting PA entry and traditional resource use. Under this framework, local communities are thus positioned primarily as potential threats to wildlife and ecosystems rather than as rights-holders and partners in conservation.

Interviewees from NGOs and government departments described these structural features as problematic and the Act as a narrow piece of legislation requiring significant revision to accommodate contemporary participatory and collaborative management approaches. At the community level, respondents from several communities explicitly identified the 1975 Act as designed to restrict their interactions with park resources and recognized this restrictive design as an important driver of historical and ongoing resistance to PA establishment and expansion. Community respondents indicated that they were willing, and in some cases, prepared to actively or passively oppose decisions they perceived as detrimental to their livelihoods. The perception that CKNP was imposed "from above," with the potential to curtail customary rights without adequate consultation or compensation, remains a powerful narrative in some community accounts and helps explain reported patterns of non-compliance, rule-breaking, and low levels of cooperation with park authorities. In Bagrote, discussants cited the defiance shown by communities such as Shimshal against KNP management as a precedent they were willing to replicate "if the need arises". Similarly, participants in another community discussion were adamant that they would never relinquish their customary claims over pastures inside the park.

At the policy level, however, the 1992 NCS and the Biodiversity Action Plan of 2000 advocate "participatory community management" and "collaborative management regimes", recognizing the importance of community involvement in PA management, and a participatory approach in project formulation, planning, and implementation (Government of Pakistan and International Union for Conservation of Nature, 1992; Government of Pakistan et al., 2000). The Rules of Business associated with the GB Order 2009 also specify that FWE is to protect wildlife by involving community organizations. Similarly, the GB Forest Act of 2019 (Forest Act) sets out to involve local communities in conservation activities, share management responsibilities with them, and generate and distribute economic benefits.

These policy and legislative provisions represent important institutional layering, sitting alongside rather than replacing the 1975 Act, and thereby creating formal space, at least on paper, for community involvement in CKNP management. Nonetheless, unequal power relations, limited community authority, and insufficiently defined community decision-making roles in the legislation governing CKNP leave a structural gap between the participatory rhetoric and provisions of these reforms and practice on the ground. This pattern indicates substantive institutional change, but with participatory provisions expanding without an equivalent redistribution of formal decision-making authority to communities. A comparable difficulty in incorporating community interests into established PA arrangements has been documented at Mt Elgon, where enduring PA arrangements and historically embedded asymmetric power relations constrained subsequent community-based reforms (Petursson and Vedeld, 2015).

Within the PA governance architecture, interviewed stakeholders generally identified FWE as the key actor with the most power and authority. FWE not only has formal responsibility for managing PAs, including CKNP, but also controls decisions on management planning and enforcement, the generation and allocation of funds, and the recruitment and deployment of staff. Community respondents in valleys such as Shigar, Bagrote, and Nagar explicitly identified FWE as holding "de jure authority backed by legislation". At the same time, they stressed that legal authority alone is insufficient to secure compliance, as enforcement of conservation rules without community support and acceptance was considered extremely difficult. This creates a tension between concentrated formal decision-making authority and the dispersed, informal power of communities to facilitate or obstruct implementation.

Despite this tension, interviewees from state agencies, including the Ministry of Climate Change (MoCC), FWE, and the CKNP Directorate, generally acknowledged the importance of community involvement for conservation in GB, and expressed a general willingness to enhance community participation in CKNP management. Community respondents likewise expressed a desire for "a seat at the table" and a tangible stake in decision-making. Altogether, the formal allocation of authority and accounts of community involvement indicate that the current governance arrangements are best described as consultative co-management. Community engagement has involved information-sharing and occasional consultation, but the locus of decision-making power remains overwhelmingly with FWE and the CKNP Directorate. Interview evidence suggested that community inputs could shape operational details but had limited influence over core policy choices or benefit allocation.

The CMC, envisaged in the approved management plan as a central mechanism for community involvement in decision-making, was described as largely inactive, consistent with limited awareness of the committee in community discussions and the absence of clear interview accounts of regular meetings. Although the plan provided for community voting rights and specified procedures for the CMC's formation and representation, the combined evidence suggests that it has not become a sustained and accountable avenue for community influence over management decisions. By contrast, Vatnajökull National Park illustrates a more substantive form of co-management, where park-specific legislation devolves formal decision-making authority to local governments and gives some civil-society actors formal decision-making roles beyond consultation (Petursson and Kristofersson, 2021).

The limited devolution of decision-making within CKNP also reflects the region's broader political-administrative context. GB lacks strong, democratically legitimated local government structures, and its recent history is one of rapid transition from princedoms and colonial rule to direct administration by the central bureaucracy in Islamabad, with limited development of elected local bodies in between. While there are long-standing traditions of village-level collective management, these are customary and community-based, with limited integration into the state's administrative framework. Against this backdrop, AKRSP-facilitated bodies such as LSOs and VCCs have become central intermediaries between local communities, the state, and external donors, shouldering much of the day-to-day work of development and conservation. In many valleys, they operate as de facto local implementing partners in government and NGO-supported projects, translating external priorities into local action and channeling local concerns upwards. Yet their formal position within the governance system remains ambiguous, with no clearly defined mandate for shared decision-making within CKNP governance and limited influence on higher-level decisions. This limited integration of local organizations parallels broader HKH evidence that decentralized and community-based resource-management initiatives are often inadequately supported by national and

subnational governance tiers and affected by weak local representation at higher levels (Ojha et al., 2019).

Beyond these formal arrangements, organizational capacity and internal dynamics within these community organizations also vary considerably between valleys, with implications for how communities can engage with conservation and access related benefits. Comparative analysis of field observations indicated relatively strong organizational capacity in VCC Hushey, reflected in systematic record-keeping and long-term experience of working with external actors. LSO Thalley, by contrast, showed more limited organizational capacity, which appeared to constrain its ability to secure incentives despite clear community demand. In Upper Braldu, the concentration of LSO leadership in Askoli, together with boycotts and concerns about exclusion reported in the Tistey community discussion, suggests unequal representation within the community organization. In Hoper, community accounts described a complete turnover in LSO membership followed by records not being handed over, leaving the new leadership to rebuild the organization's records and disrupting organizational continuity. In Bagrote, community discussants described the LSO as dominated by downstream residents and insufficiently attentive to upper-valley priorities. Taken together with the CMC's limited practical role, these organizational dynamics suggest that community representation remains partly dependent on ad hoc and personalized arrangements, while communities differ in their capacity to negotiate participation in and derive benefits from conservation-related activities.

Community accounts also described inter- and intra-valley rivalries that complicated collective representation. Within Bagrote, neighboring villages competed with one another, undermining cohesive valley-wide representation. In Hushey, downstream communities questioned the concentration of benefits in a single village of the valley. Communities in Thalley, Bagrote, and Hoper expressed concern that neighboring communities hunt "their" wildlife, fueling mistrust. Rivalry in Upper Braldu appeared particularly intense and was described as an obstacle to shared governance arrangements and collective agreements. Any co-management structure that assumes a single unified "community", whether at park or valley level, risks obscuring these internal cleavages and reproducing local inequalities.

Collectively, these findings indicate that CKNP's path dependence is most clearly reflected in the persistence of concentrated formal decision-making authority despite successive administrative and conservation reforms and the expansion of participatory provisions. In CKNP, this institutional continuity intersects with GB's frontier administrative history, unresolved customary resource claims, and marked variation in livelihoods, organizational capacity, and interests across valleys. Contemporary governance performance and accountability are also shaped by staffing and financing limitations, dependence on external projects, and changing tourism and livelihood pressures. The comparative evidence suggests that this tension between participatory reform and centralized authority has wider relevance, while its implications for conservation depend on local contexts.

Under these circumstances, co-management in CKNP is challenging but could be advanced incrementally. Building it from the bottom up through valley-level forums rather than relying solely on a single park-wide body may help address differentiated and competing local priorities. Such forums may provide a useful intermediate governance tier for addressing valley-specific grievances and incrementally building trust, but would not by themselves overcome inequalities, rivalries, or elite capture. Their effectiveness and legitimacy would therefore depend on transparency, inclusive representation, accountability, defined decision-making mandates, and links to local communities. Over time, these forums could be linked through a functioning park-wide CMC to coordinate issues requiring broader action.

Moreover, the role of GWs becomes particularly important within this constrained co-management configuration. As locally recruited CKNP employees, they operate as a key day-to-day link between CKNP and surrounding communities, a role evident across interviews, community discussions and field observations. Where they are well selected and supported, GWs have helped build awareness of park rules and objectives, mediate conflicts, and encourage compliance through trust rather than coercion alone. Their effectiveness, however, depends on their social standing, the degree of community trust, and the backing they receive from the administration. A reported case in which a GW felt pressured to resign amid community-park conflict illustrates the vulnerability of these positions and the fragility of this bridging function. Increasing GW numbers and strengthening their training and administrative support would reinforce this intermediary role, while formal community influence largely depends on the authority assigned to representative bodies.

Finally, the desire to link conservation with economic benefits and local development is widely shared among actors, and community discussions and stakeholder interviews repeatedly linked willingness to cooperate with clear incentives and socio-economic improvements. Transparent and equitable benefit-sharing mechanisms are therefore central to building long-term support. Perceptions that mountain-tourism benefits accrue disproportionately to Askoli and trophy hunting benefits to Hushey raise questions about fairness and fuel local grievances. Ensuring that communities bearing conservation costs receive meaningful and visible benefits, tailored to their specific capacities and needs, will be essential if CKNP is to develop a more inclusive and robust form of co-management. Communities can value conservation while continuing to place livelihoods first. As one interviewee put it, "when it comes to choosing between our children or animals, we will always put our families first." More substantive co-management would therefore require both meaningful community influence over decisions and the capacity and incentives to sustain context-specific implementation.

6. Conclusion

In this paper we have examined the evolution of CKNP's governance through a historical institutionalist lens, showing how the park's contemporary challenges are shaped by layered institutional legacies, uneven power relations, and GB's complex administrative status. Our study finds that CKNP was driven into existence by a combination of external conservation agendas and state interest in international recognition. Because the park was notified before meaningful local engagement and without a clear operational presence, early contestation and uncertainty became persistent features of the governance landscape.

Moreover, CKNP's governance arrangements have evolved through substantive administrative changes alongside institutional layering rather than wholesale institutional replacement. The administrative reforms under the GB Order 2009 and subsequent departmental restructuring shifted conservation authority to the GB level, while participatory language and sustainable-use provisions appeared in successive management plans before being formally incorporated into approved management plans. The newer participatory and sustainable-use provisions accumulated alongside the continuing 1975 centralized and exclusionary PA legal framework rather than replacing it. In parallel, donor-backed projects expanded community involvement and benefit-linked interventions in the region. This produced a hybrid system in which multiple actors are visible on the ground, including state agencies and NGOs, alongside numerous donor-funded projects. However, objectives, responsibilities, mandates, and decision rights remain unclear to many resource users, reinforcing mistrust and uneven compliance. In practice, this ambiguity is compounded by dispersed implementation responsibilities and overlapping roles, which blur accountability and weaken implementation.

Current governance challenges reflect deficits in both input and output legitimacy. Input legitimacy deficits are evident in uneven consultation, limited influence over management decisions, and inadequate access to information needed for meaningful participation in

decisions over rules and zoning. Output legitimacy deficits are apparent in limited implementation and problem-solving capacity, associated with chronic understaffing, limited public financing, reliance on short-term projects, and uneven implementation of interventions. Unresolved customary property and access rights affect both dimensions by shaping how local claims are represented in decisions and by contributing to mistrust and resistance that limit implementation. These conditions constrain the transition from consultative participation to meaningful power sharing and are experienced unevenly across valleys due to differences in access, livelihood dependence, exposure to tourism and infrastructure-driven market integration, local organizational capacity and intra-community rivalries. Collectively, these patterns indicate that path dependence is most clearly reflected in the persistence of concentrated formal decision-making authority despite successive reforms, while present-day organizational, financial, and valley-specific conditions also shape governance performance.

The prospects for effective co-management, therefore, depend on governance reforms that better align authority, incentives, and accountability at scales that communities recognize as legitimate. Practically, this suggests developing valley-level forums as an intermediate tier, with transparent and inclusive representation, accountability arrangements, clear decision-making mandates, and strong links to local communities. These forums could then be linked through the park-wide CMC to coordinate broader issues, alongside equitable benefit-sharing and predictable, long-term support for the Directorate and locally trusted game watchers. Without such reforms, CKNP is likely to remain caught between participatory rhetoric and centralized control, undermining governance effectiveness and the park's contribution to sustainable development in the region.

CRediT authorship contribution statement

Ahmed Nawaz: Writing – review & editing, Writing – original draft, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Jon Geir Petursson:** Writing – review & editing, Validation, Supervision, Project administration, Methodology, Formal analysis, Conceptualization. **Tom Barry:** Writing – review & editing, Supervision, Methodology, Formal analysis. **Saeed Shafqat:** Writing – review & editing, Supervision, Formal analysis.

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Data availability

The data that has been used is confidential.

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