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Review article

Nepal's biodiversity beyond protected area: gaps, opportunities, and road-maps to advance OECM

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Abstract

The Other Effective Areas-Based Conservation Measures (OECMs) framework has emerged through the Convention on Biological Diversity (CBD) to promote *in-situ* conservation of biodiversity resources beyond protected areas and support the global 30×30 conservation area target. Following OECMs principles and incorporating high-biodiversity value areas along with stakeholder and rights-holders' inputs, a total of 63 potential indicative OECMs sites were identified, and corresponding guidelines and action plans were prepared. A total of 27 workshops were conducted across 7 provinces, 14 local governments, and 5 focus groups, engaging 1,046 participants, including 317 women and 408 indigenous peoples. This article shares Nepal's experience in the process of identifying potential indicative OECM sites and highlights the rationale, opportunities, and plans for advancing OECMs in the country. It is recommended to verify the indicative sites and advance the OECMs' acknowledgement process through obtaining the consent of indigenous people and local communities.

Keywords: Conservation gaps, OECM, opportunity, roadmap, Nepal.

Introduction

The Kunming–Montreal Global Biodiversity Framework (GBF) aims to conserve 30% of the global land surface through advancing the concept of Other Effective Area-Based Conservation Measures (OECMs) by 2030. The third target of the GBF aims to ensure that by 2030, at least 30% of terrestrial areas—particularly those of high importance for biodiversity and ecosystem functions and services—are conserved through OECMs. This objective is commonly referred to as the global 30×30 target (CBD 2022).

OECMs were first mentioned under Aichi Target 11 in 2010, but formally defined at the CBD COP14 through Decision CBD/COP/DEC/14/8 (CBD 2018). An OECM is "a geographically defined area other than a protected area, which is governed and managed in ways that achieve positive and sustained long-term outcomes for the *in-situ* conservation of biodiversity, with associated ecosystem functions and services, and where applicable, cultural, spiritual, socio–economic, and other locally relevant values" (CBD 2018).

Knowledge of biodiversity governance outside protected areas, particularly in the context of OECMs in Nepal, remains very limited (Sigdel *et al.* 2025). The purpose of this review is to present the gaps in biodiversity conservation, summarize the opportunities, and share Nepal's experiences on the process employed to identify indicative potential OECMs sites. Moreover, this paper also highlights the rationale, opportunities, and plans of action of Nepal in advancing OECMs.

Nepal stands at the crossroads of the Indo-Malayan and Palearctic biogeographic regions, offering a unique geographical space for species originating from both regions. The country encompasses 12 ecoregions and 6 biomes (Olson *et al.* 2001), along with a total of 118 ecosystems, 75 vegetation types, and 35 forest types (Tiwari 1998). Although Nepal occupies less than 0.1 percent of the global land area, it harbors 3.2% and 1.1% of the world's known flora and fauna, respectively. This includes 5.2% of the world's known mammals, 9.5% of birds, 5.1% of gymnosperms, and 8.2% of bryophytes. The country harbors a network of protected areas, forest conservation areas, and Ramsar sites across a wide altitudinal gradient to provide a safe refuge for this exceptional biological diversity.

Despite this richness, Nepal's forest biodiversity is threatened by habitat fragmentation and loss due to encroachment for agricultural expansion, settlement development, and poorly planned linear and non-linear infrastructure. Moreover, habitat quality is degraded by forest fires, invasions of alien plant species, and overgrazing of domestic livestock. Similarly, wetlands face threats from climate change, urbanization, and anthropogenic activities, resulting in

habitat loss, water pollution, and biodiversity decline (Ghimire and Regmi 2024). Human-wildlife conflicts are increasing and adversely affect the social well-being of local communities living in and around Nepal's protected area systems (MoFSC 2014). Nepal provides a myriad of ecosystem services but is experiencing the adverse impacts of climate change and other drivers of change (Kotru *et al.* 2020; Kapri 2025). Together with the global community, Nepal therefore needs to strengthen efforts towards conserving its rich biodiversity resources.

Conservation initiatives and gaps

Nepal has established a network of protected areas (PAs) for conserving the country's biodiversity resources. The country boasts a network of PAs with 13 national parks, 1 wildlife reserve, 1 hunting reserve, 6 conservation areas, and 13 buffer zones. The protected areas cover 23.39% of the national territory. In addition, Nepal has designated five conservation landscapes – the Terai Arc Landscape (TAL), Chitwan-Annapurna Landscape (CHAL), Sacred Himalayan Landscape (SHL), Kailash Sacred Landscape (KLS), and Kanchenjunga Landscape (KCL) – together spanning an area of 94,593 km^2 (MoFSC 2016). These conservation initiatives have contributed significantly to safeguarding globally important wildlife species.

Nepal has adopted a diverse governance system in managing the protected area networks. The percentage of PAs managed solely by the government is 48%, the parastatal institution is 9% and shared governance is 39%, while in the case of local communities, the percentage is only 3%. Critical watersheds, wildlife and their migratory corridors, wetlands, and wildlife habitats outside the PA system are conserved and managed within a network of various forest management categories, including community forests, leasehold forests, and private forests, among others. Despite this, not all the biodiversity important areas and ecosystems are represented in the existing protected areas system of Nepal.

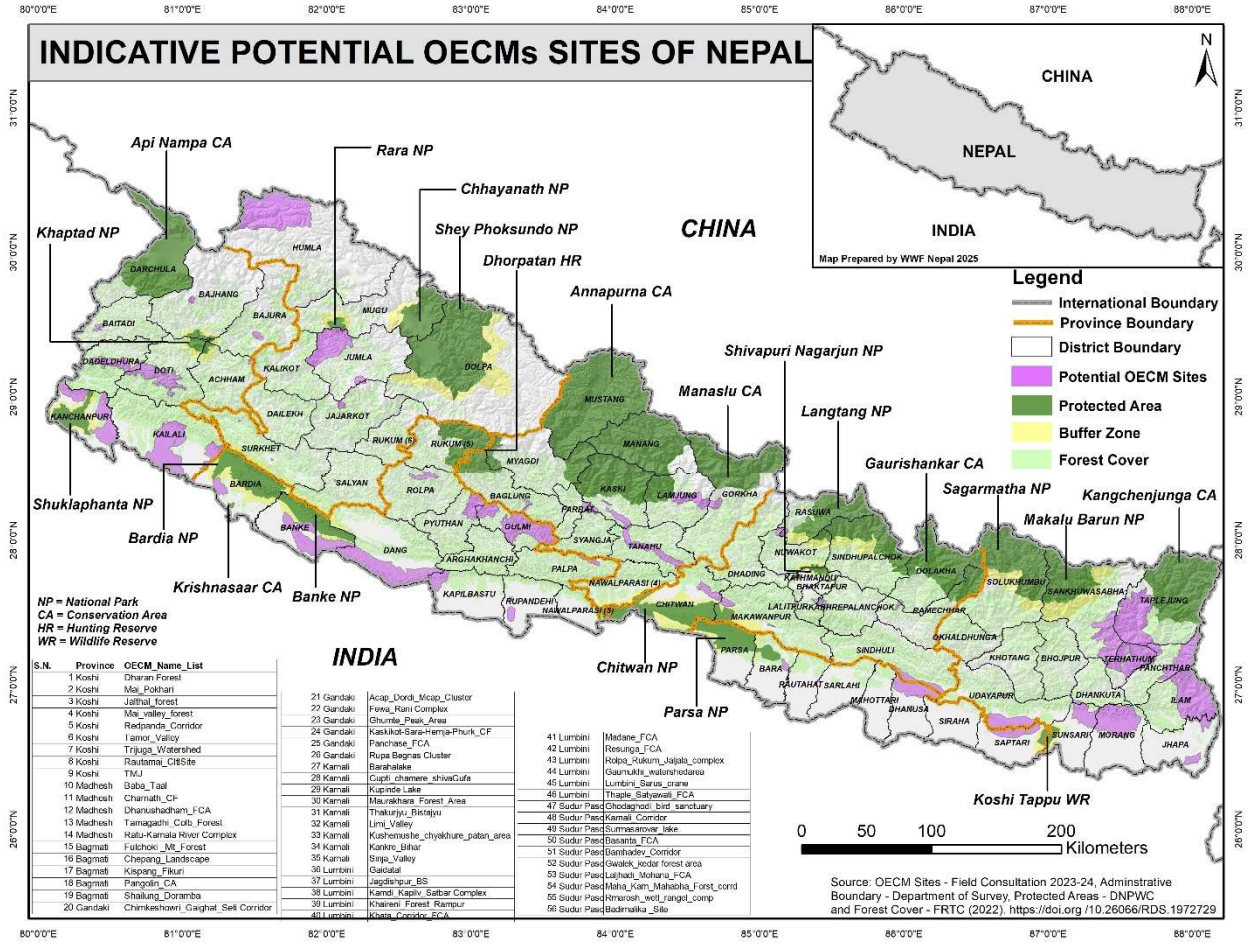
Of the total 118 natural ecosystems in Nepal, only 68% are represented by the protected area system (BPP 1995). More than 71% of conservation landscapes fall outside the protected area network. The biodiversity resources, including endangered species such as pangolin, snow leopard, and red panda, that inhabit areas outside of protected areas are threatened due to the low level of inclusion of these species and their habitats in existing conservation efforts and management practices. Ecosystems of the Middle Mountain Region are particularly underrepresented in the PA system; only 10% of the region is protected, despite it constituting nearly 30% of Nepal's land area. Nepal also hosts 31 Key Biodiversity Areas (KBAs), and the mean percentage of KBAs covered by PAs is 51.72%. Similarly, 60% of the important plant areas, with the greatest richness and endemic values of vascular plants, lie outside protected areas in Nepal (Joshi and Joshi 2022).

High Conservation Value (HCV) rivers, defined as free-flowing rivers or stretches that act as ecological lifelines, sustain ecosystem services and support high aquatic biodiversity and socio-cultural values (Grill *et al.* 2019), are increasingly suffering from pollution and overexploitation of riverbed resources. Almost 68% HCV rivers in Nepal remain unprotected. Notably, north-south river corridors, which are vital for facilitating the movement of species, populations, water, and sediment across the landscape, are currently less represented in the protected area system.

Traditional agricultural systems are rapidly losing native species due to the introduction of high-yielding improved varieties. Only a few pockets of farmlands, such as in Sinja Valley in Jumla, Pokhara Valley, Upper Mustang, Manang, Humla, and Dolpa, continue farming with traditional varieties of crops (rice, barley, buck wheat, etc.) and need immediate intervention to preserve these areas. Other critical ecosystems, including wetlands, highland pastures, watersheds, wildlife habitats, community-managed forests, and forest conservation areas, also remain largely outside the PA network. Key land use types and ecosystems located outside the protected areas are summarized in Table 1. Since local communities are opposing the declaration of new protected areas due to rising human–wildlife conflict, it is timely to explore an alternative conservation course that sustains biodiversity beyond protected areas while benefiting local people. Despite the existence of many biodiversity important areas outside protected areas, there is limited knowledge of how those areas are distributed and governed. Further, there is no understanding of how these sites are contributing to long-term *in-situ* conservation of biodiversity through engaging indigenous people and local communities (Sigdel *et al.* 2025).

Table 1. Biodiversity conservation gaps in Nepal.

Features	Total	PA	Outside of PA	Reference
Conservation landscape (km^2)	94,593	27,593 (29%)	67,161 (71%)	MoFSC (2016).
Ecoregions (number)	12/867	Average coverage 27.2%		Olson *et al.* (2001), Shrestha *et al.* (2010)
High Conservation Value (HCV) river	NA	32%	68%	Grill *et al.* (2019)
Ecosystems (number)	118	68%		MoFSC (2014)
Key Biodiversity Areas (number)	31	51.72%		
Important Plant Areas (%)	NA	NA	65%	Joshi and Joshi (2022)
Rich floral diversity areas (number)	NA	NA	6	Joshi and Joshi (2022)
Forest types (number)	35	NA	-	Lower and upper Gangetic Plains moist deciduous forests (0%), Himalayan subtropical pine forests (4%)
Ramsar sites (number)	10	6 (>50%)	4	



S.N.	Province	OECM_Name_List
1	Koshi	Dharan Forest
2	Koshi	Mai_Pokhari
3	Koshi	Jalthal_forest
4	Koshi	Mai_valley_forest
5	Koshi	Redpanda_Corridor
6	Koshi	Tamor_Valley
7	Koshi	Triyuga_Watershed
8	Koshi	Rautamai_CliffSite
9	Koshi	TMJ
10	Madhesh	Baba_Taal
11	Madhesh	Charnath_CF
12	Madhesh	Dhanushadham_FCA
13	Madhesh	Tamagadhi_Colb_Forest
14	Madhesh	Ratu-Kamala River Complex
15	Bagmati	Fulchoki_Mt_Forest
16	Bagmati	Chepang_Landscape
17	Bagmati	Kispang_Fikuri
18	Bagmati	Pangolin_CA
19	Bagmati	Shailung_Doramba
20	Gandaki	Chirmkeshwori_Gaighat_Seti Corridor
21	Gandaki	Acap_Dordi_Mcpo_Cluster
22	Gandaki	Fewa_Rani Complex
23	Gandaki	Ghumle_Peak_Area
24	Gandaki	Kaskikot-Sara-Hemja-Phurk_CF
25	Gandaki	Panchase_FCA
26	Gandaki	Rupa Begnas Cluster
27	Kamali	Barahalake
28	Kamali	Cupti_chamere_shivaGufa
29	Kamali	Kupinde Lake
30	Kamali	Maurakhara_Forest_Area
31	Kamali	Thakurjyu_Bistajyu
32	Kamali	Limi_Valley
33	Kamali	Kusheshwshe_chyekhure_patan_area
34	Kamali	Kankre_Bihar
35	Kamali	Sinja_Valley
36	Lumbini	Gaidatal
37	Lumbini	Jagdishpur_BS
38	Lumbini	Kamdi_Kapilv_Satbar Complex
39	Lumbini	Khaireni_Forest_Rampur
40	Lumbini	Khata_Corridor_FCA
41	Lumbini	Madane_FCA
42	Lumbini	Resunga_FCA
43	Lumbini	Rolpa_Rukum_Jajala_complex
44	Lumbini	Gaumukhi_watershedarea
45	Lumbini	Lumbini_Sarus_crane
46	Lumbini	Thaple_Satyawati_FCA
47	Sudur Pasc	Chodagnodi_bird_sanctuary
48	Sudur Pasc	Kamali_Corridor
49	Sudur Pasc	Sumnasarovar_lake
50	Sudur Pasc	Basanta_FCA
51	Sudur Pasc	Banhadev_Corridor
52	Sudur Pasc	Gwalek_kedar forest area
53	Sudur Pasc	Lajhadi_Mohana_FCA
54	Sudur Pasc	Maha_Kam_Mahabha_Forst_corrd
55	Sudur Pasc	Rmarosh_wetl_rangel_comp
56	Sudur Pasc	Badimalika _Silo

Figure 1. Indicative potential OECMs sites of Nepal.

Box 1. Key issues and options for conserving biodiversity outside of protected areas.

Issues	Way forward
The Forest Act is a control-oriented and discourages sustainable use of resources, most importantly, impeding the livelihoods of local communities. For instance, the government is importing timber from Malaysia, but it is not allowing communities to use even degraded wood from the forest. Lack of coordination, cooperation, and collaboration between the local government and the divisional forest office to facilitate the conservation and management of forests. Policies related to biodiversity conservation appear strong, but there is a barrier for local communities to use the resources and generate incomes to support their livelihoods. Conflict with wild animals: Communities of Dordi are mostly affected by monkeys, resulting in economic loss and crop damage. Inclusive biodiversity conservation related issues include: a) the absence of active participation and inclusion of women in biodiversity conservation organizations and institutions; b) a lack of commitment from concerned authorities to fulfill their duties and responsibilities to recognize and respect the rights of women, Indigenous Peoples, and local communities; c) low priority given to women, Dalits, and low-income Indigenous Peoples in organizational and institutional processes; and d) forest user group committees that are not gender-responsive, with members selected based on elite access.	Enable a sustainable environment and environment-friendly livelihood options, for instance, promote ecologically significant mountain ranges for tourism, identify and analyze the status of important local herbs to conserve, and generate income for the locals. Local government, communities, and the division forest office collaborate to develop a policy to facilitate both the conservation and use of resources complementary to each other. The participants recommended several measures to promote inclusive biodiversity conservation. They emphasized that committees involved in conservation should ensure at least 50% representation of women. They also highlighted the need for awareness-raising programmes targeting women, Indigenous Peoples, and local communities to strengthen and safeguard their active participation. In addition, they suggested organizing capacity-enhancement training on environment-friendly livelihood options at all levels in collaboration with local stakeholders.

National guideline and plan for OECM

Nepal has embraced the OECMs approach and has initiated the development of guidelines and action plans to advance its implementation process following a bottom-up approach. The Government of Nepal, together with WWF Nepal, implemented a dedicated project called "National Planning for an Inclusive and Effective Conservation Approach to Reaching Global Biodiversity Framework Target 3" (WWF 2024a,b).

The project objective was to support country planning to inclusively and effectively meet or exceed Global Biodiversity Framework (GBF) Target 3, i.e., OECMs. Under this one-and-a-half-year project, beginning from 2023, the Ministry of Forests and Environment (MoFE) of the Government of Nepal, through consulting a range of stakeholders at the federal, provincial, and local levels, and based on the given OECMs criteria, enlisted 63 potential OECMs indicative sites across the country (Figure 1).

A total of 27 workshops were organized at the central, provincial, and local government levels to identify potential OECMs sites. From January to July 2023, multi-stakeholder consultations were conducted across 7 provinces, 14 local governments, and 5 focus groups, engaging 1,046 participants, including 317 women and 408 Indigenous Peoples. The workshops brought together government officials, community forest users, NGOs, civil society, private sector representatives, and women's groups

Nepal's OECMs guideline and action plan preparation process can be viewed in three distinct phases: planning, preparation, and implementation. The planning processes included close coordination and communication with federal and provincial ministries relevant to forests and environment, division forest offices, and representatives of selected municipalities and rural municipalities for the preparation and finalization of the guideline. Second, awareness among stakeholders focusing on different approaches of biodiversity conservation, with particular focus on OECMs, was raised. Finally, issues were identified through group work to identify key opportunities, issues, and barriers that need to be resolved to advance OECMs. For instance, the key issues and options for conserving biodiversity outside protected areas discussed in a workshop in Dordi Rural Municipality, Lamjung, Gandaki Province, are included in Box 1.

Various OECMs categories and their locations were identified as an outcome of the three distinct phases of the guideline and action plan preparation processes. The OECMs categories were derived based on the multi-stakeholder consultations in 27 different locations across the country, and based on the land-use types and functions. In total, 63 indicative sites are listed (Figure 1, Appendix 1), which could be revisited based on the site-level assessments and recognition processes. Following a bottom-up approach, together with a gap assessment study, eight categories of OECMs were identified: (i) high-value forest areas, (ii) high-value wetlands, rivers, and rivulets, (iii) agrobiodiversity, (iv) critical watersheds and/or landscapes, (v) archaeological, cultural, and/or sacred sites, (vi) private and urban sites, (vii) rangelands, and (viii) indigenous community-conserved areas. These sites are indicative (non-exhaustive list: subject to change), and the Government of Nepal will further work to effectively implement the national guideline for recognizing OECMs in Nepal. Further work is needed to undertake site assessments and obtain consents from the concerned governance authorities of the indicative sites.

Policy and institutional perspective for OECMs

Many of the sectoral policies and institutional instruments are already aligned with OECMs, though they are in the form of fragmentation (Table 2). Nepal's sectoral policies include provisions for conserving biodiversity resources outside protected areas (such as community forests, rangelands, wetlands, and agroforestry lands). These policies enable the recognition of OECMs beyond the PA network. They also promote strong community-based governance models—community forests, rangelands, wetlands, and private forestry—which align closely with OECMs principles. The sectoral policies emphasize achieving the dual objectives of conservation and livelihood, which is fundamental for delivering effective in-situ conservation. Similarly, the policies support the use of local knowledge, skills, and technologies.

Although elements of OECMs principles are implicitly reflected in Nepal's forestry sector and aquatic animal protection policies, there is a policy and institutional gap to support advancing the OECMs framework. There is inadequate coordination and coherence among all the policy and legal instruments that are endowed with the elements of OECMs, ranging from the federal to the local government level. Policies, particularly those related to land ownership and water use, that pose a barrier to the successful implementation of OECMs, need to be reviewed and revised. Furthermore, the current policy and legal frameworks need to be enriched through integrating social and cultural dimensions, which recognize the resource-based livelihood rights of indigenous peoples and local communities.

In addition to allocating significant land for the protected area system, Nepal has the opportunity to advance OECMs, outside of the protected area network. The approach complements Nepal's protected area system by promoting *in-situ* conservation of biodiversity outside protected areas and supports bridging the conservation gaps by recognizing already tested community-managed forests, rangelands, wetlands, agrobiodiversity, and culturally significant areas. Further, there are opportunities of recognition of diverse governance models, showcasing equitable governance, and acknowledging indigenous and local stewardship. OECMs also create avenues for accessing global capacities, technologies, and conservation finance, such as GEF and GCF, while supporting climate adaptation and resilience. As Nepal pursues its 30x30 commitment amid increasing resistance to the expansion of protected areas, OECMs provide a socially acceptable and ecologically sound alternative that elevates local conservation leadership and strengthens landscape-level biodiversity outcomes.

Future course of action

In moving forward, Nepal must adopt a three-pronged strategy to safeguard biodiversity and culturally linked valued areas outside of the protected areas through the OECMs framework. First, create

Table 2. Conservation-related policies and legal instruments of Nepal in relation to OECM principles.

Policy	Outside of PA	Category	Governed and managed	Objective	*In-situ*	Value
Enabling Policy and legal measures for OECMs						
National Forest Policy, 2019	Yes	Community conserved areas	Land ownership by the government and forest products ownership by local communities	Biodiversity conservation and sustainable use contribute to social, economic, and cultural prosperity	Gap	Biodiversity-rich area
National Agroforestry Policy, 2019	Yes	Agroforestry in vacant, barren, fallow, and marginalized land	Private forestry	conserve the environment and biological diversity, and livelihood/income/employment	Gap	Agro-biodiversity
Rangeland Policy, 2012	Yes	Conserved range-land	Government-owned land and management by local communities	Enhance productivity and conserve range-land biodiversity	Gap	Traditional institutions and management practices
Forests Act, 2019	Yes	Forest conservation area	Governance by government, jointly by communities and government, and the private sector	Conservation of biodiversity and livelihood	Gap	Cultural, scientific, and locally relevant values
Wetland Policy, 2012	Yes	NA	Government, and jointly by government and local communities	Conservation, management, and utilization	Gap	Traditional knowledge with modern conservation practices, along with socioeconomic and cultural values.
Environment Protection Act, 2019	Yes	Environment protection areas	EIA for mitigating harmful activities	Environment protection	Gap	Significant environmental importance
Policy barrier for OECMs promotion						
National Water Resources Policy (2020):	Yes	Aquatic biodiversity	Gap	Proposes inter-river basin water diversion for irrigation projects	Negatively impacts aquatic biodiversity	Gap
National Forest Policy, 2019	yes	Forest biodiversity	Land is owned by the government	National pride and priority projects can be promoted in the biodiversity-rich areas	Negatively impact biodiversity	
National Agroforestry Policy 2076:	Yes	Agro-biodiversity	Private and public land	Proposes planting medicinal plants and non-timber forest products in natural forests	potentially altering ecosystems	
Land Related (Eighth Amendment) Act 2076:	Yes		Government land	Provisions of transferring land rights to forest encroachment	lead to increased forest encroachment and fragmentation	
Aquatic Animal Protection Act 2027:	Yes	Aquatic animal protection	Not defined	Provides rights to the citizens to kill/catch any aquatic animals in any waters except those prohibited by the government	This provision contradicts with the provisions in the NPWC Act, 1973	

appropriate policy instruments and governance framework, and initiate the process by acknowledging the OECMs status for sites already in the pipeline for protected area designation. Second, build social acceptance for identified OECMs potential sites by applying robust site-level assessment guidelines and assessment tools. Finally, invite applications from across the country for the voluntary submission of sites for OECMs recognition, along with awareness programs up to the grassroots level.

Nepal needs to develop explicit OECMs provisions across forestry, wetland, rangeland, and sub-national policies and institutional structures. To steer the processes, it is necessary to establish a national OECMs steering committee and expert panel for site monitoring, recognition, and facilitating the reporting procedures. In addition, it is essential to prioritize pilot sites, undertake a detailed study, ensuring FPIC-based community engagement, and governance. It is equally important to create a sustainable OECMs financing mechanism and strengthen management capacity at all levels

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Appendix 1 . Promising sites for Other Effective Area-Based Conservation Measures (OECMs) in Nepal and their characteristics.

S.N.	Site	Categories	Location	Ecoregion	Area (ha)	Salient features for conservation values
1.	Red Panda corridor	Landscape	Panchthar, Ilam, Taplejung	Midhills	50329	An important complex of the Kanchenjunga landscape, which borders the Singalila National Park of India. It represents upper and lower temperate broadleaved forest ecosystems, supports habitat for the Red Panda, and various ecological processes.
2.	Menchayam (Tinjure-Milke-Jaljale complex)	Landscape	Terhathum, Sankhuwasabha & Taplejung	Midhills	45063	Home of a variety of Rhododendron species, which is the country's national flower. A combination of rich biodiversity, ecological integrity, and vulnerability, these areas are often designated as areas of conservation priorities. Part of the complex is the Papung corridor that connects the Kanchenjunga Conservation Area and Makalu Barun National Park.
3.	Jalthal forest	Forest	Jhapa	Terai	6080	Represents a rare lower Gangetic plains tropical moist deciduous forest ecoregion and is a collection of unique mosaics of different ecosystems - wetlands and forests. It is often a habitat for the range-restricted Asian elephant and varieties of unique floral species.
4.	Mai Pokhari	Wetland	Ilam	Midhills	108	Designated as a Ramsar site**,** remains outside Protected Areas; however, often vulnerable due to anthropogenic pressure. Supports important habitats of endemic flora and fauna. It is an area of cultural and spiritual significance.
5.	Mai Valley forests	Forest	Ilam	Midhills	81566	Part of the eastern Himalayan region, consisting of a wide range of endemic and rare floral and faunal species. The forests are especially rich in bird diversity and connect the Terai lowlands with higher-altitude forests, facilitating the migration and dispersal of species. Despite its importance, it faces several anthropogenic and climatic threats.
6.	Dharan forests	Forest	Morang, Sunsari	Terai	82934	A **Key Biodiversity Area (KBA)** comprises a significant portion of evergreen subtropical (*Shorea robusta*) mixed with important association species *Dalbergia latifolia*. It connects with the Koshi River and to Koshi Tappu Wildlife Reserves and serves as a corridor for the movement of range-restricted Asian wild Elephant. It also serves as an important habitat for endangered bird species.
7.	Trijuga watershed	Watershed	Udayapur	Terai	49706	The watershed stretches from Trijuga to Saptari, which is a potential habitat for tigers (from a study of the Wildcats Conservation Alliance, 2018). This area is the residence of Gaur and a corridor of the Wild Asian Elephant. It is a critical Chure watershed value for ecosystem functions and services (water recharge zone).
8.	Rautamai cultural site	Cultural Site	Udayapur	Terai	1349	An important area for cultural and spiritual values has a historical wetland - habitat of aquatic fauna, supporting ecosystem functioning.
9.	Tamur Valley	Landscape	Taplejung, Sankhuwasabha, Terathum	Mountain	134745	It is a **KBA site**, which forms a major watershed extending from the confluence with the Koshi River at 100m in the tropical zone to the alpine zone above 3800m. It represents broadleaved lower temperate forests and mixed broadleaved forests. It includes two important forests of Nepal, one at Tinjure Danda and the other at Milke Danda, which lie outside the Kanchenjunga Conservation Area.
10.	Cardamom–Utis Agroforestry System	Agroforestry	Ilam/Panchthar/ Taplejung,	Midhills	0	It is an agroforestry system that includes a unique interaction among farmers, trees (uttis), and cash crops (e.g., cardamom). The specific site can be identified as OECMs, where farmers are actively contributing to the conservation of local agrobiodiversity.
11.	Barju Lake (Taal)	Wetland	Sunsari	Terai	103	Also known as Chimadi Taal, this is an important wetland featuring natural lakes in Barju Rural Municipality. It was restored in 2074 BS (2017 AD) and serves as a significant destination for migratory

Appendix 1. contd…..

S.N.	Site	Categories	Location	Ecoregion	Area (ha)	Salient features for conservation values
						birds, second to the Koshi Tappu Ramsar site. The primary threats to its ecosystem are drying out and the encroachment of the wetland.
12.	Sunkoshi riverscape	Wetland	-	Terai	0	Habitat of the Golden Mahseer, which is considered vulnerable due to habitat degradation and overfishing. Protection of certain river stretches as a spawning place for migratory fish, the Asiatic Dolphin, and birds.
13.	Dhanushadham Forest Conservation Area	Forest	Dhanusha	Terai	362	Significance for the combination of richness in cultural, spiritual, and ecological integrity and vulnerability for long-term conservation and sustainable management of the old-growth remnant Sal Forest of the lower Gangetic plains moist deciduous forests ecoregion. Also, recognized as a Forest Conservation Area.
14.	Ratu-Kamala River complex	Wetland	Dhanusha, Sindhuli, and Siraha	Terai	44925	The critical complex of Chure landscape serves as a corridor - part of larger ecological networks that allow the Asiatic Wild Elephant and other species to migrate, breed, and adapt to environmental changes, promoting long-term ecological resilience. The area possesses essential ecosystem functions and services such as water recharge, carbon storage, climate regulation, including cultural and spiritual values for the local communities of Madhesh.
15.	Tamagadhi Collaborative Forest	Forest	Bara, Kolhabi	Terai	3212	Part of a larger ecological network of Parsa National Park that allows species to migrate, breed, and adapt to environmental changes, promoting long-term ecological resilience.
16.	Charnath Community Forest	Forest	Dhanusha	Terai	196	Part of the Chure watershed, effectively managed by the local community, and crucial for ecosystem function and services, and biodiversity conservation.
17.	Baba Tal	Wetland	Siraha	Terai	198	An important wetland area in the Chure landscape, which supports ecosystem function and services, and is significant for cultural as well as conservation of aquatic biodiversity.
18.	Rani and Chuchekhola Community Forests as Pangolin Conservation Area	Forest	Makwanpur	Terai	405	Community-restored subtropical deciduous forests managed by local communities, become a habitat of the endangered Pangolin, which is rarely found inside PAs. Two local CFUGs have recognized the importance of conservation of this species and jointly collaborate and network to strengthen conservation outcomes beyond the CF boundaries.
19.	Chepang Landscape	Indigenous Community Conserved Area	Makwanpur, Chitwan, Dhading	Midhills	13479	A contiguous landscape of subtropical deciduous broadleaved forests that extend from Raksirang of Makawanpur district to the South-Eastern part of Dhading district. The area is dominantly inhabited and managed by the indigenous Chepang community. Chiuri (butter tree) is common in forests and farmland, which is also a source of livelihood for the Chepang community. Human ecology of Chiuri-Bats-Chepang persists for long-term conservation. The landscape often forms an ecological network with Chitwan National Park that allows species to migrate and adapt to environmental challenges.
20.	Shailung-Doramba Ramechhap Contiguous Forests Area	Forest	Dolakha - Ramechhap	Midhills	1614	Sailung is named after hundreds of hillocks extending to Doramba, Ramecchap. The area is a mosaic of lower and upper-temperate broadleaved forests and grassland ecosystems. It has irreplaceable ecological diversity with cultural and spiritual values.
21.	Kispang-Fikuri Forest Area	Forest	Nuwakot, Kispang Rural Municipality	Midhills	3807	Endowed with unique flora and fauna diversity of upper temperate forest and meadows in an intact landscape, which is linked with the Langtang National Park. These areas are rich in natural herbs of medicinal importance. The area is inhabited by the Tamang indigenous community, and they have been contributing to the conservation of this landscape.
22.	Phulchowki Mountain Forests	Forest	Kathmandu Valley	Midhills	2129	Hosts range-restricted species Spiny Babbler, Hoary-throated Barwing, and varieties of butterflies. There are large areas of broadleaved forests that are known to support significant populations of characteristic species of the Sino-Himalayan Temperate Forest type.

Appendix 1. contd…..

S.N.	Site	Categories	Location	Ecoregion	Area (ha)	Salient features for conservation values
23.	Barandhabar Forest Conservation Areas	Forest	Chitwan	Terai	10466	A Forest Conservation Area consists of long, narrow strips of Sal Forest, wetland, and grassland ecosystems. It is a wildlife corridor for the movement of several endangered species and migratory birds.
24.	Panchase Forest Conservation Area	Forest	Kaski, Parbat, Syangja	Midhills	5776	A "Kingdom of Orchid"is recognized as a Forest Conservation Area. Represents an important area for biodiversity of the middle mountain physiographical zone, which is underrepresented in the existing PA system. It is a critical watershed essential for water conservation of Kaski, Syanjha, and Parbat districts and maintaining connectivity within the Chitwan-Annapurna Landscape.
25.	Rupa Begnas cluster	Wetland	Kaski, Pokhara Metro-city	Midhills	703	A unique wetlands cluster comprises wetlands, forests, and agrobiodiversity, which is located in the Metropolitan City of Pokhara. These wetlands are recognized as Ramsar sites, which lie outside PAs, and they are potentially under threat. The cluster upholds rare and locally important varieties of crops and local fish.
26.	ACAP-Dordi-MCAP cluster	Forest	Lamjung	Midhills	23016	The cluster covers unique ecosystems and consists of habitats of various valuable herbs and herpetofauna. The area encompasses a series of lakes. Conservation of the mosaic of different ecosystems is important for maintaining connectivity between ACAP and MCAP and habitats of both common and rare species of flora and fauna.
27.	Seti corridor: Chitwan-Gaighat-Chimkeshwari-ACAP	Forest	Chitwan, Tanahu and Kaski	Midhills	31375	The Seti Gandaki freshwater corridor consists of rivers, forests, grasslands, and farmland ecosystems. It provides a habitat and migratory route for a variety of wildlife, including aquatic fauna and birds, between Chitwan National Park and Annapurna Conservation Area.
28.	Fewa - Rani complex	Landscape	Kaski	Midhills	694	Forest-Lake-Metro city complex is a biologically and socio-culturally significant area that provides ecological services and contributes to the well-being of indigenous people and local communities. The complex plays a key role in protecting Fewa watersheds and contributes to promote ecotourism and biodiversity.
29.	Kaskikot-Sarangkot-Hemja-Phurketari CF complex	Landscape	Kaski, Pokhara	Midhills	762	The complex consists of community-managed CFs and farmlands, which are critical for Fewa watershed protection. It provides local amenities and livelihood support to the communities.
30.	Ghumte peak area	Landscape	Baglung, Galkot	Midhills	1867	The area represents a pristine upper temperate broadleaved mixed forest ecosystem, which is a habitat of diverse high-value herbs and fauna. It is a historical and religious monument; every year, a festival is organized. Urgent need for a long-term conservation program to safeguard biodiversity, cultural values, and sustainable livelihood support to the local community and indigenous people.
31.	Ghoral Conservation Area	Landscape	Northern part of Nawalpur and Eastern part of Palpa	Midhills	0	Local community recognized as Ghoral Conservation Area, which is being conserved and managed by Magar communities of Deurali, Naram, Ruchang, Dhaubadi, Rupsikot, Hupsekot, and Jhirubas. These communities are conserving the threatened species – Ghoral (*Naemorhedus goral*), along with improving their livelihood options.
32.	Rolpa-Rukum Jaljala Complex	Landscape	Rolpa and Rukum	Midhills	6363	The complex comprises diverse ecosystems: Alpine shrubs, meadows, upper temperate broadleaved forests, and marshy land. An important area for ecosystem functions and services that supports maintaining the perennial water source of the West Rapti river tributaries. It is a home of various fauna and flora that also includes valuable medicinal herbs. The area is inhabited by the Magar indigenous community. This area has high value for cultural and nature-based tourism. The historical place Thawang can play a pivotal role in the overall conservation program.

Appendix 1. contd…..

S.N.	Site	Categories	Location	Ecoregion	Area (ha)	Salient features for conservation values
33.	Kamdi-Kapilvastu-Satbariya complex	Landscape	Banke, Dang and Kapilvastu (Surainaka-proposed FCA)	Terai	146092	A high-priority conservation area of the Terai Arc Landscape (TAL), which maintains ecological functions and contributes to enhancing ecosystem services supporting livelihood opportunities for local communities. It is a trans-nations boundary wildlife corridor between India and the landscape of Nepal.
34.	Khata Corridor (Forest Conservation Area)	Forest	Bardiya	Terai	8384	Trans-boundary corridor managed by CFs networks of 39 community forests - CFCC. The corridor connects the Bardiya National Park of Nepal with the Katarniaghat Wildlife Sanctuary of India. Recognizing its biodiversity conservation significance, the Nepal Government has declared the area a Forest Conservation Area. It is a habitat for flagship species such as Tiger, Rhino, and Asian Wild Elephant.
35.	Agrobiodiversity and Sarus crane conservation site	Agroforestry	Rupandehi and Kapilvastu	Terai	4966	Farmers of this area have a traditional practice of cultivation of local Kalanamak rice and fish farming, which supports the threatened bird species, Sarus Crane, for roosting and feeding. It is an area of significance for conservation as well as mutually beneficial for both farmers and the crane.
36.	Jagdishpur Bird Sanctuary	Wetland	Kapilvastu	Terai	225	Ramsar site outside the PAs, an important destination for migratory birds. Recognizing its significance for biodiversity conservation, the Lumbini Province government has declared it a bird sanctuary. Although it is an artificially created wetland primarily formed for irrigation purposes, it has high biodiversity conservation value.
37.	Madane FCA	Forest	Gulmi	Midhills	13756	Recognized as a forest conservation area (FCA), important for biodiversity conservation and maintaining ecosystem services. The area represents the forest ecosystems of the middle hill's which are less represented in the existing PAs.
38.	Naubahini - Gaumukhi Watershed Area	Watershed	Pyuthan, Gaumukhi Rural Municipality, Arkha	Midhills	18015	Critical watershed of the Jhimrukha river. Realizing the importance of cultural and spiritual values, biodiversity values, ecosystem functions, and services, the area is proposed as a potential forest conservation area. It has several geographical features like Gaumukhi cave, waterfall, Jhakri Dhunga, and other scenic beauty, which require long-term conservation to maintain ecological integrity.
39.	Resunga Forest Area	Forest	Gulmi	Midhills	19282	The area comprises natural forests with historical, cultural, and religious sites within Resunga Municipality. The area is particularly important for ecosystem functions and services in the downstream. It is declared as a forest conservation area and identified as an important bird area.
40.	Khaireni forest Rampur	Forest	Palpa, Rampur	Midhills	2793	It is a key biodiversity area on the Kaligandaki riverbank. The site is a home for rare and endangered Vulture species.
41.	Thaple Satyabati FCA	Forest	Gulmi	Midhills	38940	The site is declared as a forest conservation area (FCA).
42.	Gainda Tal	Wetland	Rupandehi	Terai	790	The site is a key biodiversity area, which is important for migratory bird species.
43.	Limi Valley	Landscape	Humla	Mountain	119943	A trans-Himalayan valley that offers crucial habitat for the flora and fauna of the Tibetan Plateau. The valley is framed by the gorgeous snow-capped mountains, which comprise an amazing landscape of montane grasslands and shrublands where people observe wild yaks and preserve their unique Tibetan culture and traditions of living in harmony with nature.
44.	Sinja Valley	Landscape	Sinja Rural Municipality, Hema Rural Municipality, and	Mountain	51046	Archaeological evidence suggests that Sinja is the ancient kingdom of the Khas community. It has been nominated to be listed as a UNESCO World Heritage site. The valley comprises three rural municipalities, which promote and conserve the unique Khas culture, traditional knowledge of highland rice farming, irrigation systems, and conservation of important biodiversity. Hema River flows through the valley, and it

Appendix 1. contd…..

S.N.	Site	Categories	Location	Ecoregion	Area (ha)	Salient features for conservation values
			Kankasundari RM			is surrounded by the mountains covered with upper Temperate broadleaved forests, grasslands, and meadows where diverse high-value medicinal herbs and fauna are commonly available.
45.	Baraha Lake	Wetland	Surkhet	Terai	42	A relatively large lake (12 Bigha=8.3 hectare) in the Chure region, which is important for conservation of wetland, water recharge, and biodiversity conservation. There is an urgent need for restoration, long-term protection, and sustainable use.
46.	Kushemushe-Chyakhure Patan Area	Rangeland	Jajarkot, Kushe Rural Municipality	Mountain	2296	Represents the montane rangeland ecosystem, which is underrepresented in the existing PAs. An important site for herding cattle, horses, and sheep, including wild fauna.
47.	Kupinde Lake	Wetland	Salyan	Midhills	116	A freshwater lake surrounded by hillocks of sub-tropical and lower temperate forests. The area is rich in both cultural and biodiversity.
48.	Gupti Lake, Chamere and Shiva Gufa, and Jajura Lake complex	Wetland	Panchapuri Municipality	Mountain	139	Rich in several unique geographical features like Gupti Lekh (lake in a cave) with "*Shiva Gufa* "and "*Chamere* (Bats)", and Jajura lake with cultural and ecological significance for conservation. Panchapuri municipality is interested in conserving and developing the area as an ecotourism destination.
49.	Kankrebihar Forest Conservation Area	Forest	Surkhet	Terai	167	Recognized as **a Forest Conservation Area** for archeological and cultural significance. Area located inside Surkhet municipality and covered with tropical and subtropical moist broadleaved Sal forests.
50.	Thakurjyu and Bistajyu Patan Area	Cultural Site	Tatopani RM, Jumla	Mountain	3708	An alpine freshwater lake within a high-mountain rangeland ecosystem. Thakur Jyu is a pilgrimage site where the annual religious fair is organized. High-mountain rangelands are important sites for people as they collect valuable herbs and use the site for herding horses and sheep, particularly during summer to fall. It is a habitat for endangered musk deer, red panda, and birds.
51.	Maurakhara Forest Area	Forest	Rukum West, Saniberi Rural Municipality	Midhills	569	Famous for its natural amenities, along with cultural and spiritual values. It is a home for many endangered fauna and flora and represents a temperate broadleaved and mixed forest ecosystem.
52.	Middle Karnali River Corridor	Wetland	Dailekh, Accham and Kalikot	Midhills	0	Karnali is a free-flowing freshwater river that harbors different rare fish, including the South Asian River Dolphin, in its downstream. It boasts great ecological diversity in the river corridor.
53.	Ghodaghodi Bird Sanctuary	Wetland	Kailali	Terai	4991	A Ramsar site outside PAs, also recognized as a **bird sanctuary** by the provincial government. The sanctuary supports critically endangered aquatic and endangered bird species.
54.	Ramaroshan Wetlands and Rangelands Complex	Landscape	Achham, Ramaroshan Rural Municipality	Mountain	1590	A unique landscape rich in biodiversity, locally famous for "*12 Kunda 18 khanda*" (12 lakes and 18 rangelands). The complex is important for sustaining ecological integrity, people's livelihood, and ecosystem services, mainly the water source of the Budhiganga river basin. Ramaroshan is a habitat for different endangered birds and wild fauna.
55.	Mahakali - Karnali Mahabharat Forest Corridor	Landscape	Dadheldhura and Doti	Midhills	53472	The Kali-Karnali forests corridor connects the Mahakali and Karnali River basins. Also, the wildlife corridor of Suklaphanta National Park in the south to Mahabharat (middle hills) to the north, serves as a climate refugium - habitat for Tiger and other restricted species as temperature and precipitation patterns adversely changed. The province and local government proposed this area for the Mahabharat Forest Conservation Area.
56.	Gwallek -Kedar Forest Area	Forest	Baitadi (north)	Mountain	2286	A sacred natural site within the Kailash Sacred Landscape that is important for eco-cultural value. Complement conservation of important biodiversity and ecosystem functions and services.

Appendix 1. contd…..

S.N.	Site	Categories	Location	Ecoregion	Area (ha)	Salient features for conservation values
57.	Basanta FCA	Forest	Kailali	Terai	64928	**Recognized as a Forest Conservation Area (FCA)** serves as a transboundary wildlife corridor of Tiger and Asian elephant from Bardiya National Park of Nepal and Dudhuwa National Park of India, enhancing connectivity among PAs in the TAL.
58.	Laljhadi - Mohana FCA	Forest	Kailali and Kanchanpur	Terai	35504	Recognized as a Forest Conservation Area (FCA), which is a transboundary wildlife corridor of Shuklaphanta National Park of Nepal and Dudhwa National Park of India, ultimately connects PAs of the Terai Arc Landscape.
59.	Badimalika site	Cultural Site	Bajura, Triveni Municipality	Midhills	3051	A spiritual site encompassing diverse types of natural ecosystems of meadows, temperate forests, caves, and unspoiled cultural and traditional practices of the high mountain. A religious place where pilgrims meet annually at a religious fair.
60.	Surma Sarovar Lake	Wetland	Bajhang	Mountain	1584	A holy high mountain wetland famous for a mini-Kailash Sarovar. The lake is surrounded by Jethi Bahurani mountain peaks, large meadows, and temperate forests with diverse, important flora and fauna.
61.	Bramhadev Corridor	Landscape	Kanchanpur	Terai	16032	**A transboundary wildlife corridor** connects Laljhadi – Mohana Forest Conservation Area, Shuklaphanta National Park to the south-east and Indian national forests to the west. It can be a climate refugium.
62.	Karnali River Corridor	Wetland	Kailali	Terai	14894	Karnali river corridor - a stretch of the Karnali longest free-flowing river ecosystem, is a habitat and spawning place for the critically endangered freshwater South Asiatic Dolphin, Otter, and Gharial. These aquatic and semi-aquatic animals more often live with freshwater fishes of the Karnali River. Water quality and aquatic life are threatened by anthropogenic pressure, which calls for immediate long-term conservation.
63.	Sigas Forest Area	Forest	Sigas RM, Baitadi	Mountain	3075	A proposed Forest Conservation Area is important for the conservation of biodiversity and the protection of a representative sample of subtropical pine forest.