

The following appendixes (Appendixes 1-5) are the Electronic Supplementary Material of the article entitled “Shifting paradigms for Nepal’s protected areas: history, challenges and relationships” at <http://dx.doi.org/10.1007/s11629-016-3980-9>

Appendix 1 Protected areas of Nepal: Establishment history, elevational location and categories

Protected Areas (PAs)	Area (km ²)	Gazetted in (year)	IUCN category	Elevational location
Chitwan National Park	932	1973	II	Lowlands
Bardia National Park	968	1976	II	Lowlands
Sagarmatha National Park	1148	1976	II	High mountains
Langtang National Park	1720	1976	II	Midhill and high mountains
Rara National Park	106	1976	II	Midhill
Koshitappu Wildlife Reserve	175	1976	IV	Lowlands
Shuklaphanta Wildlife Reserve	305	1976	IV	Lowlands
Shey-phoksundo National Park	3555	1984	II	High mountains
Khaptad National Park	225	1984	II	Midhill
Parsa Wildlife Reserve	499	1984	IV	Lowlands
Dhorpatan Hunting Reserve	325	1987	VI	High mountains
Makalu Barun National Park	1500	1991	II	Midhill and high mountains
Annapurna Conservation Area	7629	1992	VI	Midhill and high mountains
Kanchenjunga Conservation Area	2035	1997	VI	High mountains
Manaslu Conservation Area	1663	1998	VI	High mountains
Shivapuri-Nagarjun National Park	159	2002	II	Midhill
Blackbuck Conservation Area	17	2009	VI	Lowlands
Banke National Park	550	2010	II	Lowlands
Gaurishankar Conservation Area	2179	2010	VI	Midhill and high mountains
Apinampa Conservation Area	1903	2010	VI	High mountains

Source: [DNPWC 2011a](#)

Appendix 2 Major legislative changes in protected area (PA) management and development in Nepal

Year	Legislation	Legislative changes	PA management approach	Conservation output	Effect
1973	National Parks and Wildlife Conservation Act (NPWCA), 1973	Park declaration and ban on resource use	Fine and fence-Pristine nature	Improved ecosystems/depleted wildlife numbers increased	Livelihood deterioration, Human-wildlife conflict (HWC) ^{1,2}
1976	Highland National Parks Regulation, 1976	Grazing, firewood and timber collection allowed in highland PAs	Participation of locals in conservation	Sustainable use of natural resources	Support of local people in conservation ²
1979	1 st amendment of NPWCA, 1973	Thatch and reed collection permitted in lowland PAs	Participation of locals in conservation	Restored ecosystems	Support in livelihood, HWC continue to increase ³
1989	3 rd amendment of NPWCA, 1973	Peoples' involvement in planning PAs' activities	Integrated conservation and development	Sustainable use of natural resources	Ownership feeling among local people ⁴
1993	4 th amendment of NPWCA, 1973	PAs' revenue sharing	People-centred approach	Local development and conflict mitigation	Positive attitude of locals to PAs ⁵
1996	Buffer Zone Management Regulation, 1996	Forest managed by local community	People-centred approach	Extended habitat in buffer zone forest	Forest resources needs of locals fulfilled ⁵
2003	PA management working procedure	NGO/CBO managed PA	Integrated conservation and development	Sustainable use of natural resources	Effective management ⁶

1 Seeland 2000; 2 Kollmair et al. 2003; 3 Sharma 1990; 4 Heinin & Mehta 1999; 5 Paudel et al. 2007; 6 DNPWC 2011b

Appendix 3 Major challenges in protected area management in Nepal throughout different decades

	Major Challenges	1970s	1980s	1990s	2000s	2010s
Conflicts	Land use conflict	High	High	Medium	Low	High
	Conflict with local community	High	High	Medium	Medium	Low
	Human wildlife conflict	Low	Medium	High	High	Medium
Over Exploitation	Poaching of wildlife and smuggling of herbs and timber	Low	Medium	High	High	Medium
	Exploitation of minerals	Low	Low	Medium	High	High
Management of Disturbances	Illegal grazing	High	High	Medium	Low	Low
	Invasive species	Low	Low	Medium	Medium	High
	Fire	Low	Low	Medium	Medium	High
Tourism and Development	Development pressure	Low	Low	Medium	High	High
	Tourism pressure and garbage management	Low	Low	Medium	Medium	High
Resourcing	Lack of human resources	Low	Low	Medium	High	Low
	Outdated policies	High	High	Medium	Medium	Medium
	Lack of sustainable funding	Medium	Low	Medium	High	High

Appendix 4 Organizational structure of National Wildlife Crime Control Coordination Committee

Organizational structure	Role
Minster of Forests and Soil Conservation	Chair
Secretary of Ministry of Home Affairs	Member
Secretary of Ministry of Defense	Member
Secretary of Ministry of Finance	Member
Secretary of Ministry of Law and Justice	Member
Secretary of Ministry of Forests and Soil Conservation	Member
Chief, Nepal Army	Member
Chief, Nepal Police	Member
Chief, Armed Police Force	Member
Chief, Central Investigation Bureau	Member
Director General, DNPWC	Member Secretary

Source: [Acharya and Kandel 2012](#)

Appendix 5 A list of major achievements in protected area management in Nepal

- Biodiversity conservation of the country improved nationwide biodiversity conservation outcomes
- Improvement and enrichment of habitats
- Restoration of depleted wildlife populations
- Increased tolerance to human-wildlife conflict and prevention and mitigation of human-wildlife conflict
- Improvements in relationships between parks and local people living in communities adjacent to protected areas
- Institutionalized community-buffer zone user groups
- Increased participation of local people in conservation, largely through community forest management in buffer zone and conservation areas
- Community based anti- poaching groups and reduced level of poaching of major wildlife species-zero poaching years for rhino
- Sensitized local community-aware about nature conservation through conservation education Increased awareness of nature conservation among local people living in communities adjacent to protected areas
- Sustainable development programs in communities adjacent to protected areas to improve living conditions and reduce reliance on park resources (eg. Improved access to drinking water, improvement of roads improvement, maintenance of schools and bridges, establishment of health centres, introduction of hydro- and solar-powered electrification)
- Sustainable development programs in communities adjacent to protected areas to provide alternative livelihoods and reduce hunting (e.g. Skills development training including basic household electrical maintenance, maintenance of solar power systems, improved agriculture, tailoring)
- Improved international collaboration and regional cooperation (eg. Transboundary meetings between Nepal/India and Nepal/China, establishment of South Asia Wildlife Enforcement Network (SAWEN), Wildlife Crime Control Coordination Committees at central and local levels