

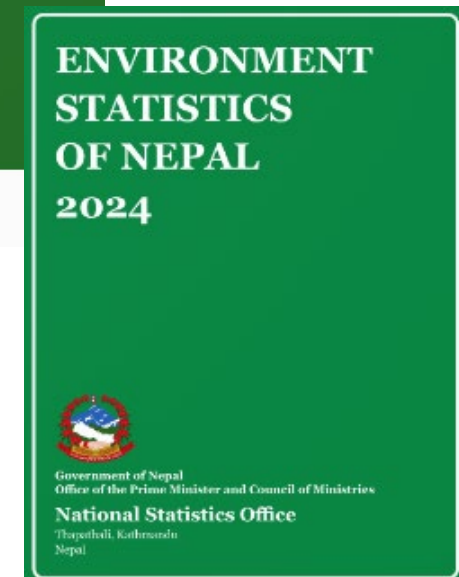
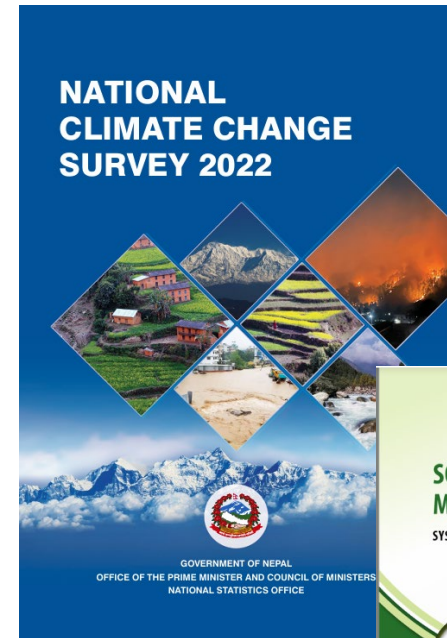


SEEA ACCOUNTING(CURRENT STATUS AND PLANS FROM NEPAL)

8-11th September, 2025
Jakarta, indonesia

OUTLINES

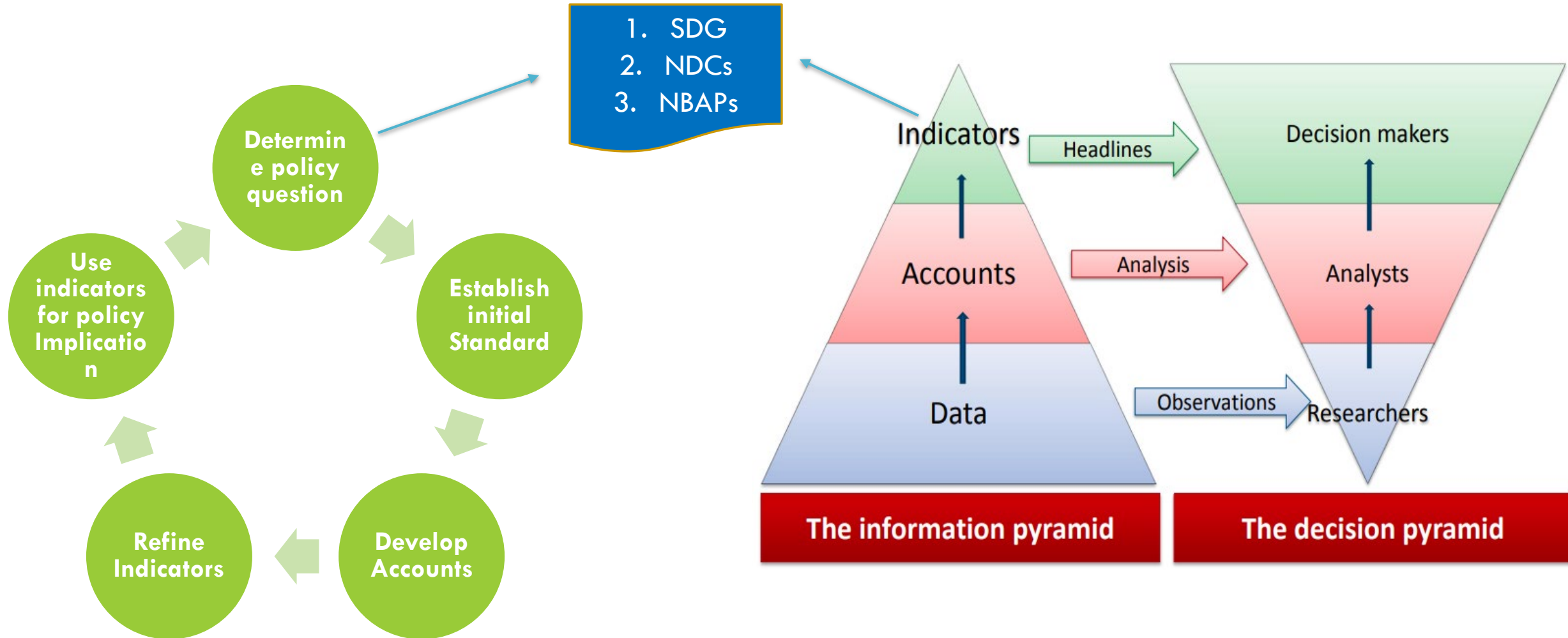
1. Environment related products in Nepal
2. Importance of Accounts(SEEA)
3. Frameworks, guidelines and Manuals
4. National Land cover data(Current status, change matrix)
5. Data sources and Stakeholders in relation to SEEA
6. Biodiversity Action/Strategic plans
7. Status of Biodiversity



ENVIRONMENT RELATED PRODUCTS IN NEPAL

S.N	Survey/Census/Reports	Recent Publication	Remarks
1	National Climate change survey	2022(II)	2016(I)
2	Climate change related indicators of Nepal	2023	Compilation from administrative sources
3	Environment Statistics of Nepal	2024(III)	2013(1) , 2019(II)
4	Compendium of Environment Statistics	2015(III)	1994(1), 1998(11)
5	Enhancing disaster related Statistics In Nepal	2024	Plan: SEEA Forest Accounts(Resource based and Ecosystem based)
6	Solid Management Baseline survey of Nepal	2020	
7	Solid waste account for urban and municipality	2022	

IMPORTANCE OF COMPILING ACCOUNTS.



GUIDELINES AND FRAMEWORK

Account	Methodology
Asset accounts for forest and other wooded land	<u>System of Environmental-Economic Accounting – Central Framework (SEEA CF)</u> <u>System of Environmental-Economic Accounting for Agriculture, Forestry and Fisheries (SEEA AFF)</u>
Asset accounts for timber resources	<u>System of Environmental-Economic Accounting – Central Framework (SEEA CF)</u> <u>System of Environmental-Economic Accounting for Agriculture, Forestry and Fisheries (SEEA AFF)</u>
Flow accounts for timber resources	<u>System of Environmental-Economic Accounting for Agriculture, Forestry and Fisheries (SEEA AFF)</u>
Ecosystem accounts	<u>System of Environmental-Economic Accounting – Ecosystem Accounting (SEEA EA)</u>

FOREST ACCOUNTS



1. SEEA CF

- Forest Accounts in the Resource based Approach



2. SEEA EA

- Forest Accounts in the Ecosystem based Approach

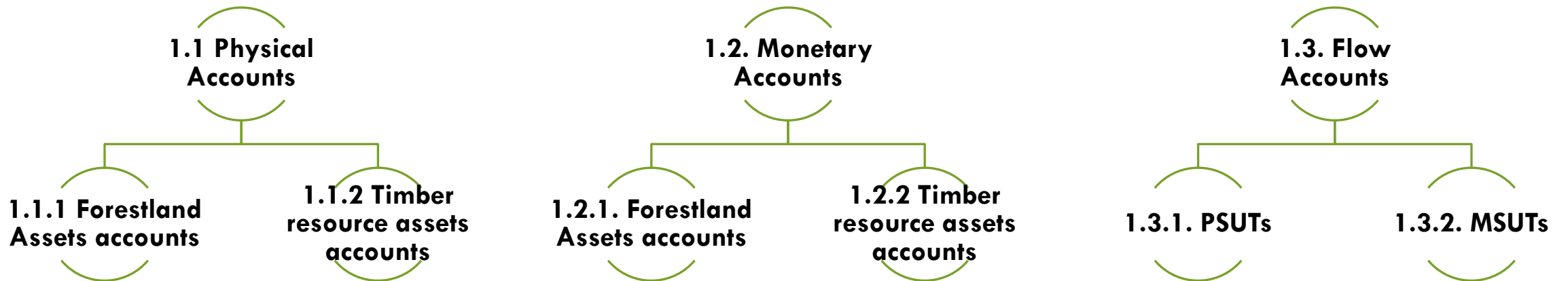
both start from
measurement of the
forest area

both assess forests
following an
accounting logic

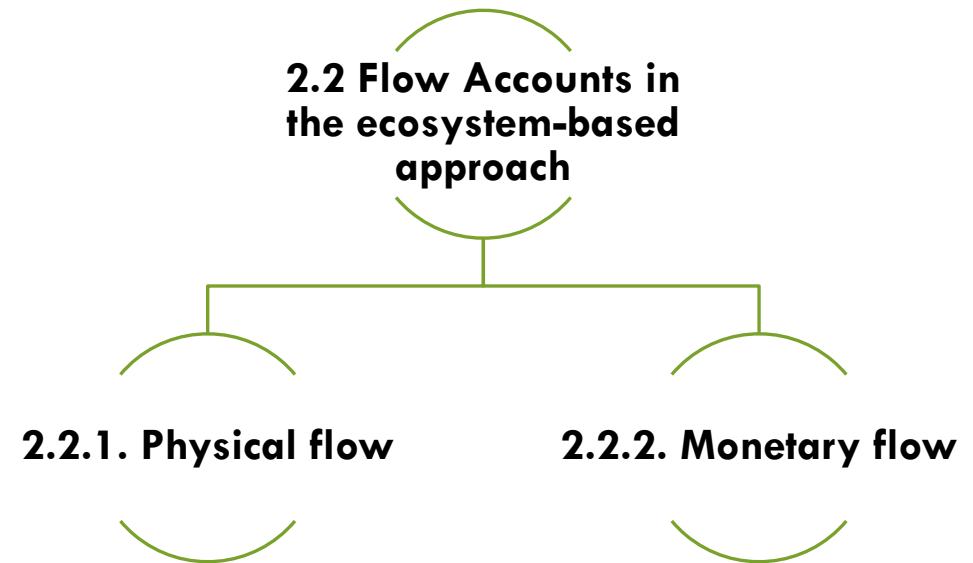
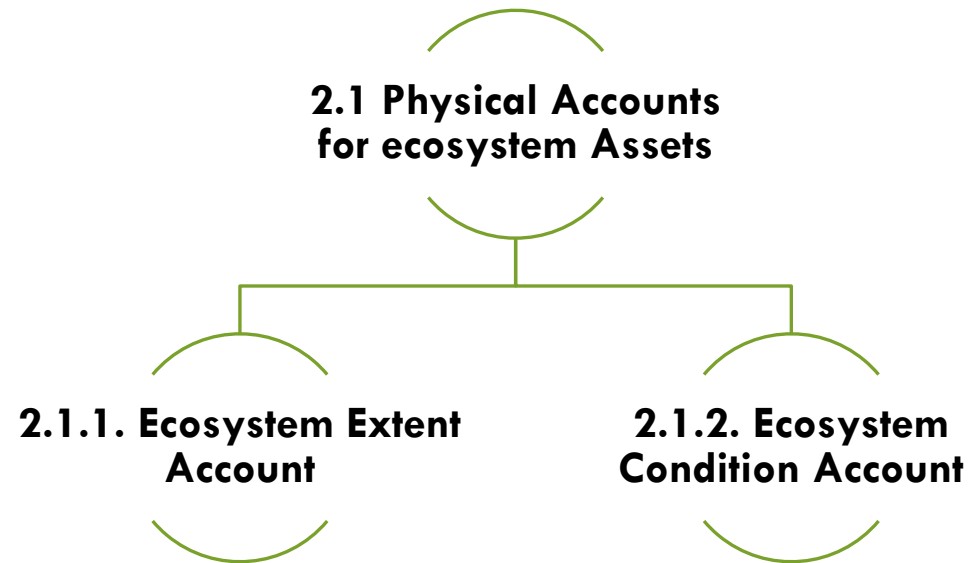
ecosystem-based
accounting focuses on
forest ecosystems in
terms of spatial areas,

resource-based
approach focuses on
individual components
such as timber.

1. FOREST ACCOUNTS IN THE RESOURCE BASED APPROACH



2. FOREST ACCOUNTS IN THE ECOSYSTEM BASED APPROACH





NATIONAL LAND COVER DATA

Land cover	2000*		2019*		2020		2021		2022	
	Area(Ha)	%	Area (Ha)	%	Area (Ha)	%	Area(Ha)	%	Area (Ha)	%
Water body	66,087	0.45	71,834	0.49	52,463	0.36	53,347	0.36	60,237	0.41
Glacier	449,371	3.05	448,781	3.04	449,661	3.05	449,866	3.05	450,719	3.06
Snow	568,913	3.86	919,353	6.23	928,750	6.30	770,851	5.23	577,212	3.91
Forest	5,901,759	40.01	6,152,806	41.71	6,389,684	43.32	6,392,957	43.34	6,399,341	43.38
River bed	170,907	1.16	163,989	1.11	54,467	0.37	51,684	0.35	114,024	0.77
Built up	25,395	0.17	78,153	0.53	103,051	0.70	143,275	0.97	475,877	3.23
Crop land	3,900,458	26.44	3,590,492	24.34	3,520,366	23.86	3,425,536	23.22	3,332,566	22.59
Bare soil	151	0.001	4,010	0.03	986	0.01	1,073	0.01	1,885	0.01
Bare rock	1,083,416	7.34	830,695	5.63	892,301	6.05	1,042,250	7.07	772,360	5.24
Grassland	2,058,860	13.96	1,957,465	13.27	1,922,592	13.03	1,964,729	13.32	2,169,462	14.71
Other wooded land	526,281	3.57	534,022	3.62	437,278	2.96	456,034	3.09	397,916	2.70
Total	14,751,600		14,751,600		14,751,600		14,751,600		14,751,600	

NATIONAL LAND COVER DATA

Physiographic region-wise land cover statistics for the year 2019 (Area in Ha)

land cover	Terai	Chure	Middle Mountain	High Mountain	High Himal	Total
Water body	23,483	14,068	17,596	4,844	11,842	7,1834
Glacier	0	0	0	114	448,666	448,780
Snow	0	0	2	13,758	905,594	919,354
Forest	379,785	1,337,749	2,607,612	1,702,044	125,618	6,152,808
River bed	86,241	58,946	15,127	806	2,870	163,989
Buil-tup	24,491	9,545	28,279	6,050	9,788	78,153
Crop land	1,437,146	344,123	1,353,007	452,970	3,242	3,590,488
Bare soil	109	31	9	23	3,839	4,010
Bare rock	0	1	45	12,878	817,772	830,696
Grassland	45,243	88,112	113,337	540,220	1,170,555	1,957,466
Other wooded land	16,797	37,716	155,205	264,593	59,711	534,022
Total	2,013,295	189,0291	4,290,219	2,998,298	3,559,497	14,751,600

LAND COVER CHANGE(2019-2022)

Land Cover	2019 (%)*	2022 (%)	Changes (%)
Water body	0.49	0.41	-0.08
Glacier	3.04	3.06	+0.02
Snow	6.23	3.91	-2.32
Forest	41.71	43.38	+1.67
River bed	1.11	0.77	-0.34
Built-up	0.53	3.23	+2.70
Crop land	24.34	22.59	-1.75
Bare soil	0.03	0.01	-0.02
Bare rock	5.63	5.24	-0.39
Grassland	13.27	14.71	+1.44
Other wooded land	3.62	2.70	-0.92

LAND COVER CHANGE MATRIX

2019 (ha)	2022 (ha)												Total
	Land cover	Water body	Glacier	Snow	Forest	River bed	Built-up	Cropland	Bare soil	Bare rock	Grassland	OWL	
	Water body	45,665	1	44	604	7,742	452	4,063	333	89	12,749	83	71,825
	Glacier	2	448,464	98	0	0	1	0	0	70	130	0	448,765
	Snow	1,021	174,1	382,359	472	247	603	1,917	33	209,937	320,493	549	919,372
	Forest	657	0	5	5,764,789	179	39,016	131,657	0	1	107,303	10,9197	6,152,803
	River bed	7,997	0	22	2,811	63,053	2,181	56,439	189	13	30,411	871	163,986
	Built-up	403	0	282	39	2,389	74,128	356	2	55	499	2	78,155
	Crop land	2,991	0	0	338,791	7,162	34,6869	2,851,255	14	0	21,229	22,187	3,590,498
	Bare soil	29	0	54	5	228	14	74	770	298	2,533	5	4,011
	Bare rock	175	114	138,865	266	4,629	999	7,147	165	399,825	278,123	388	830,694
	Grassland	1,226	383	55,459	94,335	28,375	9,426	247,084	379	162,048	1,314,069	44,685	1,957,468
	OWL	68	0	37	197,231	23	2,191	32,578	0	28	81,916	219,950	534,023
	Total	60,233	45,0703	577,225	6,399,344	114,027	475,878	3,332,570	1,886	772,363	2,169,454	397,917	14,751,600

DATA SOURCES AND STAKEHOLDERS(ADMINISTRATIVE SOURCES)

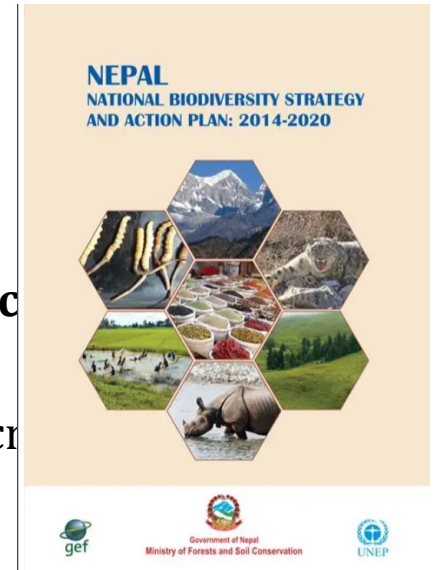
Source / Program	Key Variables / Descriptions	Years Available	Access / Notes
National Land Cover Monitoring System (NLCMS)	Land cover types (forest, agriculture, urban, wetland), change detection, forest area by municipality	2000, 2010, 2015, 2019–2022	nlcms.dfrs.gov.np – GeoTIFF/Shapefiles
Forest Research and Training Centre (FRTC)	Tree DBH, height, biomass, soil properties, forest carbon, biodiversity, silviculture trials, training data	~2000–present (varies by project)	frtc.gov.np – Research reports & datasets on request
National Forest Inventory (NFI)	Tree species, biomass, carbon, forest type, canopy cover, deadwood, regeneration data	1998–2001, 2010, 2019 (ongoing....)	Published summaries; full data via MOFE/FRTC
ICIMOD Land Cover Maps	Land cover classification, elevation, slope, transboundary ecosystems	1990, 2000, 2010, 2020	geoportal.icimod.org – Free download
Forest Cover by Local Level	Forest area, canopy cover, density by municipality	2010, 2015, 2019, 2022	Summaries via NLCMS or DFRS reports
Forest Resource Assessment (FRA)	Timber volume, fuelwood, NTFPs, regeneration, site quality	FRA 2010 (national); sub-national updates	PDF reports; some spatial data by request
REDD+ Related Household Surveys	Forest dependency, income, product use, energy, rights/access, demographics	2009, 2014, 2020	Project-specific datasets (REDD IC, MOFE)
Agroforestry Research (FRTC & partners)	Tree-crop combinations, productivity, income, soil fertility, land use	2012–present (varied by trial)	Reports via FRTC, some field-level data
Climate & Hydrology (linked to forest)	Rainfall, temperature, evapotranspiration, watershed status	~2000–present	MoFE, DHM, and selected ICIMOD datasets
Community Forest Monitoring (CFUGs)	Species planted, harvest records, income generation, forest area changes	Since 1990s (CFOPs updated ~every 5 years)	Local records via DFOs or user group federations

DATA SOURCES AND STAKEHOLDERS(CENSUS, SURVEYS AND STUDIES)

Activities	Source	Census/Surveys/Study/Reports	Remarks
Saw Mills and Furniture	REDD+ implementation Center, NSO	NIS 2019, NEC 2075	Updated frame available from REDD+ Implementation center, 2024, Already Collected
Paper and pulp	NSO	NIS 2019, NEC 2075	Information Available from the Census and Surveys, Need to review them
Household information on the use of forest products (fodder, timber etc.)	NSO	NSO (NLSS-IV Questionnaire and Extended Questionnaire based on NLSS IV)	Ask for the results and micro data(if possible) #WB #SurveySection
Area of private forest(Reference)	NSO	Agriculture Census2078 (3.6/7)	See the result
Community forest users' group	NSO	Questionnaire and Manual	1. Listing collection is done from Community forest users' group 2. Need to verify with the list collected from NSO

NATIONAL BIODIVERSITY STRATEGY AND ACTION PLAN (NBSAP) 2014–2020

- Strengthen **protected area systems and extend conservation outside PAs.**
- **Promote community-based forest management and sustainable rangeland practices.**
- **Conserve wetlands and water resources, including Ramsar sites.**
- **Safeguard agrobiodiversity** through gene banks, climate-smart farming, and local crop diversity conservation.
- **Enhance ecosystem resilience to climate change**
- **Manage invasive alien species** via monitoring, mapping, and awareness programs.
- **Protect endangered species** with targeted conservation action plans.
- Mainstream biodiversity into national policies, sectors, and local development.
- Empower local communities, especially indigenous groups, women, and marginalized groups.
- **Develop financing mechanisms through ecotourism, biodiversity funds, and international partnerships. ETC.**

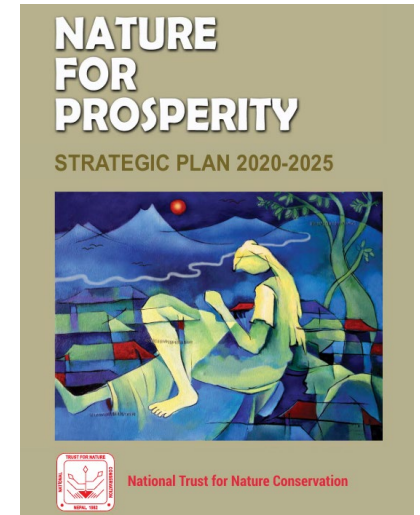


NBSAP ACHIEVEMENTS (2014–2020)

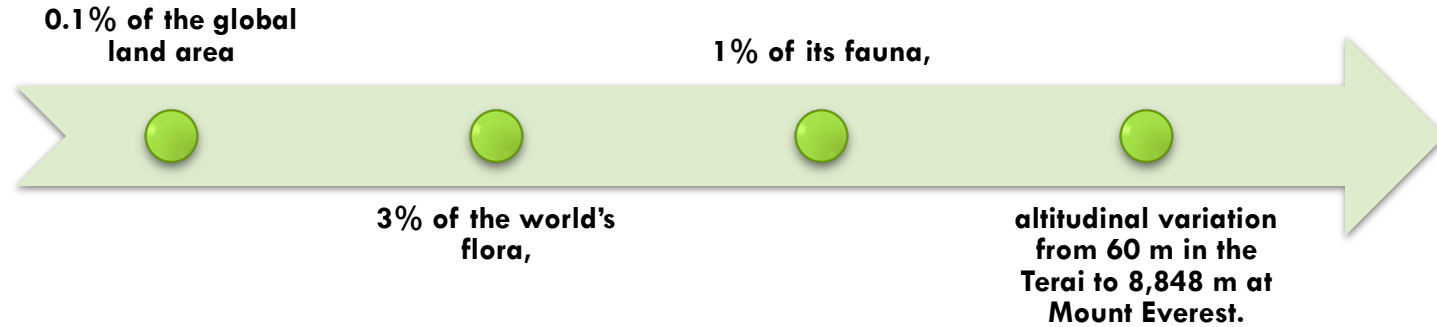
Area	Key Highlights
Institutional & Policy	Biodiversity Coordination Committee activated;
Protected Areas & Wildlife	20 protected areas (~23% coverage); buffer zones with ~700,000 locals; rhino zero-poaching years; tiger doubling goal achieved.
Forests & Community	1.7M ha under 18,000+ community forest groups; 535,000 ha handed to locals; 81,500 ha under scientific forest management.
Agrobiodiversity	Community-based conservation in 21 districts; gene bank linked with research centers.
Wetlands & Ramsar	Pokhara lake cluster designated Ramsar site; Ramsar strategy 2018–2024 drafted.
Community Engagement & Tech	400+ Community Anti-Poaching Units; SMART patrols, GIS, drones adopted.
Tourism & Financing	Tourism revenue grew >360%; PES and REDD+ pilots initiated.
Challenges	IAS control, wetland expansion, pollution reduction, and mainstreaming biodiversity lagged.

NTNC STRATEGIC PLAN (2020–2025)

- Enhance conservation and management of protected areas, landscapes, and wildlife.
- Promote climate-resilient conservation and ecosystem-based adaptation.
- Strengthen sustainable livelihoods, ecotourism, and community benefits from conservation.
- Build strong partnerships with government, donors, civil society, and communities.
- Leverage science, technology, and innovation for conservation monitoring and decision-making.
- Improve institutional governance, accountability, and capacity of NTNC.
- Mobilize sustainable financing mechanisms to support conservation initiatives.



BIODIVERSITY STATUS



Fauna (Animal Diversity)

- Total fauna species: ~12,000.
- Mammals: 208 species (e.g., Bengal tiger, one-horned rhinoceros, snow leopard, red panda, wild elephant).
- Birds: 886 species, making Nepal a global birdwatching destination.
- Reptiles & Amphibians: Over 200 species combined.
- Fish: ~230 species in rivers, lakes, and wetlands.
- Several globally endangered species conserved in Nepal (e.g., rhino, gharial, vultures).

Flora (Plant Diversity)

- Total recorded plant species: ~11,971.
- Flowering plants: ~6,973 species.
- Habitat ranges: tropical forests, subtropical woodlands, temperate oak and rhododendron forests, alpine meadows.
- Notable species: Rhododendron arboreum (national flower), Yarsagumba (Ophiocordyceps sinensis), Sal (Shorea robusta).

BIODIVERSITY STATUS

Category	Highlights
Flora	11,971 species; 6,973 flowering plants; rhododendron, yarsagumba, sal forests.
Mammals	208 species; tiger, rhino, snow leopard, red panda, elephant.
Birds	886 species
Reptiles & Amphibians	200+ species.
Fish	230 species in freshwater ecosystems.
Protected Areas	20 areas covering ~23% of Nepal's land.

TABULATION PLANS FOR SEEA-EA

A. Extent table								
Year	Extent (area)	Type of forest ecosystem unit						
		Protected forest	Government managed forest	Community forest	Leasehold forest	Religious forest	Collaborative forest	Private forest

B. Condition and extent table						
Type of FEU	Extent*	Characteristics of forest ecosystem conditions				
	(area)	Vegetation	Biodiversity	Soil quality (Organic matter)	Water quality	Others
Protected forest						
Government managed forest						
Community forest						
Leasehold forest						
Religious forest						
Collaborative forest						
Private forest						

TABULATION PLANS FOR SEEA-EA

B.1 Determination of indicators for vegetation						
Type of FEU	Characteristics of vegetation in the forests					
	Canopy cover (%)	Biomass (tons/ha)	Basal area (m ² /ha)	Density (No./ha)	Carbon (tons)	Others
Protected forest						
Government managed forest						
Community forest						
Leasehold forest						
Religious forest						
Collaborative forest						
Private forest						

B.2 Determination of indicators for biodiversity						
Type of FEU	Characteristics of biodiversity in the forests					
	Vegetation richness (No.)	Protected species (No.)	Vegetation diversity (index value)	Mammalian richness (No.)	Other faunal species (No.)	Others
Protected forest						
Government managed forest						
Community forest						
Leasehold forest						
Religious forest						
Collaborative forest						
Private forest						

TABULATION PLANS FOR SEEA-EA

C. Service/use tables								
C.1 Provisioning services								
Services	Unit/year							Monitory value (NRs)
	Protected forest	Government managed forest	Community forest	Leasehold forest	Religious forest	Collaborative forest	Private forest	
Fuelwood								
Fodder								
Litter								
Timber-wood (wood products) (tons/year)								
NTFPs (including honey, bamboo and resins)								
Vegetables and fruits (including nuts)								
Livestock grazing								
Pulpwood (if relevant)								
Others (specify)								

C.2 Regulating, supporting and cultural services								
Services	Unit/year							Monitory value (NRs)
	Protected forest	Government managed forest	Community forest	Leasehold forest	Religious forest	Collaborative forest	Private forest	
Carbon storage (stock)								
Soil (quality) protection and processes								
Water purification and regulation								
Biodiversity and habitat protection								
Local climate regulation								
Air purification								
Flood and storm control								
Pollination								
Recreation and tourism (no. of visitors)								
Others (specify)								

TABULATION PLANS FOR SEEA-EA

C.3 Additional extent (area) changes								
		Extent of forest ecosystem unit						
Change	Indicator	Protected forest	Government managed forest	Community forest	Leasehold forest	Religious forest	Collaborative forest	Private forest
Additions	Afforestation							
	Natural regeneration							
Reductions	Natural regression							
	Other losses							



Thank You

