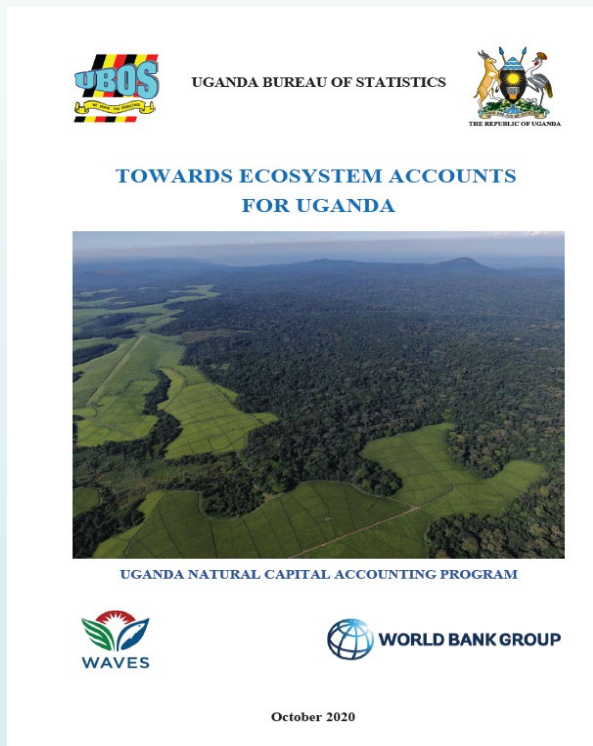




UGANDA BUREAU OF STATISTICS

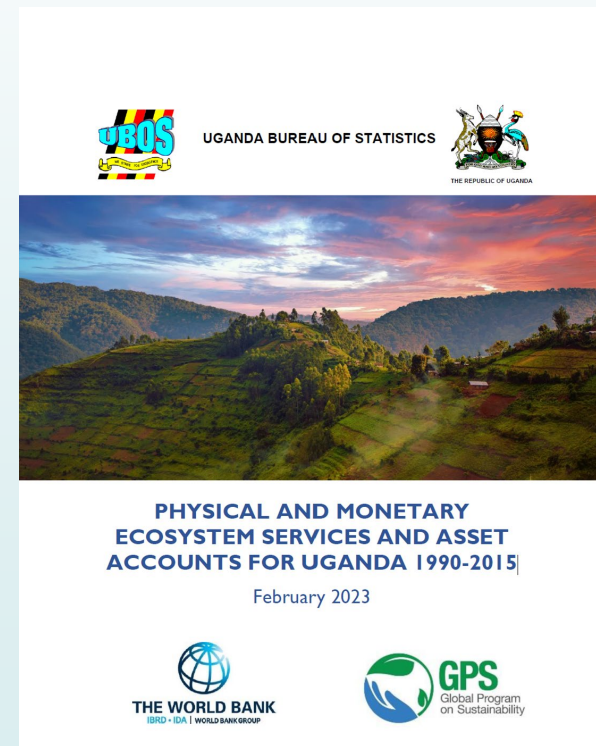


Ecosystem Accounting in Uganda



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Outline



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Institutional Arrangements



- The National Plan for Advancing Environmental Economic Accounting (NP-AEEA) was developed in 2018 as a tool for the implementation of the System of Environmental-Economic Accounting Central Framework (SEEA CF).
- NPAEEA adopted the flexible & modular approach, considering our priorities in relation to environ-econ policy issues in the National Development Plan 2 (NDPII), Vision 2040, the 23 presidential directives & level of statistical development.
- As part of the NPAEEA, steering committee and NCA TWG were created with
 - Uganda Bureau of Statistics, Ministry of Finance, Planning and Economic Development (MoFPED), National Planning Authority (NPA), National Forestry Authority (NFA), Ministry of Water and Environment (MWE), National Environment Management Authority (NEMA) and Uganda Wildlife Authority (UWA) as members.
- In 2020, Uganda began the task of creating ecosystem accounts, using data, modelling tools and capacity that are readily available.
- The primary objective was to assess whether ecosystem accounts could be developed for Uganda. UBOS, with the help of the World Bank WAVES program provided technical and financial support in developing *Uganda's Towards Ecosystem Accounting Report*.



Status of Ecosystem Accounting



- In 2022, Ecosystem Service and asset accounts were compiled for the period 1990 to 2015 with technical and financial support from the World Bank's Global Program on Sustainability (GPS) and technical support from Anchor Environmental Consultants (Pty) Ltd.
- Strong cooperation and stakeholder engagement especially the NCA TWG made the compilation possible as members who provided the data and assisted with their interpretation.
- The accounts are used to provide data to global and national indicators (SDG, NDPIV, NSI) and they have supported macroeconomic modelling of the impact of climate change, and this has been incorporated into the National Policy and Planning frameworks e.g the budget, Adjusted macroeconomic indicators.
- Future expansion of the accounts to include
 - Services such as pollination, flood attenuation, local recreation, experiential use of ecosystems, urban air temperature regulation, and air quality regulation
 - Contribution of the country's tropical high forests to regional climate regulation (particularly rainfall).



Key Results: Ecosystem Extent Accounts for Uganda



- Land Cover & Land Use Accounts were used to compile the extent accounts for the period between 1990 and 2015.
- Uganda's 13 land cover types are mapped to 10 ecosystem types.

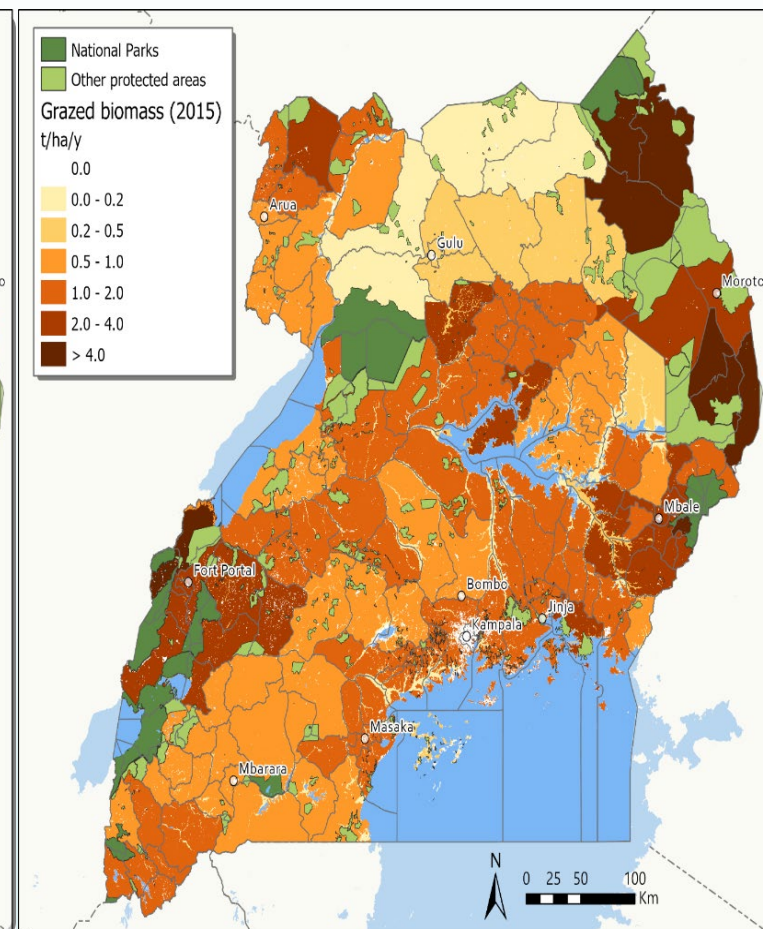
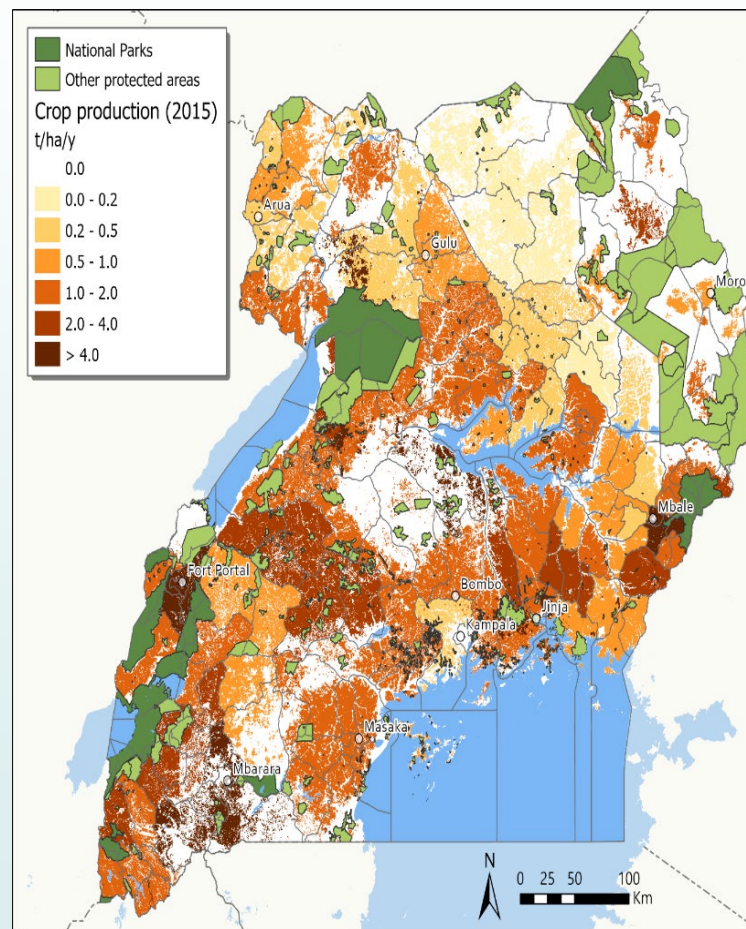
Land cover classes (13)	Ecosystem types (10)
Open water – Lakes, rivers, and ponds	Open water
Wetlands – wetland vegetation; swamp areas, papyrus, and other sedges	Wetland
Grassland – rangelands, pastureland, open savanna; may include scattered trees shrubs, scrubs, and thickets.	Grassland
Bushland - bush, thickets, scrub (average height < 4m)	Bushland
Woodland – trees and shrubs (average height > 4m)	Woodland
Tropical High Forest (THF) well stocked – tall multistorey trees, closed canopy cover	Natural forest*
Tropical High Forest (THF) low stocked – THF that has been depleted/encroached	
Coniferous Plantations and woodlots – planted coniferous trees.	Plantation forest*
Broad-leaved Plantations and woodlots – planted deciduous trees/broadleaves ("hardwood")	
Uniform commercial farmland – mono-cropped, non-seasonal farmland usually without any trees for example tea and sugar estates	Farmland
Subsistence farmland – mixed farmland, small holdings in use or recently used, with or without trees	
Built up area – Urban or rural built-up areas	Built-up area
Impediments (bare rocks and soils)	Bare



Key Results: Provisioning Service Accounts



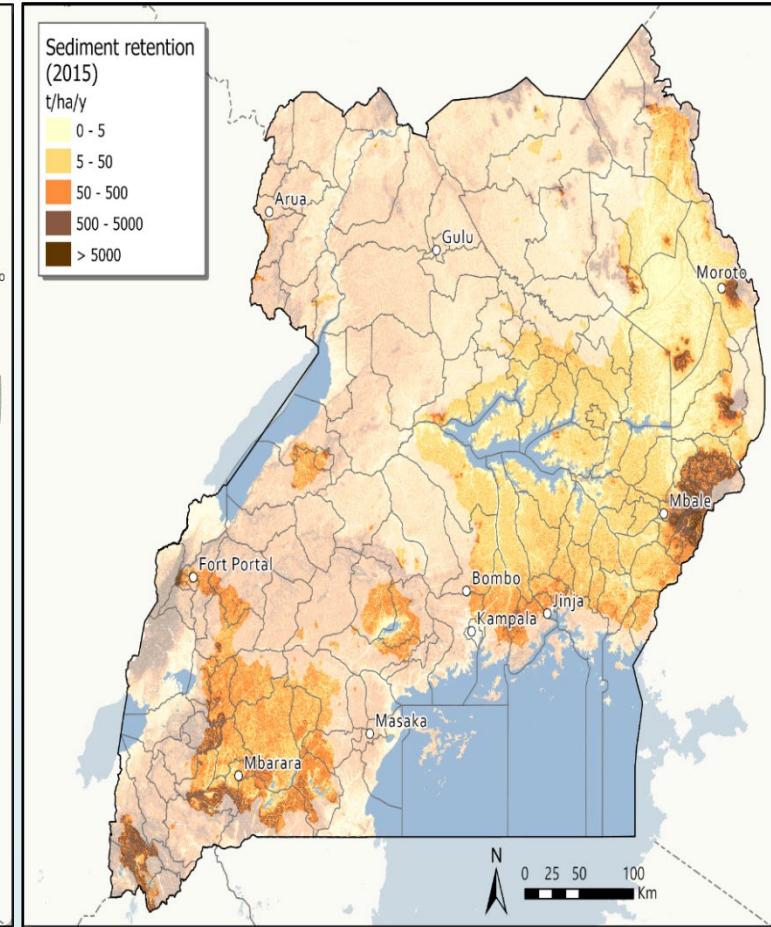
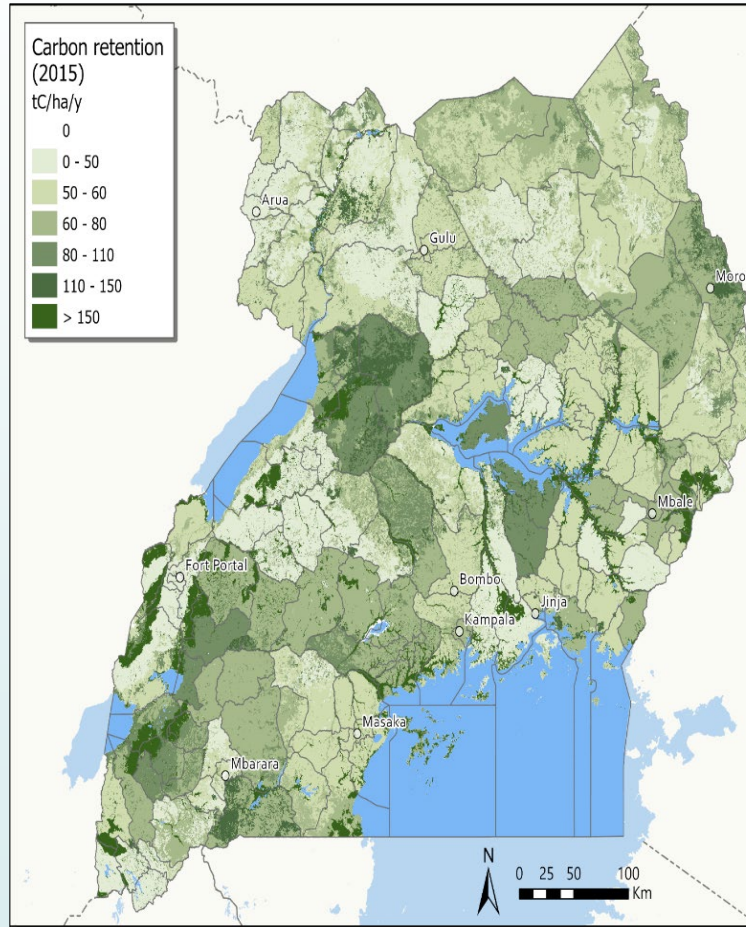
- The provisioning services are estimated include;
 - Crop, Grazed biomass, Wood, Wild fish, Other wild resources, Water supply.
- The Water supply provisioning service recorded the largest increase in provisioning services in physical units.
- While wood registered the highest increase in monetary terms.



Key Results: Regulatory Service Accounts



- The regulatory services included so far:
 - Water flow regulation, Sediment retention, Nutrient retention, Carbon retention
- Total carbon retention is estimated to have declined by 10.5% yet the value of the service increased due to an increase in the price of carbon.
- Mean sediment export across Uganda increased, reflecting the expansion of agriculture at the expense of less erosion-prone natural land cover classes.

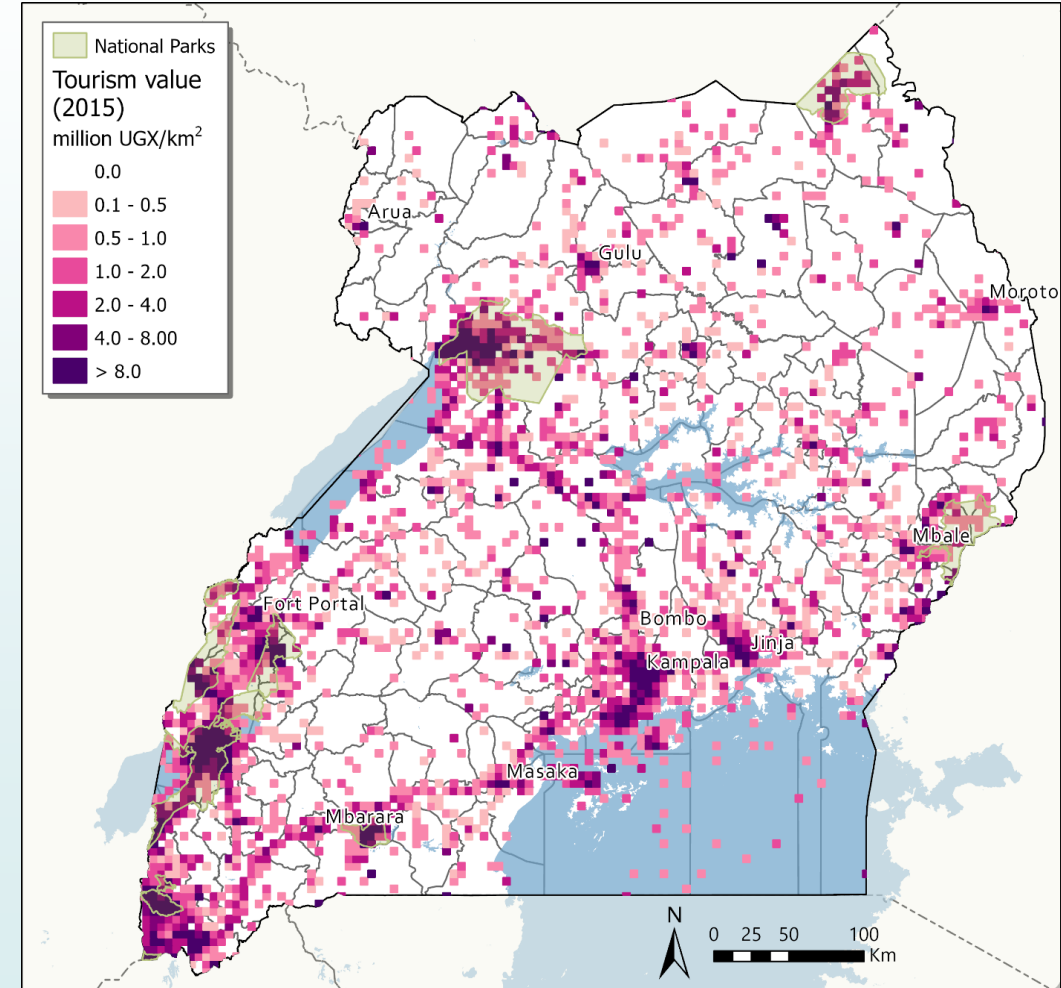




Key Results: Experiential Service Accounts



- The tourism value increased more than 60 times between 1990 and 2015 driven by significant increase in protected areas.
- The protected area estate's contribution to the country's total tourism increased from 19% in 2010 and 25% in 2015.
- The ecosystem contribution (resource rent) of PAs to tourism increased almost 50 times in the 25 years.





Key Results: Ecosystem Services Accounts



- In monetary terms, the value flows of all services increased.
- In physical terms, all services increased except carbon retention.
- All provisioning services at least doubled in value.
- The percentage increases in value for water flow regulation, sediment and nutrient retention services were the same as for physical flows, no real price changes.
- Tourism value had the highest increase.

	Physical			Monetary (UGX billions)		
	1990	2015	% increase	1990	2015	% increase
Crops (kt/y)	16 269	20 316	25%	4 240	7 829	85%
Grazed biomass (t/y)	9 069	26 760	195%	2 866	5 743	100%
Wood (kt/y)	15 315	38 760	153%	184	3 272	1683%
Wild fish (kt/y)	245	455	86%	0.1	0.6	503%
Other wild resources (kt/y)	352	388	10%	147	415	182%
Water supply (ML/y)	140 021	560 577	300%	85	338	300%
Water flow regulation (ML/y)	5 870	12 047	105%	5.7	12	105%
Sediment retention (million m ³ /y)	929	1 094	18%	4 212	4 959	18%
Nutrient retention (ktP/y)	3 366	3 504	4%	201	209	4%
Carbon retention (MtC)	2 171	1 943	-11%	4 840	9 064	87%
Tourism value (UGX millions/y)	3 530	215 923	6016%	3.5	216	6016%
Total value	-	-	-	16 783	32 057	91%



Challenges and lessons learned



Challenges

- Inadequate and outdated Data; the National Biomass Survey is over a decade old. Missing spatial data on agricultural production.
- The Human Capital Gap, critical shortage of technical expertise in SEEA EA methodology. High staff turnover drains institutional memory, creating a cycle of retraining.
- Institutional challenges; restructuring of key data providers (e.g., NFA, UNMA) disrupts established data pipelines, protocols, and reporting relationships.

Lessons learned

- Institutionalize Collaboration; Sustained collaboration through active technical working groups is essential, transforming data sharing from ad-hoc requests into reliable institutional partnerships.
- Mainstream to Ensure Continuity; Moving from project-dependent pilots to budgeted annual work plans is critical, ensuring accounts are maintained as core national products, not temporary studies.
- Build Core Technical Capacity; Investing in advanced GIS and modeling skills within the national statistics office creates an in-house foundation for data processing, analysis, and long-term sustainability.



If you can't measure it, you can't manage it"
by Peter Drucker

Thank you