



Uganda Natural Capital Accounting Program: An example of accounts development and integration into policy decision making



Pretoria, South Africa



Edward Ssenyonjo and Evelyn Atuhaire Regional Training workshop on the System of Environment Economic Accounting Experimental Ecosystem Accounts (SEEA EEA) for countries in A Africa Wednesday 30th October, 2019

WORLD BANK GROUP

Presentation Outline



Uganda at a glance



Context and rationale for NCA in Uganda





Institutional arrangements for NCA





Land physical asset account



#

Key policy messages

Lessons learnt





Uganda at a glance







ORLD BANK GROUP

Uganda at a glance

- Surface area 241,550.7 km²,
- Land area 197,066 sq.km,
- Forest cover 9.5%, Wetland cover 8.4%, Open fresh water cover 15.3%,
- Per capita GDP in real terms US\$ 825

- Population below the Poverty line 21.4%,
- Population size 40 million, Population growth rate 3.3% p.a.
- Average life expectancy 63.3 years,
- Literacy levels 74%



Context and Rationale for NCA in Uganda







Context and Rationale for NCA in Uganda

Uganda is a natural resource-based economy (GDP growth, income, employment, exports and foreign exchange earnings)

Depletion of renewable natural resources presents a constraint to sustainable growth and poverty reduction.

Forest loss (2.6% p.a.) among the highest globally



Wetland cover reduced and huge biodiversity losses against growing biodiversity demand

- Land degradation, soil fertility loss and fisheries declines are all major issues
- Total cost of **soil erosion** and **land degradation** estimated at 17% of GDP of which 11% is due to soil degradation (Olson et.al 2002)







Ø

Persistence and worsening vulnerability to climate change shocks

- Many aspects and values of natural capital are not reflected in markets, market prices and market-based decisions
- Growing GDP but declining natural capital base bringing to question the sustainability implications of the current economic growth "living off natural capital"

Prospects for economic growth will ultimately be linked to sound and sustainable management of the country's natural capital base





Uganda embraced sustainable development as central to national development by adopting sustainability principles in:

- The Constitution (1995),
- Vision 2040 and underlying National Development Plans;
- Green Growth Development Strategy
- National Biodiversity strategy and action plan
- Nationally Determined Contributions







NCA Policy Priorities in Uganda

- identify the real contribution of natural assets and the ecosystem services they provide to the national economy;
- identify and quantify who are the users of forest and wetland ecosystem services and how the benefits from these services are distributed among these competing demands;
- examine how other sectors in the economy affect the natural asset base;
- make reasonable estimations of the informal forest economy and its impact in forests and wetlands; and
- construct macroeconomic scenarios to guide investment decisions both in the forestry sector and other sectors.





NCA Initiatives in Uganda





Overview of previous NCA/SEEA initiatives in Uganda

Source

Source

In 2005, government undertook a study to assess the feasibility of introducing environmental sustainability into the national accounts (NA) through environmental accounting.

Uganda published the world's first species diversity accounts in March 2017. These 'species accounts' were developed for three non-timber forest products (Gum Arabic, Shea butter nuts, and Prunus africana) and two flagship mammals (Chimpanzees and Elephants) – all of which are both economically and culturally important



In November 2013, Uganda participated in the Expert Group Meeting 'Modelling Approaches and Tools for Testing of the SEEA Experimental Ecosystem Accounting at UN Headquarters'.

Uganda has been an associate member of the Gaborone Declaration for Sustainability in Africa (GDSA) since 2015. In 2017, Uganda expressed interest in becoming a full GDSA signatory member.





Overview of previous NCA/SEEA initiatives in Uganda

In March 2018, GoU agencies and supporting stakeholders (NPA, UBOS, WCS, Nature Uganda, Ministry of Works and Transport, Ministry of Tourism, Wildlife and Antiquities, Uganda National Chamber of Commerce and Industries, NEMA, NFA and several universities) met to take stock of NCA efforts and to seek feedback on establishment of the Uganda Natural Capital Forum to facilitate institutionalizing NCA.

This level of engagement and activity confirms that there is broad interest and support for further development and institutionalization of NCA, a base of knowledge and capacity to build upon, and a range partners to work with and share resources. The Uganda NCA Program is instrumental in galvanizing this momentum.



Source

In December 2017, UBOS presented a Draft National Plan for the Implementation of SEEA in a Conference in Nairobi organized by United Nations Statistics Division (UNSD).

MoWE undertook The an economic valuation of Uganda's forests and their contribution to of the economy, by means constructing pilot Forest Accounts through the System of Economic Environmental 2012 Accounting Central Framework (SEEA-CF) approach.





Implementation of NCA/SEEA in Uganda Building a coherent picture



Uganda Natural Capital Accounting program – WAVES Program Support

- The objective the Uganda Natural Capital Accounting (NCA) Program is to mainstream natural capital into development policy dialogue and planning in Uganda by integrating a set of accounts that will inform the National Development Plan (NDP3) and other national and sectoral policies.
- The initial **focus** in Uganda will be on *forests* and *wetlands*.
- The aim of the program is to increase understanding, among other things, on what is the real contribution of natural assets and ecosystem services to the economy and how the economy and its sectors affect this natural asset base.





14

Uganda Natural Capital Accounting program – WAVES Program Support

2. Studies and 3. Institutional activities to engagement, **Expected Outputs** development capacity building enhance accounts and policy dialogue development **Technical training** The program has three main Woodfuels Land accounts for each component assessment i.e SEEA Training components, namely:-Assessment of Forest ecosystem **Exchanges** resource services at accounts Accounts development watershed level (Albertine Rift) Studies and activities to enhance accounts Forest and **Awareness** wetland raising and Macroeconomic development ecosystem communication indicators s activities accounts Institutional engagement, capacity _ Coordination -**National SEEA** building and policy dialogue TWG meetings, Tourism Compendium public events assessment



Institutional arrangements for NCA





The program builds on existing structures and work activities organized around two key elements

- The institutional arrangements, including the Steering Committee, the Technical working group, and other aspects
- The support activities of coordination, communications and technical support







Program policy oversight is led by the National Steering Committee while implementation is led by the Technical working Group comprised of



Ministry of Finance, Planning and Economic Development (MOFPED) and the National Planning Authority (NPA) as the chairs



Uganda Bureau of Statistics (UBOS), the co-chair and ensuring technical oversight



Ministry of Water and Environment (MWE) as the chair of the National Steering Committee







Program policy oversight is led by the National Steering Committee while implementation is led by the Technical working Group comprised of



Ministry of Finance, Planning and Economic Development (MOFPED) and the National Planning Authority (NPA) as the chairs



Uganda Bureau of Statistics (UBOS), the co-chair and ensuring technical oversight



Ministry of Water and Environment (MWE) as the chair of the National Steering Committee









Ministry of Finance, Planning and Economic Development (MOFPED) and the National Planning Authority (NPA) as the chairs Program policy oversight is led by the National Steering Committee while implementation is led by the Technical working Group comprised of



Uganda Bureau of Statistics (UBOS), the co-chair and ensuring technical oversight Ministry of Water and Environment (MWE) as the chair of the National Steering Committee









Ministry of Finance, Planning and Economic Development (MOFPED) and the National Planning Authority (NPA) as the chairs Program policy oversight is led by the National Steering Committee while implementation is led by the Technical working Group comprised of



Uganda Bureau of Statistics (UBOS), the co-chair and ensuring technical oversight



Ministry of Water and Environment (MWE) as the chair of the National Steering Committee







NCA implementation progress

BUSINESS

Moving Beyond GDP: Uganda Launches Natural Capital Accounting Program

By Benjamen Emuk Posted on October 24, 2018







Progress of WAVES supported activities

- Land (physical asset) account developed launch on 22nd November, 2019
- Supportive studies on the (i) woodfuels assessment, (ii) Ajusted Macroeconomic indicators and (ii) issue paper on NCA and the National Development Plan (NDP III) completed
- National Plan for Advancing Environmental Economic Accounting updated – launch planned during NatCap week in November 2019 (hosted in Uganda)





Progress of WAVES supported activities

- Continuous capacity building (specific trainings and learning by doing), local capacity is emerging in Government agencies and the academia
- Exposure to NCA international best practices
- Communications strategy developed and being implemented





Land (physical asset) account





Land Physical Asset Account – First SEEA accounts developed under the NCA - WAVES program

- The Initial Uganda Land Accounts seek to contribute to the goals of Uganda's National Land Policy to help ensure an efficient, effective and optimal utilization and management of Uganda's land resources for poverty reduction, wealth creation and overall socioeconomic development.
- Basic building block of natural capital accounts and underpin the creation of forest accounts, ecosystem accounts
- Land is a critical factor for economic production and is an essential pillar of human existence and sustainable national development





NATIONAL LAND PHYSICAL ASSET ACCOUNT FOR UGANDA 1990-2015: TECHNICAL REPORT



Uganda Natural Capital Accounting Program



September 2019





Land Physical Asset Account – Methodology

Data Assessment and Stakeholder mapping

Data collation from stakeholders Design of the flow of results "wish list" based on the available data

Data validation

Compilation of accounts tables

Analysis (stock, change and trend) and construction of the accounts





Land Physical Asset Account – report summary

Technical report completed - shows the land cover/land use changes over a 25 year timeline between 1990 and 2015.

- The accounts presentation was disaggregated at :-
 - National level land cover/land use,
 - Four regions (central, east, north and west),
 - 11 sub-regions of Acholi, Central North, Central South, East Central, Elgon, Karamoja, Lango, Southwest, Teso, West Nile and Western, and
 - 112 Districts in Uganda, based on district boundaries as at July 1, 2010.

At sub-national level, the results were further disaggregated into:-

- forest ecological landscapes,
- water management zones (WMZ), agro-ecological zones,
- climate zones.





National land cover stocks	Broad leaved plantat ion	Conife rous plantat Titepic	al high forest well stocke Tr e pic	al high forest low stocke d	Woodl and	Bushla nd	Grassla nd	Wetlar d	Small scale farmla nd	Comm ercial farmla nd	Build up area	Open water	Impedi ments
Opening stock 1990	18,682	16,384	651,111	273,062	3,974,523	1,422,263	5,115,477	484,031	8,401,602	68,447	36,572	3,689,603	3,741
Additions	8,059	3,787	186,030	158,163	1,111,145	3,324,510	1,170,999	493,471	1,953,081	59,297	13,213	57,882	1,799
Reductions	16,896	8,673	133,210	204,673	2,250,920	738,857	3,492,509	138,960	1,438,574	24,417	23,469	66,593	3,683
Net reductions	8,838	4,886	(52,820)	46,511	1,139,775	(2,585,652)	2,321,510	(354,512)	(514,506)	(34,881)	10,256	8,710	1,884
Closing stock 2000	9,845	11,498	703,930	226,551	2,834,747	4,007,916	2,793,967	838,542	8,916,109	103,327	26,315	3,680,892	1,857
Opening stock 2000	9,845	11,498	703,930	226,551	2,834,747	4,007,916	2,793,967	838,542	8,916,109	103,327	26,315	3,680,892	1,857
Additions	13,107	11,489	68,654	124,979	1,319,547	1,534,777	2,538,925	217,502	1,525,134	45,672	78,141	62,147	7,541
Reductions	8,166	4,246	171,626	159,835	1,376,233	2,573,989	1,269,274	303,002	1,593,548	42,369	7,186	36,550	1,594
Net reductions	(4,941)	(7,243)	102,972	34,857	56,686	1,039,212	(1,269,652)	85,500	68,414	(3,303)	(70,956)	(25,598)	(5,947)
Closing stock 2005	14,786	18,741	600,959	191,694	2,778,062	2,968,704	4,063,619	753,042	8,847,695	106,630	97,271	3,706,490	7,804
Opening stock 2005	14,786	18,741	600,959	191,694	2,778,062	2,968,704	4,063,619	753,042	8,847,695	106,630	97,271	3,706,490	7,804
Additions	18,460	33,710	87,904	90,494	678,877	1,593,059	2,644,084	296,031	2,328,810	65,861	48,049	35,251	9,001
Reductions	12,251	8,708	123,911	161,432	2,008,061	2,189,972	1,639,403	238,623	1,404,221	37,576	46,870	52,373	6,191
Net reductions	(6,209)	(25,002)	36,008	70,938	1,329,184	596,913	(1,004,681)	(57,408)	(924,589)	(28,286)	(1,179)	17,121	(2,809)
Closing stock 2010	20,995	43,743	564,951	120,756	1,448,878	2,371,791	5,068,300	810,450	9,772,284	134,916	98,450	3,689,369	10,614
Opening stock 2010	20,995	43,743	564,951	120,756	1,448,878	2,371,791	5,068,300	810,450	9,772,284	134,916	98,450	3,689,369	10,614
Additions	34,128	27,538	37,951	59,186	441,480	1,094,221	1,566,083	161,431	1,782,267	153,258	70,790	72,621	4,962
Reductions	10,886	7,795	73,778	78,078	677,407	1,498,778	1,537,011	256,400	1,279,582	32,324	33,673	12,408	7,795
Net reductions	(23,242)	(19,743)	35,827	18,892	235,927	404,557	(29,072)	94,970	(502,685)	(120,935)	(37,117)	(60,213)	2,834
Closing stock 2015	44,237	63,486	529,124	101,864	1,212,951	1,967,234	5,097,372	715,481	10,274,969	255,850	135,567	3,749,581	7,780
Opening stock 2015	44,237	63,486	529,124	101,864	1,212,951	1,967,234	5,097,372	715,481	10,274,969	255,850	135,567	3,749,581	7,780

Land Physical Asset Account - Classes of Land cover and Land use

- 1. Plantations and woodlots deciduous trees/broadleaves ("hardwood")
- 2. Plantations and woodlots coniferous trees
- 3. Tropical High Forest (THF) normally Stocked
- 4. Tropical High Forest (THF) depleted/encroached
- 5. Woodland trees and shrubs (average height > 4m)
- 6. Bushland bush, thickets, scrub (average height < 4m)
- 7. Grassland rangelands, pastureland, open Savannah; May include scattered trees shrubs, scrubs and thickets.
- 8. Wetlands wetland vegetation; swamp areas, papyrus and other sedges
- 9. Subsistence farmland mixed farmland, small holdings in use or recently used, with or without trees

10. Uniform commercial farmland – mono-cropped, non-seasonal farmland usually without any trees for example tea and sugar estates

- 11. Built up area Urban or rural built up areas
- 12. Open water Lakes, rivers and ponds.
- 13. Impediments (bare rocks and soils)





Forest

Land Physical Asset Account – Main findings

National level:

- An increase in small scale farmlands and commercial farmlands, forest plantations, built up areas and bushlands.
- At the same time, natural forests, comprising woodlands and tropical high forests, and also grasslands reduced
- Wetlands increased in the first 10 years from 1990 to 2000 and declined from 2000 to 2015.
- High pressure on woodlands and tropical high forests, mostly associated with farmland expansion and unsustainable harvesting

Regional level

 Higher stability of landcover/land use for western Uganda while the lowest stability was in northern Uganda, especially with the heavy decline of woodlands.

Sub-regional level

 Larger stability for the sub-regions located in western Uganda compared to the rest of the country (largely associated with the long-term fixed management of land cover categories under wildlife protected areas and perennial crops)



Land Physical Asset Account – example of findings at subregional level Kibaale District: population growth and forest losses



32

F LULC* Kibaale

Kibaale District: population growth and forest losses (II)

Comparison of the rate of natural forest loss between Kibaale District and Uganda (National level)

UGANDA	Forest 1990 (ha)	% Forest 1990	Forest 2015 (ha)	% Forest 2015	Ann. rate def. 90-15	% of forest loss
THF (well and low stocked)	924172.00	3.83	630988.35	2.61	-1.27%	-31.72
Woodlands	3974522.63	16.45	1212950.93	5.02	-2.78%	-69.48
TOTAL NATURAL FOREST	4898694.64	20.28	1843939.28	7.63	-2.49%	-62.36
KIBAALE	Forest 1990 (ha)	% Forest 1990	Forest 2015 (ha)	% Forest 2015	Ann. rate def. 90-15	% of forest loss
THF (well and low stocked)	114102.67	26.87	19931.00	4.69	-3.30%	-82.53
Woodlands	72911.22	17.17	11110.00	2.62	-3.39%	-84.76
TOTAL NATURAL FOREST	187013.89	44.04	31041.00	7.31	-3.34%	-83.40

Change in % of THF well stocked, low stocked and woodlands in 1990, 2000 and 2015 in relation to the area of the District









Land Physical Asset Account - Uses

- Provide an improved understanding of the transitions in land use in the country
- Provide an entry point for assessment of how to monitor and improve land use planning and land use in the country
- Support implementation of the guiding principles of the National Land Policy:
 - ✓ Effective regulation of land use and development;
 - ✓ Optimal land use and sustainable management for economic productivity and commercial competitiveness;
 - ✓ Transparency and accountability in democratic land governance; and
 - \checkmark Land as the central factor in leveraging other productive sectors.





Land Physical Asset Account – What works?

- The data was retrieved from validated sources whose methods could be verified e.g. NFA, MLHUD
- Established a multi institutional Technical Working Group (TWG) which enhanced easy access of data, interface with users and later up take of results.
- Technical support from the national statistical office (UBOS)
- Regular review meetings during drafting by the task forces (sub group of the TWG) and TWG
- Technical and financial support from the World Bank and international reviewers





Challenges in implementation

– Data gaps

- Institution collaboration and coordination.
- Varied expectations from institutions about the NCA process
- Inadequate but increasing appreciation of NCA by policy makers
- Capacity in use of NCA for economic modelling and forecasting for policy and decision making.
- Bureaucracy and government hierarchy
- Difficulty in shifting from business as usual





Forest Resource accounts (under development)

PHYSICAL FOREST ASSET ACCOUNTS

Forest land

- Additions
- Reductions
- Revaluations

Timber resources

- Wood Available for Supply
- Wood not available for Supply

Lessons learnt

PHYSICAL SUPPLY AND USE TABLES Natural Inputs

Woody biomass Traded ecosystem services

Wood products

- Primary products Secondary products
- Tertiary products
- Residues

Non-wood forest products

Bee and natural honey
Shea nuts and shea products
Bamboo and bamboo products
Prunus Africana and its by products
Bark cloth
Gum Arabic
Rattan Cane
Other medicinal plants





Forest and Wetland Ecosystem accounts

Ecosystem service	Forests	Wetlands
Provisioning	 Analysis of provisioning services particular forest assets 	 Grass Papyrus reeds* Clay soil * Sand mining* Fish Water for production Medicinal plants Peat Natural fibre
Regulating	 Habitat for biodiversity Soil retention services Micro Climate regulation (rainfall formation etc) Carbon sequestration* Air purification Hydrological services Pollination services flood control 	 Habitat for biodiversity Soil retention services Micro Climate regulation (rainfall formation, etc) Carbon sequestration Hydrological services* Water recharge Water discharge Pollination services Water purification/ effluent treatment* flood control
Cultural	 Ecotourism Worship and cultural norms e.g totems etc Education and research 	 Ecotourism Worship culture totems etc recreation Hunting Education and research

38



Key Policy Messages





Key policy messages

- The accounts offer empirical and quantitative information to support evidence-based policymaking and development planning
- Through time series data analysis, accounts assist in monitoring stocks and user trends over time, which can be used to analyze the impacts of various development and resource policies.
- The information can also be used to generate future development scenarios (e.g. resource intensity by sector).
- The accounts can be applied at different spatial levels, making it relevant for national development planning as well as sectoral development planning and local government planning.





Lessons Learnt

- NCA development requires partnerships at both national and international levels
- Local capacity in NCA is important to support national institutions especially UBOS
- Institutionalization of NCA is a slow process, requires patience and persistence
- Policy entry points need to be identified and tapped to mainstream NCA in the development agenda at the onset
- Supportive studies to address gaps that need special attention for future NCA implementation





Lessons Learnt

- Credible data generating institutions e.g. the NFA support NCA
- Team selection, team work and good leadership are important for success
- Institutionalization of NCA is still at an early stage. Additional effort is still needed to revise and coordinate data collection, analysis and synthesis of results.
- An early entry point for users is imperative to sustain demand and public sector willingness to support the accounting processes.
- Inter ministerial/agency collaboration is critical







Thank you!







