COUNTRY ANALYSIS

UGANDA

Sectoral public policies & pressures on biodiversity

Sectors: Agriculture & Wood-Energy

2024

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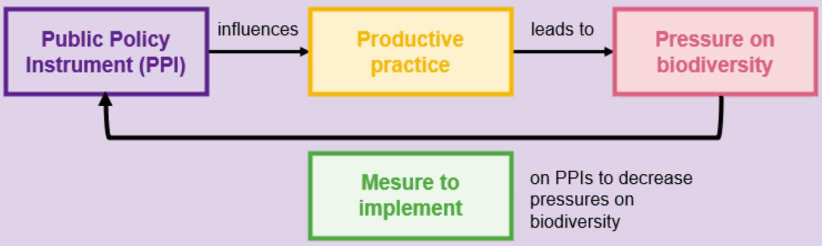
It highlights the linkages between the pressures on biodiversity that are caused by the sectoral production practices and the sectoral, economic and trade public policy instruments (PPIs) shaping these practices. These instruments can be of several kinds: regulatory, economic and financial, informational, etc. They have been categorized according to the extent to which they take biodiversity into account: ● blind to biodiversity; ▨ taking biodiversity into account. Several priority measures to be implemented have been identified and are presented below: **reform** (reorientation, strengthening or abolition) of an existing instrument; **enforcement of an** existing instrument; **introduction** of a new instrument.



The main harmful productive practices, the identification of the PPIs shaping these practices and associated gaps, as well as the priority measures that could be implemented were identified through a literature review and interviews with experts. We used the DPSIR framework (Driver – *here the harmful practices*; Pressure; State; Impact; Response – *here, priority measures that could be implemented*). Detailed data on the consequences for biodiversity (State) and for Humans (Impact) are available in the diagnoses carried out in phase 1 of the BIODEV2030 project. The classification of pressures on biodiversity is based on the IPBES categorization.

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Country context: National biodiversity targets & progress of biodiversity mainstreaming in public policies

Uganda sets its national biodiversity targets in the National Biodiversity Strategy and Action Plan (NBSAP) 2015-2025[i], under the Convention on Biological Diversity (CBD). The NBSAP aims to integrate biodiversity conservation across national, sectoral, and local levels, aligning Uganda's conservation efforts with Sustainable Development Goals (SDGs). It will most likely be updated to reflect the adoption of the Kunming-Montreal Biodiversity Framework (KMGBF) in December 2022.

In addition to the NBSAP, Uganda produced various strategies, policies, and institutional mechanisms to mainstream biodiversity into national and sectoral policies. The revised National Environment Management Policy (NEMP) and the 2019 National Environment Act[ii] are among the key mechanisms that highlight biodiversity conservation as crucial for sustainable development. The National Environment Act requires Environmental Impact Assessments (EIAs) for projects that may negatively impact ecosystems and biodiversity.

The agriculture sector integrates biodiversity conservation through the Agriculture Sector Strategic Plan[iii], and the National Agricultural Policy[iv], which promotes the sustainable use of soil and water and sustainable farming practices to protect ecosystems. The National Organic Agriculture Policy[v] further promotes biodiversity conservation by encouraging sustainable land-use practices. Additionally, the 2013 national Agricultural Policy provides that government shall ensure that key agricultural resources including soil and water for agricultural production are sustainably used and managed to support adequate production for current and future generations.

The 2023 Energy Policy for Uganda[vi] has been developed to enhance the country's energy security sustainably. The policy emphasizes the importance of integrating environmental sustainability into all energy initiatives and projects.

Biodiversity is also a fundamental aspect of Uganda's Tourism Policy and Wildlife policies. The tourism industry heavily depends on wildlife and natural ecosystems, particularly in national parks and conservation areas, and benefits from biodiversity conservation. The Uganda Wildlife Authority (UWA) manages protected areas, conserves endangered species, and incorporates biodiversity into tourism planning and management.

The National Environment Management Authority (NEMA) plays a critical role in ensuring that biodiversity considerations are integrated into national and sectoral policies. NEMA closely collaborates with various ministries, including the Ministry of Agriculture, the Ministry of Water and Environment, and the Ministry of Tourism, Wildlife, and Antiquities, to ensure that biodiversity is mainstreamed into different sectors.

Agriculture (plantation and subsistence farming)

Sector context

Uganda's agriculture sector is a significant contributor to the country's economy, providing employment to a large portion of the population, ensuring food security, and contributing to export earnings. In the 2022-2023 fiscal year, the sector accounted for 24% of the Gross Domestic Product (GDP), represented 35% of export earnings, and employed 68% of Uganda's working population, particularly rural smallholder farmers[vii]. **The sector can be divided into two main sub-sectors: subsistence agriculture, which focuses on food crops for local consumption such as maize, cassava, sweet potatoes, and bananas, and commercial agriculture plantation, which is mainly export-oriented and centers on cash crops like cotton, sugar cane, tea, and coffee**. In 2020, 85% of households were involved in crop production for consumption and income generation, but only 15% cultivated crops exclusively for their consumption[viii]. The commercial agriculture plantation is showing growth, with the cash crop sub-sector achieving an annual average growth rate of 6.4%, while the food crops sub-sector is growing at a slower average rate of 3.7%[ix].

In 2013, the government outlined its ambition to transform agriculture from subsistence farming to commercial agriculture in the Uganda Vision 2040. To support this goal, several initiatives have been launched. For instance, the Operation Wealth Creation (OWC) was established in 2013 to distribute inputs to farmers and support rural technological upgrading with the objective of increasing household income by transforming subsistence farmers into commercial farmers and promoting agribusiness[x]. Additionally, the Ministry of Agriculture, Animal Industry, and Fisheries (MAAIF) provides Agricultural Extension Services to improve farmers' access to new technologies, practices, and market information. These services help farmers shift from traditional methods to more productive and market-oriented practices by providing technical expertise on crop management, livestock rearing, and post-harvest handling. Some initiatives are specifically focused on export crops, such as the Uganda Coffee Development Authority (UCDA), which promotes coffee production and commercialization through farmer training, distribution of seedlings, and support for quality improvement[xi].

Conversion of natural habitats by agriculture is the main driver of forest loss in Uganda. According to National Forestry Authority (NFA) records, small-scale agriculture expanded from 84,052 km² to 106,078 km² between 1990 and 2019 (+26%), contributing to the conversion of 22,026 km² of land within that timeframe. Commercial agriculture expanded from 684 km² to 1650 km² between 1990 and 2019 (+141%), contributing to the conversion of 966 km² of land.[xii] In addition, woodland and tropical high forest habitats lost 65% and more than 29 % respectively of their surface area during the same period[xiii]. Main Forest-Risk Commodities (FRCs) include cassava and maize, followed by smallholder farming of coffee and banana[xiv].

Pressure: Land use change

Harmful practice Conversion of natural forests into farmlands

PPIs linked to this practice & associated challenges

Degree of biodiversity mainstreaming

► **Land use planning and management – Lack of enforcement.** The *2007 National Land Use Policy* addresses agricultural land use planning and management to encourage sustainable land use. It discourages the unregulated conversion of forests, grasslands, and wetlands into agricultural land and promotes sustainable farming practices. Local governments also have the authority to create ordinances and by-laws to regulate land use for agriculture within their jurisdictions as per the *chapter 243* of the *1997 Local Government Act*.

However, the enforcement of the National Land Use Policy, especially in the agricultural sector, faces several challenges due to limited institutional capacity, land disputes, and conflicts between customary and statutory land rights. Local government institutions responsible for enforcing land use policies often lack the financial and human resources needed for effective monitoring and regulation, which limits their ability to ensure compliance with the guidelines. Moreover, Uganda has a complex land tenure system, which includes freehold, leasehold, customary, and *mailo* land[1]. Customary land tenure, where land is owned communally or by individuals under traditional systems, accounts for a large proportion of agricultural land. This system often lacks formal documentation, leading to land disputes and challenges in implementing structured land use plans.

► **Regulations on forest clearing for agricultural purposes – Lack of enforcement.** The *2003 National Forestry and Tree Planting Act* in its *article 32* prohibits the clearing, usage, or occupation of any land in a forest reserve or community forest for planting or cultivation of crops unless following a license granted by the NFA or management plan. Central Forest Reserves (CFRs) represent 17% of areas covered by forests in Uganda while 64% consists of forests located on private and communal lands[xv]. However, the expansion of agricultural lands for subsistence farming and large-scale plantations like coffee, tea, sugar cane, and palm oil has led to the clearing of forests. Cassava and maize are the main forest-risk crops that have driven the largest share of deforestation being respectively 18% and 13%[xvi]. Other crops include coffee, which drives 6% of deforestation and groundnuts, which represents 7% (Forest trends, 2024). Furthermore, smallholder subsistence farmers often encroach on forest reserves illegally, converting critical habitats into farmlands. They often use farming practices like slash-and-burn or shifting cultivation techniques to clear land.

The *2019 National Environment Act* provides a framework for environmental management, including forests and land use. It requires EIAs for any land-use activities, including agriculture. **However, enforcement of these regulations on forest clearing for agricultural purposes in Uganda has historically been weak. Enforcement agencies, such as the NFA, often suffer from underfunding and lack the human resources and equipment to monitor and regulate forest areas effectively**.

[1] Lands that were accredited to political nobles in the beginning of the 20th century, and passed on hereditarily, without possibility of the ownership being contested

Pressure : Pollution

Harmful practice Inappropriate use of chemicals

PPIs linked to this practice & associated challenges

Degree of biodiversity mainstreaming

► **Regulations on the use of agricultural chemicals – Lack of enforcement.** In Uganda, the 2006 Agricultural *Chemicals (Control) Act* governs the importation, distribution, and use of agricultural chemicals, including pesticides, fungicides, herbicides, and fertilizers. The act establishes the Agricultural Chemicals Board and the Agricultural Chemicals Technical Committee, which are responsible for overseeing compliance and setting standards. It prohibits the import and sale of unlicensed or unregistered chemicals and imposes penalties for non-compliance. Expired, damaged, or banned agricultural chemicals must be safely disposed of according to guidelines established by the MAAIF and the NEMA. The common disposal methods include incineration and burial in lined and sealed landfills.

However, in recent years, farmers have faced increasing pressure from crop pests and diseases, prompting many to use agricultural chemicals as preventive measures. Between 84% and 100% of Ugandan smallholder farmers report using pesticides, with 80% of these products sourced from the informal market[xvii]. Pesticides and other agricultural chemicals are used on cash crops and food crops alike. Rapid market liberalization, coupled with weak regulatory enforcement, has led to the widespread promotion of agrochemicals and the proliferation of a large informal market selling low-quality, counterfeit, expired and unauthorized products. **The capacity to monitor and enforce regulations remains insufficient, with too few inspectors appointed by the MAAIF to ensure adequate control**. In addition, Uganda has limited facilities for the safe disposal and destruction of expired products leading to stockpiles of obsolete products that could end up in the informal market.[xviii].

Other harmful practices **Large-scale monoculture of cash crops** for sugarcane and tea mainly. Replacing biodiverse ecosystems with single-species commercial plantations is a common practice in Uganda, causing soil degradation and biodiversity loss (decreasing species diversity, species abundance and ecosystems degradation).

ECONOMIC POLICY

Degree of biodiversity mainstreaming

Uganda's agricultural economic policies aim mostly at promoting commercial agriculture, as per the country's ambition to transform agriculture from subsistence farming to commercial agriculture. They mainly focus on increasing productivity, export earnings, and sustainability of cash crops.

► **The Agriculture Credit Facility (ACF) – Blind to biodiversity.** The ACF is a financing mechanism to promote commercialization of agriculture through the provision of medium- and long-term loans to farmers to purchase agricultural machinery and equipment, storage facilities, agricultural inputs, irrigation facilities, etc. The facility also helps finance agro-processing activities. **No environmental conditionalities are attached to the loans**.

► **Tax exemption) on agricultural input– Blind to biodiversity.** Under the 2004 *East African Community Customs Management Act*, importation of agricultural input including seeds, fertilizers, pesticides, and herbicides is exempted from all taxes when imported by persons engaged in agriculture. Aimed at boosting agriculture, these subsidies have consequences on biodiversity through soil degradation, water pollution, & harm to non-target species. The widespread use of these chemicals underscores the need for a strategic shift towards more sustainable agricultural practices. **No environmental conditionalities are attached to these VAT exemptions.**

TRADE POLICY

Degree of biodiversity mainstreaming

Uganda's government has identified agriculture as a key driver for export earnings, especially in plantation farming. Key crops such as coffee, tea, tobacco, and cotton are prioritized for export. The *National Trade Policy* aims at diversifying agricultural exports, adding value to raw agricultural produce, enhancing quality standards to meet international market requirements, and expanding market access through trade agreements. Although **environmental conditionalities are**

attached to the promotion of these commodities' exports, there is no label such as a "zero deforestation" for the exported coffee, tea, tobacco or cotton yet.

- **Trade Agreements** Uganda is part of several international initiatives that support the export of organic agricultural products, especially coffee. The country is also part of several trade agreements, including multilateral ones, such as the East African Community (EAC) and the Common Market for Eastern and Southern Africa (COMESA). These agreements provide duty-free and quota-free export opportunities for agricultural products and allow for tariff-free trade within the region. Additionally, Uganda has signed bilateral agreements with European countries, that promote sustainable practices such as organic or eco-friendly agriculture. The EU, which accounts for 65% of coffee imports for instance, has asked Ugandan coffee exporters to comply with EU Deforestation Regulations (EUDR) in February 2024[xix].

Suggested priority measures to implement to align public policies (sectoral, economic and commercial) and biodiversity conservation

The suggested measures presented below were drawn up based on a literature review and interviews with experts. They summarize the suggested measures presented in the previous paragraphs on PPIs, in response to their current content and the gaps identified in terms of biodiversity mainstreaming

Pressure on biodiversity	Suggested priority measures	Type of policy	Type of PPI	Type of measure
Cross-cutting	Attach environmental considerations/conditionalities to ACF loans and VAT exemptions	Sectoral/Economic	Economic	Introduce
	Promote sustainability certification for smallholder farmers of tea and coffee with fiscal/economic incentives	Sectoral	Information	Introduction/strengthen
Land Use Change	Improve the enforcement of regulations on forest clearing, especially the 2003 National Forestry and Tree Planting Act by increasing the human and financial resources of the NFA to improve the monitoring and control of protected areas and forested lands with potential for agriculture. The strengthening and enforcement of penalties (fine and imprisonment) in case of non-compliance with regulations should also be considered.	Sectoral	Regulatory	Strengthen and enforce
	Support the enforcement of land use planning at local communities and farm levels through better involvement of local government authorities. The Ministry of Land, Housings and Urban Development (MLHUD) should provide more extension services to district councils and counties to promote adherence to the land use plan.	Sectoral	Regulatory	Strengthen/enforce
	Provide support to the UCDA to develop a zero-deforestation strategy and a 'zero deforestation' label based on the criteria and best practices promoted by the Rainforest Alliance. The 'zero deforestation' label should be scaled up to include other cash crops	Sectoral	Other	Introduction
Pollution	Restore a default reduced VAT rate on agricultural inputs imports, with a zero rate exclusively for bio inputs (bio fertilizers, biopesticides, and bioherbicides), and reinvest tax revenues in the development of a domestic value chain for bio inputs	Economic/Sectoral	Economic	Repurpose
	Increase the capacities of inspectors appointed by the MAAIF to monitor and control the use of agriculture chemicals	Sectoral	Other	Strengthen
	In addition to the MAAIF, the Ministry of Water and Environment (MWE), Ministry of Trade, Industries,	Sectoral	Other	Strengthen

	and Cooperatives (MTIC), and Uganda Customs authorities should be involved in strengthening import restrictions and border controls on agricultural chemicals			
	Increase subsidies to organic farming, and zero deforestation value chains	Sectoral	Economic	Strengthen
	Support the National Agricultural Research Organization (NARO) and its Agronomical Research Institutes to deepen the research on agroecological farming systems and how they can best be tailored to the Ugandan context.	Sectoral	Other	Strengthen

Wood Energy

Sector context

Uganda's energy sector heavily relies on biomass, which serves as the primary source of energy for most of the population, accounting for 89.4% of total energy consumption in 2022[xx]. Other energy sources include oil products (8.3%) and hydroelectricity (1.9%)[xxi].

Wood fuel, such as firewood, charcoal, and crop residues, plays a critical role in the country's energy security. These fuels are primarily used for heating and cooking and contribute significantly to the energy consumption of schools, hospitals, prisons, industries (such as brick and tile making, agro-processing, and bakeries), and commercial firms in both rural and urban areas.

The production and commercialization of wood fuel are vital economic activities for Uganda. In 2018, Uganda's wood fuel industry employed an estimated 870,000 people on a full-time basis, with 600,000 involved in the charcoal industry and 270,000 in other wood fuel value chains[xxii]. Up to 60% of this employment and economic value was generated in rural areas[xxiii].

Despite its importance, the production of wood fuel remains largely informal, with limited official statistics to guide policymakers. Firewood collection, processing, and distribution are primarily conducted by small, informal, and unregulated actors using rudimentary technologies and methods. On the contrary, Uganda's charcoal industry is well established, featuring a supply chain that extends from rural forest producers to middlemen who transport the product to urban retail sellers.

The heavy reliance on wood fuel and the growing demand for firewood and charcoal have led to unsustainable use and degradation of forests, as wood reserves are depleted rapidly in many regions of the country. Uganda is among the countries with the highest rates of deforestation, and studies show that if the current trend continues, there will be no trees remaining in 40 years on national territory[xxiv]. Annually, Uganda loses 120,000 hectares of forest cover, with 60% (72,000 hectares) attributed to charcoal and firewood production[xxv].

To address these challenges, the government has launched several policies aimed at regulating and managing the wood energy sector. The *2023 Energy Policy for Uganda* places emphasis on increasing the uptake of modern forms of energy[xxvi]. The policy focuses on expanding renewable energies, especially hydropower and solar energy. Through the policy, the government commits to reducing reliance on firewood and charcoal for cooking. It promotes clean cooking stoves and Liquefied Petroleum Gas (LPG). The *2013 Uganda National Biomass Energy Strategy* seeks to encourage the adoption of efficient energy technologies and reduce pressure on the country's wood resources[xxvii].

⚠ Pressure: Land use change and natural resources overexploitation

Harmful practice Illegal logging

PPIs linked to this practice & associated challenges

Degree of biodiversity mainstreaming

► **Regulations on logging for firewood and charcoal production – Lack of enforcement.** The *2003 National Forestry and Tree Planting Act* prohibits unlicensed tree cutting in forest reserves and private forests. Central Forest Reserves (CFRs) represent 17% of areas covered by forests in Uganda while 64% consists of forests located on private and communal lands[xxviii]. **The Act requires logging and collection of forest products, including for firewood or charcoal production, to be carried out under a license issued by the NFA**. Offenders involved in illegal logging for firewood or charcoal can face fines or imprisonment. However, the heavy reliance on firewood and charcoal for domestic and commercial purposes, along with the increasing demand for these products and limited access to alternative energy sources, lead to illegal and unregulated logging, particularly in Northern and Western Uganda, known for their high dependency on biomass. Moreover, many rural communities depend on the production and sale of firewood and charcoal as a source of income due to high poverty rates in rural areas. **Ceasing logging would directly impact livelihoods. Thus, enforcement of regulations often faces resistance. Additionally, the NFA lacks the necessary funding, and technical, logistical, and human resources to effectively monitor logging activities and enforce license requirements across vast areas**. Furthermore, penalties for illegal logging may be insufficient to deter offenders, making it more economically viable to engage in illegal activities than to abide by the law.

► **Regulations on private forests and land tenure – Regulatory conflict.** In Uganda, **the interaction between private forest regulations and the country's land tenure system creates regulatory conflicts, particularly around logging activities**. The *2003 National Forestry and Tree Planting Act* allows individuals or traditional institutions to register and own private forests under the *1998 Land Act*. While the products of these private forests legally belong to the owner and can be used at their discretion, the harvesting of these resources must still comply with management plans and regulations outlined in the *Forestry and Tree Planting Act*.

Uganda's land tenure system is complex, comprising four types: freehold, leasehold, *mailo*, and customary tenure. Most rural land falls under customary tenure, where ownership is communal or lineage-based, and individual land rights are often informal and undocumented.

Private forest owners, under the assumption that they hold full rights to their land, may believe they can freely exploit resources like timber. **Thus, privately owned forests are reported to have the highest rates of deforestation and receive little attention from the forest services**.

Furthermore, wood fuel and charcoal are critical energy sources for most Ugandans, particularly in rural and peri-urban areas. **Regulations restricting logging in private forests can therefore conflict with the livelihoods of these communities, which rely heavily on forest resources for both energy and income**. **Unclear land tenure and usage rights combined with ineffective monitoring and control systems make it harder to regulate logging activities**.

► **Ban on charcoal production and sale – Lack of enforcement.** In May 2023, the president of Uganda issued *Executive Order N°3*, banning large-scale commercial charcoal production and trade in Northern and North-Eastern Uganda[xxix]. The measure aimed at curbing the extensive deforestation driven by charcoal production. However, the enforcement of the ban has been weak, allowing lucrative trade to continue thriving with the tacit support of local authorities, high-ranking army personnel and politicians[xxx]. **Insufficient resources for monitoring and enforcement, coupled with corruption and weak governance allow charcoal trade to persist.**

Other harmful practices **Use of inefficient charcoal kilns** that require large quantities of wood for charcoal production.

ECONOMIC POLICY

Degree of biodiversity mainstreaming

In Uganda, the heavy reliance on wood energy contributes to deforestation and environmental degradation, prompting the government to implement various instruments to manage the sector sustainably.

- **Charcoal levies collected by municipal and district councils – Lack of enforcement.** In Uganda, municipal and district councils impose levies on charcoal production and transportation to generate revenue and curb the overexploitation of forests by making charcoal production more costly. The levy rates, which vary by district, are typically charged on a per-bag basis. For instance, producers or transporters may pay a fixed fee ranging from UGX 5,000 to UGX 10,000[xxxi] (approximately USD 1.30 to USD 2.60) for each bag of charcoal transported out of a district. Collection points are set up along major roads commonly used for transporting charcoal, allowing district authorities to monitor and collect these fees.
The revenues collected from charcoal levies are intended for specific development projects, such as reforestation, community services, and environmental protection programs. **However, non-payment of levies is common due to reports of tax collectors and officials at checkpoints accepting bribes[xxxii], allowing charcoal to pass without payment. Additionally, limited oversight of collected funds leads to significant revenue leakages, reducing the funds available for community and environmental initiatives.**
- **Value Added Tax (VAT) reduction for cooking gas – Inadequate.** To reduce reliance on wood energy, the government waived the 17% VAT encouraging dealers in LPG to reduce the cost of their services to the end-user[xxxiii]. It is a strategic policy move aimed at making clean energy more affordable and accessible and encouraging households to switch from traditional wood and charcoal-based cooking methods to LPG. **Despite the VAT reduction, the upfront cost of an initial LPG kit (including the cost of the cylinder, burner, hose, and regulator) remains high.** The refill cost of LPG would still need to drop by more than half before it becomes more affordable per useful unit of energy than charcoal[xxxiv].

TRADE POLICY

Degree of biodiversity mainstreaming

- **Ban on charcoal exports within the East African Community (EAC) – Lack of enforcement.** Uganda's ban on charcoal exports was reinforced in 2004 when the EAC enacted the Customs Management Act, which prohibited the export of charcoal across Uganda, Tanzania, and Kenya. This ban was later extended to include Rwanda, Burundi, and South Sudan as they joined the EAC. Thus, Uganda has not recorded any official charcoal exports since the law was implemented, even in cases of informal cross-border trade. **However, there is a widespread consensus among government officials that a significant amount of charcoal is still being exported, particularly to Kenya[xxxv].** This is notable given that Kenya imposed a moratorium on the harvesting of forestry products in 2018, which has increased the demand for Ugandan charcoal. Smugglers often use informal routes and avoid official border points to evade detection, taking advantage of Uganda's porous borders.

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Pressure on biodiversity	Suggested priority measures	Type of policy	Type of PPI	Type of measure
Land Use Change	Improve the enforcement of regulations on forest clearing, especially the 2003 National Forestry and Tree Planting Act by increasing the human and financial resources of the NFA to improve the monitoring and control of protected areas and forested lands with potential for wood energy logging. The strengthening and enforcement of penalties (fine and imprisonment) in case of non-compliance with regulations should be considered	Sectoral	Regulatory	Strengthen/Enforce

	Establish dedicated woodlots plantations and encourage forestry plantation initiatives on degraded lands. The Uganda Timber Growers Association (UTGA), for example, is playing an important role in planting woodlots on degraded lands but receives very little incentives/support from the government	Sectoral	other	Strengthen
	Subsidize native tree seedlings to promote reforestation of forests, with native species.	Sectoral	Economic	Introduce
	Revise the 2003 National Forestry and Tree Planting Act in a way to align land-use rights of private forest owners with regulations on logging activities.	Sectoral	Regulatory	Repurpose
	Improve land use in a way to allocate plots set up collaborative forest management to meet families' energy needs.	Sectoral	Regulatory	Strengthen
Natural resources overexploitation	Promote technologies for the use of alternative non-wood biomass (agricultural residues, production and use of briquettes and firewood). This could be done through investments or subsidies to such value chains and awareness raising	Sectoral	Economic/Other	Introduce
	Improve access to energy-efficient charcoal kilns such as the Casamance kiln which uses half of the wood used by the traditional Ugandan kiln to produce the same amount of charcoalxxxvi. This could be done through tax exemptions (VAT) on imports (as an incentive for importers) or on energy-efficient kilns available on the national market to reduce the prices and increase affordability.	Sectoral	Economic	Introduce
	Redirect some harmful incentives for charcoal producers / tree cutters towards subsidies to poor rural households for the purchase of more efficient cookstoves (that cost between €10-20).	Sectoral	Economic	Repurpose
	Increase subsidies and reduce trade tariffs on locally produced and imported cooking gas technologies to facilitate first acquisition of equipment (gas tank and cooker) and make it more affordable. The same should be applied to solar panels and clean cooking technologies to reduce pressures and decrease demand for firewood and charcoal.	Sectoral	Economic	Introduce/Strengthen
	Promote and subsidize alternative energy sources for public buildings and utilities (schools, hospitals, prisons etc.) and encourage tree planting in the areas owned by these organizations.	Sectoral	Economic/Information	Introduce/strengthen
	Harmonize the charcoal levy systems across the country, enhance collection system to curb bribery (through capacity-building and digitalization) and ensure that revenues collected are dedicated to reforestation initiatives.	Sectoral	Economic	Repurpose / Strengthen
	Support the NFA to improve data collection on biomass stock and conduct a new national biomass study. The latest national biomass study report covers the timeframe between 2016 and 2019.	Sectoral	Other	Strengthen

Abbreviations

ACF	Agriculture Credit Facility	**MWE**	Ministry of Water and Environment
CFRs	Central Forest Reserves	**MTIC**	Ministry of Trade, Industries and Cooperatives
CBD	Convention on Biological Diversity	**NBSAP**	National Biodiversity Strategy and Action Plan
EAC	East African Community	**NEMA**	National Environment Management Authority
EIA	Environmental Impact Assessment	**NEMP**	National Environment Management Policy
FRCs	Forest-Risk Commodities	**NFA**	National Forestry Authority
GDP	Gross Domestic Product	**OWC**	Operation Wealth Creation
LPG	Liquefied Petroleum Gas	**SDGs**	Sustainable Development Goals
MAAIF	Ministry of Agriculture, Animal Industry, and Fisheries	**UCDA**	Uganda Coffee Development Authority
MLHUD	Ministry of Land, Housings and Urban Development		

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