

Article

Forest and Land Rights at a Time of Deforestation and Climate Change: Land and Resource Use Crisis in Uganda

Dastan Bamwesigye^{1,*}, Raymond Chipfakacha² and Evans Yeboah^{1,3}

¹ Department of Forest and Wood Products Economics and Policy, Faculty of Forestry and Wood Technology, Mendel University in Brno, Zemědělská 3, 613 00 Brno, Czech Republic

² Raymond Chipfakacha, Higherlife Foundation, Suite 5, Westgate House East, David Frost Way Westgate, Harare 6XQG+5XH, Zimbabwe

³ Department of Business Economics, Faculty of Business and Economics, Mendel University in Brno, Zemedelska 1, 613 00 Brno, Czech Republic

* Correspondence: xbamwesi@mendelu.cz

Abstract: Globally, nations are targeting to achieve the “Green Deal 2030” and “Biodiversity Strategy 2030” to protect and conserve forest ecosystems. Forest land rights that define the nature of forest use have been rendered useless in many developing countries. Uganda is an African country endowed with tropical rainforests. Forests and other protected areas continue to decline due to deforestation and forest degradation in Uganda. Moreover, Uganda is an example of a country with a high allocation of virgin forest land to investors for development projects including agriculture. This paper examined perceptions of Ugandans on property rights and associated factors that impact the implementation of these rights in Uganda. The study conducted a questionnaire survey and obtained a sample size of 199. Key informant interviews (KIIs) on land and forest land rights in Uganda were conducted to get to the bottom of the problem. The results confirm high corruption (82%) and crime in Uganda’s land and forest rights management. Respondents highlighted limited transparency in implementing land and forest property rights. The study concluded that corruption and a lack of transparency frustrate property rights implementation in Uganda. The study recommends the government to prioritize fighting corruption and promoting transparency in the management of land and forest property, among others resources. Properly implementing land rights is vital in protecting and conserving forest ecosystems and other resources.

Keywords: climate change; corruption; deforestation; forest use conflicts; exclusion; land administration; transparency



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1. Introduction

Globally, property rights have gained distinct interest in environmental economics and policy. However, property rights such as forest and land rights still present deficiencies in understanding and implementation. Developing nations have been highlighted as the concentration of numerous policy and institutional failures regarding natural resource utilization and management [1–6]. Societal transactions with nature, especially forests, profoundly impact the ecosystem and biodiversity, including protected areas [3,4]. Likewise, adequately implemented property rights increase the benefits of the adjacent forest communities and other users [5–11]. Benefits such as payments for ecosystem services can be implemented where property rights are well defined and executed [12–15]. Other benefits of good property rights include the ability to transfer property and resources from one ownership to another. It also helps to enforce the security of the resources from encroachment. Furthermore, adequate property rights facilitate the owner to directly or indirectly enjoy the benefits of their property and its resources [1–6]. These benefits can be ably extracted from forests once the forest and forest land rights are well defined and implemented.

There is a sharp decline in forest property rights implementation, which puts the forest benefits and services such as biodiversity and ecosystems, among other protective values such as soil and water, at considerable risk in the long run [8–20]. However, more vital legislation, which takes a long period, can avert the negative implications of weak and lacking property rights [21–25].

Uganda, commonly referred to as the pearl of Africa, possesses natural resources such as flora and fauna with vast untouched/virgin rainforests and various animal species. The East African nation also has many minerals and fertile soils, lakes, and rivers, including one of the largest inland water lakes in the region, i.e., Lake Victoria. One of the longest rivers in the world is the River Nile, which serves the hydrological needs of the African desert land of Egypt and Sudan. Uganda is a landlocked country endowed with rare birds that inhabit its evergreen forests and shrubs. Although, over the decades, the human influence on the valuable forest resource, among other resources, has been increasing, Uganda has lost more than 25% of its natural forests and some native tree species every decade in the recent past, like most other Tropical African states [26–32].

Uganda and its neighboring countries such as the Democratic Republic of Congo (DRC), Kenya, Tanzania, and Rwanda suffer an increasing demand for commercial timber as well as wood fuel (firewood and charcoal) [27–32]. Such escalating demand for hardwood products has boosted illegal logging operations across forest areas in Uganda and the region. The need for firewood and charcoal as primary household energy sources has sharply and positively increased the annual demand by over a 17%. There is a high possibility that much wood fuel production and consumption in Uganda, including firewood and charcoal, is not fully quantified and reported [28–32].

In recent decades, Uganda's government has started giving some natural forest land to refugee settlements and other private owners for private businesses such as agriculture (Figure 1). In 2007, 200 hectares of forest land were given to an investor, the president of Uganda [33–37].



Figure 1. Deforested rainforests for tea (own).

This has continued, with the most recent example being the giving away of some parts of forest reserve to sugarcane plantations and processing factories. Moreover, some influential government officials have encroached on some national forest lands, including military officers [33–37]. These are not just forests but natural biodiversity and forest ecosystems with thousands of years of undisturbed existence.

Natural forest loss in Uganda and the region is worrying [30–32]. This trend threatens forests' co-existence services and values such as biodiversity and forest ecosystems, climate mitigation, air and water purification, and soil protection in the region [30–32]. Ugandan civil society and other forest lovers have been campaigning for better management and saving of the forests in Uganda, with some losing life to government forces [38–40]. Not much research has been conducted on property rights in Uganda; moreover, the existing studies highlighted that the problem still exists to date, irrespective of the forest sector's management reforms [41–43]. The current forest and land reforms in general allow three major types of traditional land ownership: state, individual, and community ownership. This is typically for forest and forest land ownership. These three ownerships are implemented under the constitutional legislation by the constitution of the Republic of Uganda which clearly spells out the land tenure system in Uganda as of 1995 and Land Act 1998 [44,45]:

1. *Freehold structure: The common term for continuous ownership of land and all immovable structures attached to such land.*
2. *Customary tenure system: It was first documented as a formal scheme in the 1995 constitution. Customary tenure structures are inherently exceptional to the localities in which they operate and are thus difficult to characterize by generalities.*
3. *Mailo tenure: The system of freehold particular to Uganda that was familiarized by the British colonialists in the 1900s. Under the Mailo tenure system, ownership is in eternity; nonetheless, it is subject to the rights of lawful and bona fide occupants. Ownership rights are possessed by a registered owner who holds a Mailo land title. The occupant can transfer user rights to a descendant but requires permission from the registered owner in order to transfer user rights to a non-family member.*
4. *Leasehold: The right to use property granted by the owner to the user for a stated period, under agreed terms and situations. In Uganda, leases offered by the government range from 49 to 99 years. These leases can be made for any of the other tenure types (Mailo, freehold, and customary).*

The government of Uganda is the guarantor of land above land ownership rights and systems [44,45]. Persons or groups of persons registered by the Ministry of Lands are given a land title which helps them to use their land and resources such as forests. The above process of defining land ownership and giving titles by the government has undergone various changes since 1995 [44,45]. For example, the government of Uganda is mandated to own any natural resources from minerals, natural forests, and national parks, most of which double as protected areas [1,26,27,44,45]. However, some individuals and some communities also own plantation and/or natural shrub vegetation areas that are not protected by the government [27,44,45].

Any weakness on the side of the regulator has a direct and indirect impact on the nature of the use of the land resource and its properties such as forests. The current forest area loss is suggested to be a result of mismanagement of the forest resource by the government since it holds majority authority over all natural forests and other natural resources in the territory of Uganda [31,32,44,45]. As noted by Musinguzi et al. [44], Uganda has not only made progress in the right direction in the legislation of land and resource rights of the different players in the country but also implemented a certification process. Many landowners have certificates with details of their properties and rights [39,44], and the process continues. However, the implementation still faces a lot of problems [37] as examined in this study.

This study sought to understand people's perceptions on land and forest land rights and their implementation. Other challenges, including corruption of some government officials hindering land in general and forest land rights implementation in Uganda, were examined. This study hypothesized that the implementation of land rights is characterized by high levels of corruption and a lack of transparency. Perceptions on the immediate implications of property rights such as resource conflicts, deforestation, and climate change were also studied. In addition, the study asked about the knowledge of land and property

rights by the land and forest owners. The study findings are presented and discussed, and recommendations are made for future studies and policy decision making.

2. Methodology

The first part of the section consists of the study area. This is followed by data collection and statistical analysis. The final section consists of the major questions that formed the questionnaire and the key informant interviews (KIIs).

2.1. Area of Study

The data were collected from two locations/districts in Uganda, East Africa. Uganda borders Kenya in the east, the Democratic Republic of Congo in the west, Tanzania in the south, and South Sudan in the north. The areas are Wakiso and Mbarara Districts. Wakiso District is in Uganda's central region next to Kampala, the Capital City of Uganda, with approximately 2 million people and about 1900 square kilometers (sq km). Mbarara District is the most important region in western Uganda, with about 500,000 people, encompassing roughly 1800 sq km of land.

The map of Uganda shows the districts (green pushpin) where questionnaire data were collected. The rationale was to collect diversified views as Mbarara is in western Uganda and Wakiso in the central region (Figure 2).

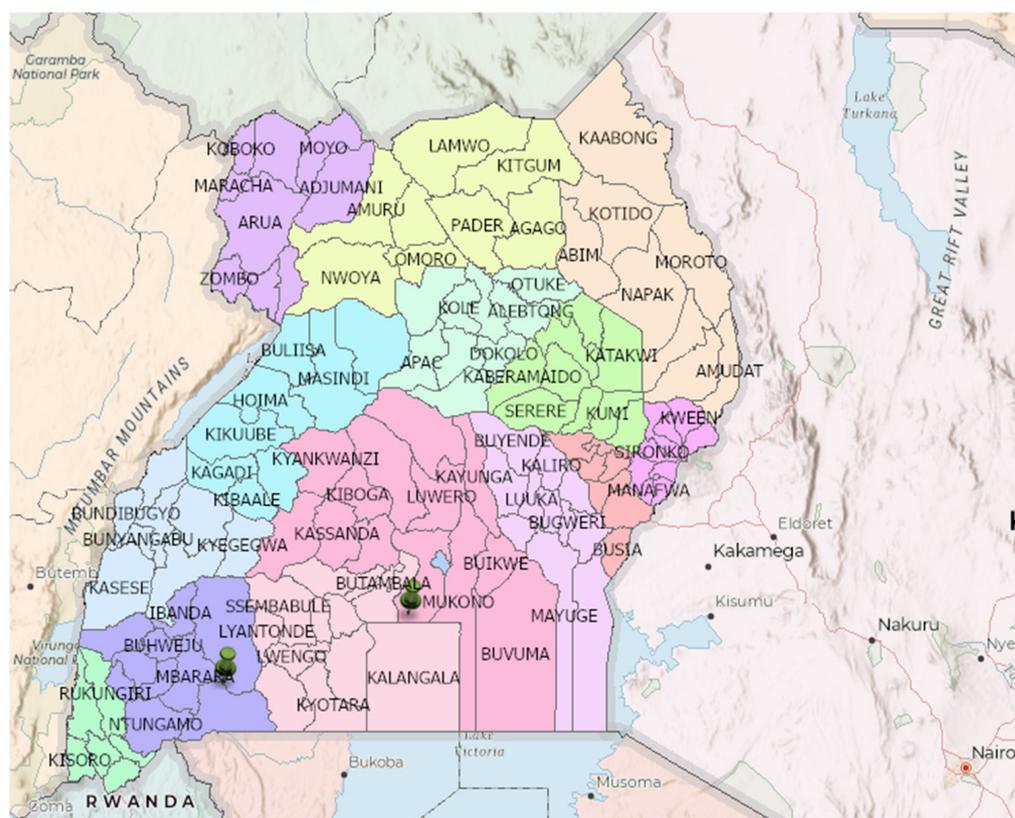


Figure 2. Map of Uganda showing districts of study (green pushpins).

2.2. Data Collection and Analysis

The study used a questionnaire survey as well as key informant interviews (KIIs). Both protocols are fully explained herein.

The study fulfilled research ethical requirements and values; the university's necessary study department approved it. Upon arrival at the selected data collection zones, the study team leader requested permission from the community leaders before data collection.

The study collected data representative of the target population between December 2018 and March 2019. Moreover, the study conducted structured questionnaire survey

interviews. A probability sample was used to obtain participants for interviewing. The population members had equal probabilities of being chosen for the study participation. Furthermore, the research team first conducted a pilot study to become familiar with the questions and crosscheck the suitability of the questions.

The study interviewed 203 respondents, although the final analysis included $n = 199$ after data cleaning. Collected data were subjected to both descriptive and statistical analysis using STATA software. The studied population demographic characteristics are presented in Table 1. The analysis includes descriptive statistics and the correlational analysis of the studied variables.

Table 1. Forest property rights and corruption in Uganda.

Property Rights	Frequency	Percent
Very good	33	17
Good	84	42
Neutral	49	23
Bad	27	14
Very bad	4	3
Don't know	2	1
Corruption	Frequency	Percent
Very High	99	50
High	77	39
Neutral	14	7
Low	6	3
Very Low	2	1
Don't Know	1	0.5

This study hypothesized that the implementation of land rights is characterized by high levels of corruption and a lack of transparency. The study asked associated questions to achieve the aim of the study.

The following questions were asked about forest governance in Uganda:

1. How can you describe your **knowledge of property rights** as far as forest ownership is concerned in Uganda? 1. *Very Good*, 2. *Good*, 3. *Neutral*, 4. *Bad*, 5. *Very bad*, 6. *Don't know*
2. Do you think policies around **property rights are well organized and implemented** concerning forested areas in Uganda? 1. *Very Good*, 2. *Good*, 3. *Neutral*, 4. *Bad*, 5. *Very bad*, 6. *Don't know*, Any comments . . .
3. Would you say that deforestation in the country is connected to how property rights policies are implemented? 1. *Very True*, 2. *Somewhat True*, 3. *Not very true*, 4. *Not at all true*, 5. *Don't know*, Any comments . . .
4. How would you rate **transparency** in implementing property rights policies of the forestry resource in Uganda? 1. *Very Good*, 2. *Good*, 3. *Neutral*, 4. *Bad*, 5. *Very bad*, 6. *Don't know*, Any comments . . .
5. How would you rate the level of **corruption** in the property rights policies implementation of the forests in Uganda? 1. *Very High*, 2. *High*, 3. *Neutral*, 4. *Low*, 5. *Very low*, 6. *Do not know*, Any comments . . .
6. Do you think that deforestation has led to changes in climatic conditions in Uganda? 1. *Yes*, 2. *No*
7. Do you think that deforestation leads to *declining agriculture* production in Uganda? 1. *Yes*, 2. *No*
8. Do you agree with the statement: population increase is responsible for increasing deforestation and forest degradation? 1. *Very Strongly Agree*, 2. *Strongly Agree*, 3. *Agree*, 4. *Neutral*, 5. *Disagree*, 6. *Strongly Disagree*, 7. *Very Strongly Disagree*

Additionally, we performed key informant interviews commonly referred to as KIIs. The study selected a broad spectrum of practitioners such as journalists, non-governmental organization experts, and lawyers, among others. The views from the KIIs are presented in the results section. Moreover, the qualitative results of this section are presented and discussed in the section Results and Discussion.

3. Results and Discussion

After further data cleaning, the sample size was $n = 199$; 65% were in urban areas, and 35% were in rural areas. The minimum age of the respondents was 18 years, and the mean age was 33 years. Sixty percent (120) of the respondents were males, and forty percent (79) were females. Considering their marital status, 89 (45%) of the respondents were single, 95 (48%) were married, 5 (3%) were widowed, 3 (2%) were divorced, and only 7 (4%) were in other categories such as separated. The respondents' economic activity attributes showed that 116 (58%) were employed, 40 (20%) were unemployed, and 43 (22%) belonged to other categories, mainly including housewives and students.

The education biodata was as follows: primary school consisted of 12 (6%), secondary school, 12 (6%), high school graduate, 32 (16%), Bachelor's degree, 125 (63%), Master's degree, 14 (7%), Doctorate degree, 1 (1%), and other such as those who never went to school, 3 (2%). The respondents' household incomes demonstrated 51 (26%) were earning less than USD 500.00, 38 (19%) earned between USD 500 and 1000, 29 (15%) earned USD 1000–2000, 30 (15%) earned a range from USD 2000 to 4000, 27 (14%) earned between USD 4000 and 5000, 15 (8%) earned between USD 5000 and 10,000, 3 (2%) earned between USD 10,000 and 15,000, and lastly, 6 (3%) earned USD 20,000 and above.

Regarding the property rights of forests in Uganda, the respondents' knowledge of property rights scored an aggregate percentage of 58% ranked as good understanding of property rights, with about 17% scoring perfect knowledge. About 25% of the respondents had neutral knowledge of property rights, and bad knowledge of property rights ranked at about 17%, with about 14% for bad, 4% for very bad, and 2% for do not know. This could explain the reason behind the increasing cases regarding land and forest ownership in Uganda (Table 1).

The 42% of the respondents who had neutral and 17% who had bad and very bad knowledge of property rights, if compared at the national level, can explain the recent wave of land grabbing cases and corruption-related issues and their impact on forestry in the country [45,46] (Table 1). This can be observed from the opinions regarding whether deforestation in Uganda is connected with how property rights are implemented in the country (Table 1). A total of 17% responded that this is very true, 28% somewhat true—accounting for approximately 45% for true answers—38% not very true, 12% not true at all, and 5% do not know. This means that up to 50% think that property rights are not responsible for deforestation worrying Uganda. Moreover, this means that people do not understand property rights, given the role of property rights, which ensure proper use of the resource *ceteris paribus* (Tables 1 and 2).

Regarding the results on the rate of corruption in the forest property rights implementation in Uganda, 50% said that corruption is very high, while 39% responded with high, accounting for a cumulated percentage of 88%. Meanwhile, deforestation and property rights transparency results show that 58% responded with bad transparency, including 15% who responded with very bad (Tables 1 and 2).

Table 2. Deforestation and corruption.

Deforestation	Transparency						Total
	Very Good	Good	Neutral	Bad	Very Bad	Don't Know	
Not very true	1	11	20	34	8	2	76
	1	15	26	45	11	3	100
Somewhat true	11	20	11	8	5	0	55
	20	36	20	15	9	0	100
Very true	2	6	3	15	5	3	34
	6	18	9	44	15	9	100
Not true at all	0	3	13	4	4	0	24
	0	13	54	17	17	0	100
Don't know	0	2	2	4	2	0	10
	0	20	20	40	20	0	100
Total	14	42	49	65	24	5	199
	7	21	25	33	12	3	100

Deforestation	Corruption						Total
	Very High	High	Neutral	Low	Very Low	Don't Know	
Not very true	39	24	8	4	1	0	76
	51	32	11	5	1	0	100
Somewhat true	26	29	0	0	0	0	55
	47	53	0	0	0	0	100
Very true	15	15	2	0	1	1	34
	44	44	6	0	3	3	100
Not true at all	12	8	3	1	0	0	24
	50	33	13	4	0	0	100
Don't know	7	1	1	1	0	0	10
	70	10	10	10	0	0	100
Total	99	77	14	6	2	1	199
	50	39	7	3	1	0.5	100

The first row has *frequencies*, and the second row has *row percentages*.

Deforestation and corruption results reveal that 51% did not believe that deforestation is connected with property rights but agreed that there is a very high level of corruption, with 82% responding that there is high corruption in the sector. Deforestation relates to property rights percentages of 44% for very high and 44% for high corruption (Tables 1 and 2).

The correlation matrix amongst knowledge of property rights, property rights implementation, deforestation, transparency, corruption, climatic changes, and population increase demonstrated high significance throughout all the factors at 95% (Table 3). Deforestation and agriculture have a very weak negative relationship. Knowledge of property rights and policy and property rights implementation maintained a significant positive relationship at 95%. There was also very weak positive significance amongst knowledge of property rights, policies and property rights, deforestation, transparency, and corruption at 95%. This signifies that most of these variables rotate about each other as the study observed that there exists a relationship and most of the variables are positive. These results are in line with the arguments that land and forest land conflicts and corruption are on the rise and that this is impacting negatively the sustainable development of the natural resources to serve their functions as they should [32,34,39,40,46,47].

Table 3. Matrix of correlations: knowledge of property rights, property rights implementation, deforestation, transparency, corruption, climatic changes, population increase.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) Knowledge of property rights	1.000							
(2) Property rights implementation	0.561 *	1.000						
(3) Deforestation	−0.038 *	−0.123 *	1.000					
(4) Transparency	0.323 *	0.453 *	0.079 *	1.000				
(5) Corruption	0.052 *	0.067 *	−0.011 *	−0.003	1.000			
(6) Climate change	0.008 *	0.004	0.011 *	−0.043 *	0.098 *	1.000		
(7) Population	0.068 *	0.189 *	0.034 *	0.191 *	−0.018 *	0.056 *	1.000	
(8) Agriculture	−0.134 *	−0.114 *	−0.135 *	−0.002	0.014 *	−0.071 *	−0.039 *	1.000

* Shows significance at the 0.95 level.

The questionnaire results present similar findings with the majority of the key informants suggesting an unprecedented corruption that has influenced and driven much of natural forest land giveaways in Uganda.

Herein are some of the selected KIIs.

Emmanuel Mutaizibwa:

One of the current causes of forest land conflict is the demand for softwood to feed China's appetite, leading to illicit logging across Uganda's forests. Many of those behind the illegal logging are powerful individuals in government who use those in the community to cut down trees in forest reserves. Mabira forest is one of the examples where there is quite a lot of illicit logging that whereas there appears a thick canopy by the roadside, the inside part of the forest is a shell.

The other cause of forest land conflict is the result of Uganda's population explosion, where land scarcity is forcing communities to encroach on forests and forest reserves. And finally, these conflicts are attributed to the adverse effects of climate change, where flooding of riverbanks is forcing many communities to encroach on forest reserves as their new places of habitation.

One of the solutions to the current forest land conflict should primarily be anchored on leadership. The Executive must walk the talk and stop resettling communities in forest reserves and halt communities from occupying forest reserves to preserve the environment. This can be done through reforms in the land tenure system where they can offer more security to squatters, or perhaps the government can purchase land to resettle and halt the pernicious destruction of forest cover.

Government must also rein in its officers and cartels behind illicit logging across the country as its detrimental and costly to the country. Government must encourage tree planting and activities such as carbon trading across communities. Government must cascade messages on the protection of biodiversity and the environment to communities in the backwaters.

Other anonymous KIIs were:

Please, give your opinion on the causes of current FOREST LAND conflicts in Uganda?

Responses:

- *Weak laws & Greedy leaders.*
- *FOREST LAND conflicts in Uganda are mainly caused by poor political policies and poor implementation at all levels. We continue to lose a lot of forest cover in Uganda.*
- *Lack of information about land by many people, land ownership not well defined, unsatisfactory database, poor governance, and leadership when it comes to land matters.*
- *Corruption in the implementation of the land laws and mostly with the support of government officials.*
- *Conflicting land rights, for example, between landlords and tenants, the issue of income disparities as the poor want to access land for livelihood.*

What do you think could be a solution to the current FOREST LAND conflicts in Uganda?

- *Stringent laws and Open discussion with the locals, Local Council (LC) court systems to resolve disputes. We need to set up strict land laws and follow them appropriately.*
- *Gazette forest land and prosecute officials who give away forest land.*
- *Awareness and sensitization about land ownership and rights, developing a database, and improved land policy.*
- *Government reforms in implementing land laws and strict fight on corruption-related cases in land given the high demand and a lot of money involved.*
- *Amending the legal provisions in different legislation to cure the lacuna, supporting the poor by allocating them gazetted areas rather than encroaching on forests. Fighting corruption by all stakeholders and ensuring the rule of law.*

Forest and land ownership governs players' behavior in forestry and other land resource use and exploitations [1–6,30–37,40–43]. The conduct of resource use is dependent on the nature of the property rights that administer such actions [1–6]. Because the state owns the natural forests in Uganda on behalf of the people [44,45], even with a situation of knowledge of property rights, the citizens are still cheated by corrupt government officials and managers in the implementation. They give out forest land to developers and agricultural corporations, mainly tea and sugar (Figure 1, Table A1, and KIIs).

Property rights tenets:

1. *Exclusiveness:* The owner directly or indirectly enjoys the benefits of owning such property. Moreover, the owner is liable to accrued costs because of possessing and using this property by sale or other means.
2. *Enforceability:* Property ownership rights secure involuntary seizure and or encroachment on one's property by others.
3. *Transferability:* Property ownership can be easily transferred from one owner to the other in a helpful manner.

These elements affect the costs and benefits of forests and other resources such as land, lake, or river. They influence the resource management incentives of different actors and ultimately structure resource conditions and livelihood outcomes [1–3].

Africa suffers the highest level of corruption in government systems and land and forest management, among other resources. Similarly, Uganda is experiencing its worst wave of land conflicts, most of which stem from corruption-related behaviors since the 2000s [1–3,30,37]. This is followed by worse corruption in logging and trade in the hardwoods from the natural rainforests [42–44,46,47]. More information can be found in Ugandan newspapers which highlight major conflicts and corruption-related cases [48,49]. Some of the coverage showed that ministry officials and the police are part of the bigger problem in land conflicts [47,49–51]. It has been described as a failure of popular justice and failure of justice for land owners as well as nature given the implications [46,50,51]. This confirms the study hypothesis that the implementation of land rights is characterized by high levels of corruption and a lack of transparency.

The results indicate that even though the majority of Ugandans have basic knowledge of property rights related to land and forest resources, understanding property rights was positively associated with transparency, corruption, climate change, and population increase as the determinants of forest development in Uganda. These results agree with previous studies [26,33–38,47–49]. These studies noted that poor implementation of property rights characterized by corruption and a lack of transparency is the primary source of land conflicts and grabbing in Uganda [34–38].

In addition, land grabbing by rich and powerful individuals and forest land giveaways by the government for political reasons have increased land conflicts and crimes [34–38,40,42,48,49]. Furthermore, the results reveal that deforestation in Uganda and the region is associated with a lack of transparency and corruption.

Uganda lost large portions of the natural forests under unclear circumstances to large-scale agriculture farmlands [40,42,47–49].

Some key informants mentioned China as part of the corrupt cartel in the deforestation business, given the hardwood trade involvement. Some previous studies have also noted that land reforms and forest reforms need to be strictly implemented to stop encroachment on forest land [33–39].

4. Conclusions

The study investigated land and forest land property rights in Uganda. In addition, the study analyzed knowledge of property rights and citizens' opinions on property rights implementation in the country. Opinions on variables such as corruption and a lack of transparency in implementing forest land rights were studied at length. The relationship between property rights and deforestation was given utmost attention given Uganda's huge deforestation and forest degradation problem. Perceptions on other factors such as climate change and population increase were equally studied in line with property rights and deforestation.

The state of knowledge of property rights of forests in Uganda presented rather serious issues in the nation. Most of the respondents had good knowledge of property rights but did not understand how it relates to variables affected in the implementation process. Although the government has ownership of the natural forests and other natural resources on behalf of Ugandans, it is not managing the resource well and sustainably, hence the giving away of forestland and a spike in deforestation of virgin forests over the decades. A lack of transparency and corruption in implementing property rights were cited as responsible for Uganda's deforestation among other causes. Therefore, the hypothesis was confirmed that the implementation of land rights is characterized by high levels of corruption and a lack of transparency. Regarding property rights and deforestation, many Ugandans do not understand property rights and the role of property rights in safeguarding the appropriate use of the resource *ceteris paribus*. Instead, it is a struggle by the concerned citizens and civil society.

The study recommends that the government of Uganda considers corruption and transparency issues in the implementation of land and forest land property rights vital and addresses them, given the importance of property rights in resource utilization. Forest land and other land justice should be taken as a matter of priority and treated as such by the state given the level of deforestation and forest degradation in Uganda. Future research and studies could focus on verifying the relationship between land and forest governance and deforestation and climate change.

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Appendix A

Table A1. Forest land grabbing and land grabbing in the major newspapers in Uganda (NewVision 2022 [48] and Monitor [49]). The * denotes conflicts on land and or Forest and other resources.

Newspaper Titles	Land	Forest and Other Resources	Source (Link) of the Newspaper (accessed on 11 November 2022)
Govt asked to evict Namanve Forest Reserve land encroachers	*	*	https://www.newvision.co.ug/category/science/govt-asked-to-evict-namanve-forest-reserve-la-119642
Investor sues National Forestry Authority over Namanve land	*	*	https://www.newvision.co.ug/category/science/investor-sues-national-forestry-authority-ove-137882
Ugandans in diaspora cry out to Tayebwa over land grabbing back home	*	*	https://www.newvision.co.ug/category/news/ugandans-in-diaspora-cry-out-to-tayebwa-over-136839
MPs form forum to fight land grabbing	*	*	https://www.newvision.co.ug/category/news/mps-form-forum-to-fight-land-grabbing-137905
Minister Mutasingwa vows to fight land grabbers	*	*	https://www.newvision.co.ug/category/news/minister-mutasingwa-vows-to-fight-land-grabbe-116263
90-year-old goes missing as her land is grabbed	*		https://www.newvision.co.ug/category/news/90-year-old-goes-missing-as-her-land-is-grabb-108697/undefined-108697
Museveni directs UPDF to help NEMA fight degradation		*	https://www.newvision.co.ug/category/agriculture/museveni-directs-updf-to-help-nema-fight-degr-135308
2021 land wrangles	*	*	https://www.newvision.co.ug/category/entertainment/2021-land-wrangles-123463
Museveni talks tough on land grabbing	*	*	https://www.newvision.co.ug/category/news/museveni-talks-tough-on-land-grabbing-126452
Five arrested over forging Bunyoro king's signature to grab Bugoma Forest land		*	https://www.newvision.co.ug/category/news/five-arrested-over-forging-bunyoro-kings-sign-132250
MPs to probe sugarcane growing in Bugoma Forest		*	https://www.newvision.co.ug/category/news/mps-to-probe-sugarcane-growing-in-bugoma-fore-114483
Bugoma Forest: Govt to conclude boundary re-opening		*	https://www.newvision.co.ug/category/agriculture/bugoma-forest-govt-to-conclude-boundary-re-op-124440
Bitter-sweet exchange: forest cleared for sugarcane—Part 1		*	https://www.newvision.co.ug/category/report/bitter-sweet-exchange-forest-cleared-for-suga-101150
Bitter-sweet exchange: forest cleared for sugarcane—Part 2		*	https://www.newvision.co.ug/category/report/bitter-sweet-exchange-forest-cleared-for-suga-101197/undefined-101197
Bitter-sweet exchange: forest cleared for sugarcane—Part 3		*	https://www.newvision.co.ug/category/report/bitter-sweet-exchange-forest-cleared-for-suga-101202
Bitter-sweet exchange: forest cleared for sugarcane—Part 4		*	https://www.newvision.co.ug/category/report/bitter-sweet-exchange-forest-cleared-for-suga-101210
Bitter-sweet exchange: forest cleared for sugarcane—Part 5		*	https://www.newvision.co.ug/category/report/bitter-sweet-exchange-forest-cleared-for-suga-101216
Bitter-sweet exchange: forest cleared for sugarcane—Part 7		*	https://www.newvision.co.ug/category/report/bitter-sweet-exchange-forest-cleared-for-suga-101229
Bitter-sweet exchange: forest cleared for sugarcane—Part 8		*	https://www.newvision.co.ug/category/report/bitter-sweet-exchange-forest-cleared-for-suga-101234

Table A1. Cont.

Newspaper Titles	Land	Forest and Other Resources	Source (Link) of the Newspaper (accessed on 11 November 2022)
Bitter-sweet exchange: forest cleared for sugarcane—Part 9		*	https://www.newvision.co.ug/category/report/bitter-sweet-exchange-forest-cleared-for-suga-101242
Why collaboration is vital in fighting illegal logging in Uganda		*	https://www.newvision.co.ug/category/blogs/why-collaboration-is-vital-in-fighting-illega-103787
Elephant found dead in Bugoma Forest		*	https://www.newvision.co.ug/category/news/elephant-found-dead-in-bugoma-forest-113333
Govt, NFA sued over forest cover loss		*	https://www.newvision.co.ug/category/news/govt-nfa-sued-over-forest-cover-loss-86981
Land grabbers threaten forest reserve		*	https://www.newvision.co.ug/category/news/land-grabbers-threaten-forest-reserve-6897
Bugoma forest on a death bed		*	https://www.newvision.co.ug/category/travel/bugoma-forest-on-a-death-bed-397
Developers in Masaka target land of the dead	*		https://www.monitor.co.ug/uganda/news/national/developers-in-masaka-target-land-of-the-dead-3785904
Land conflicts dominate problems in all regions	*	*	https://www.monitor.co.ug/uganda/news/national/land-conflicts-dominate-problems-in-all-regions-3788648
Man accuses soldiers of encroaching on his land	*		https://www.monitor.co.ug/uganda/news/national/man-accuses-soldiers-of-encroaching-on-his-land-3747230
Rukutana salutes soldiers for blocking Bamugemereire after Heroes' Day awards	*	*	https://www.monitor.co.ug/uganda/news/national/rukutana-salutes-soldiers-for-blocking-bamugemereire-after-heroes-day-awards-1831410
Locals protest over Barifa forest eco-tourism project	*	*	https://www.monitor.co.ug/uganda/news/national/locals-protest-over-barifa-forest-eco-tourism-project-3664338
Police, land grabbers on the spot for connivance	*	*	https://www.monitor.co.ug/uganda/news/national/police-land-grabbers-on-the-spot-for-connivance-3480038
Alleged grabbing of Tororo park land renews calls to save spaces	*		https://www.monitor.co.ug/uganda/news/national/alleged-grabbing-of-tororo-park-land-renews-calls-to-save-spaces-3839950

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