L
AND ADMINISTRATION SYSTEM IN BURUNDI BEFORE AND AFTER THE WAR: A COMPREHENSIVE REVIEW

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ABSTRACT

This comprehensive review examines Burundi's land administration system before the war and in the aftermath of the conflict, focusing on the impact of land registration interventions, the role of institutions, and the dynamics of land grievances in shaping post-conflict land governance. The review draws on a range of scholarly articles that provide insights into the developmental impact of land administration, the challenges of decision-making in post-conflict settings, and the relationship between land grievances and electoral violence. The findings highlight the importance of considering the governance environment, social factors, and power distribution when implementing land administration interventions. The review also emphasises the need for benchmarking land administration systems regarding coverage, cost-effectiveness, and service quality. Additionally, the review

Introduction

The land administration system is crucial in post-war countries, contributing to economic development, social equity, and sustainable peace. This review aims to provide a comprehensive understanding of the land administration system in post-war Burundi. The review draws on a range of scholarly articles that shed light on the impact of land registration interventions, the role of institutions, the dynamics of land grievances, and the challenges of decision-making in post-conflict settings.

Land administration is a multifaceted concept encompassing various processes

underscores the political dimensions of land conflicts and the potential risks of inflaming conflictive property relations through land registration programs. The review concludes by emphasising the significance of land tenure reform in preserving peace, enabling reconstruction, and enhancing food security in post-conflict contexts. The review concludes with a call for continued research, policy development, and support for land administration initiatives in post-war settings. By aligning research, policy, and practice, nations can build resilient land administration systems that underpin social cohesion, economic recovery, and lasting peace.

a nd functions related to the management and governance of land resources. It involves establishing and maintaining secure property rights, land registration, surveying, land use planning, and land valuation (Dale & McLaughlin, 2000). The effectiveness of land administration systems has been widely recognised as a critical determinant of economic growth, social stability, and environmental sustainability (Dale & McLaughlin, 2000).

In post-war contexts, addressing land issues has gained increasing attention in academic literature and practical interventions (Todorovski et al., 2016). Land administration interventions have been recognised as facilitating state-building processes and contributing to post-conflict reconstruction and development (Todorovski et al., 2016). These interventions aim to establish transparent and efficient land governance systems that provide secure tenure, resolve land disputes, and promote equitable access to land resources (Todorovski et al., 2016).

The impact of land registration interventions in post-war settings has been the subject of extensive research. Studies have shown that formalising land rights through registration can enhance tenure security, increasing investment, productivity, and economic development. Secure land tenure gives individuals and communities the confidence to invest in land improvements, access credit, and engage in long-term planning. However, the effectiveness of land registration interventions depends on various factors, including the governance environment, the effectiveness of the state apparatus, and the distribution of socioeconomic power.

Institutions play a crucial role in shaping land administration systems and their outcomes. Effective institutions are essential for ensuring the rule of law, protecting property rights, and providing accessible and transparent land administration services. The literature emphasises the need for solid institutional frameworks that promote

accountability, transparency, and citizen participation in decision-making processes. Additionally, the role of institutions in addressing land grievances and resolving land disputes is crucial for maintaining social stability and preventing the escalation of conflicts.

Decision-making around land governance in post-conflict settings is a complex process influenced by various factors. Migration, ethnic divisions, power struggles, and limited statehood are among the challenges that decision-makers face in these contexts. Understanding decision-making dynamics requires a structured and theoretically informed analysis of actors and structures involved in land governance. The literature highlights the importance of considering the duality of structure, which encompasses both formal and informal institutions, in shaping decision-making processes.

Land conflicts in post-conflict Burundi have significant political dimensions, including protracted ethno-political violence, forced displacement, misappropriation of landholdings, and erosion of customary tenure arrangements. Land policy reform has emerged as a critical priority in preserving peace, enabling reconstruction, and enhancing food security. However, land registration programs risk inflaming conflictive property relations in rural communities. Therefore, it is crucial to carefully consider the potential risks and unintended consequences of land administration interventions in post-war contexts.

In conclusion, this comprehensive review aims to provide a comprehensive understanding of the land administration system in post-war Burundi. The review draws on a range of scholarly articles that shed light on the impact of land registration interventions, the role of institutions, the dynamics of land grievances, and the challenges of decision-making in post-conflict settings. The findings highlight the importance of considering the governance environment, social factors, and power distribution when implementing land administration interventions. The review also emphasises the need for benchmarking land administration systems regarding coverage, cost-effectiveness, and service quality. Additionally, the review underscores the political dimensions of land conflicts and the potential risks of inflaming conflictive property relations through land registration programs. The case of Burundi is examined to understand how government interventions in land administration during post-conflict periods can shape future land governance. Overall, this review contributes to the existing literature on land administration in post-war contexts and provides insights for policymakers and practitioners in Burundi and other post-conflict countries.

Land Administration System

Meaning of land administration and land administration system

Land administration refers to the processes and systems involved in managing land resources, including land tenure, land use, and land rights. It encompasses establishing, maintaining, and disseminating information related to land ownership and land

transactions (Steudler et al., 2004). The land administration system is the framework through which these processes are carried out.

The understanding of land administration and land administration systems has evolved. There is a recognition that land administration systems are not static but constantly evolving due to societal perceptions of land and ongoing reforms (Steudler et al., 2004). The development of internationally accepted methodologies to evaluate and compare the performance of land administration systems is still a challenge (Steudler et al., 2004). However, efforts have been made to develop frameworks and models for measuring and assessing the effectiveness of land administration systems (Steudler et al., 2004).

One approach to evaluating land administration systems is using toolbox principles. These principles cover various aspects of land administration, including land policy, land tenure, and land administration and cadastral principles (Steudler et al., 2004). The toolbox principles provide a basis for evaluating the performance of land administration systems and ensuring that they cover the entire spectrum of land administration activities (Steudler et al., 2004).

The implementation of land administration systems can face institutional constraints and issues. These constraints may include administrative and political factors that hinder the effective functioning of land administration systems (Mbee & Joseph, 2023). For example, in the Philippines, multiple land agencies with different and redundant land administration systems pose challenges to sustainable land development (Balicanta et al., 2023).

Efforts have been made to enhance land administration systems by integrating spatial planning processes. The Land Administration Domain Model (LADM) is a widely used standard representing the relationship between land tenure and land registration system data (Alkan, 2023). By incorporating spatial planning processes into standardised conceptual models, land administration systems can be strengthened and integrated with land registration systems, leading to more efficient and streamlined processes (Alkan, 2023).

Corruption is a significant challenge in land administration systems. Implementing national integrity strategies can help prevent corruption and ensure transparency and accountability in land administration (Sakib et al., 2022). However, the influence of local and administrative politics can hinder the proper implementation of these strategies (Sakib et al., 2022).

Land administration system in general

The land administration system is crucial to managing land resources and ensuring effective land governance. It involves establishing and maintaining systems and

processes for recording, managing, and disseminating information related to land ownership, land use, and land rights (Bennett et al., 2021).

One of the critical challenges in land administration is the maintenance of the system. Land administration systems require regular updates and maintenance to ensure the information's accuracy and reliability (Bennett et al., 2021). However, many countries still struggle with maintaining complete and up-to-date land administration systems (Asiama et al., 2017). This can hinder the design and implementation of land management activities such as land consolidation (Asiama et al., 2017).

To develop an appropriate land administration system, the principles of pro-poor and fit-for-purpose land administration must be followed (Asiama et al., 2017). These principles include flexibility, participatory approaches, affordability, support for land tenure systems, and transparency (Asiama et al., 2017). Participatory land administration, involving local communities in the land administration process, has been identified as a promising approach (Asiama et al., 2017).

The land administration system should also consider the specific characteristics of the land being administered. For example, in the case of customary lands, the system should include information relevant to land consolidation, such as topography, soil types, water distribution, and types of crops grown (Asiama et al., 2017).

Efficient land administration systems are essential for maximising the overall value of a country's land resources (Ogbu & Iruobe, 2018). They provide a platform for coordinating efforts aimed at land resource management and development (Ogbu & Iruobe, 2018). However, the coexistence of formal and informal land administration systems can pose challenges to physical development on land (Ogbu & Iruobe, 2018).

Evaluating and comparing the performance of land administration systems is a complex task. No internationally accepted methodologies exist (Steudler et al., 2004). Land administration systems constantly evolve and represent different societal perceptions of land (Steudler et al., 2004). However, efforts have been made to develop frameworks for measuring and comparing the performance of land administration systems (Steudler et al., 2004).

In some countries, the existing land administration systems are outdated and inefficient, characterised by corruption and inadequate policies and laws (Masum, 2017). These issues can lead to problems such as land inequality, landlessness, and conflicts over land (Masum, 2017). Upgrading and modernising land administration systems is crucial to address these challenges and ensure effective land management.

Land administration system in post-war countries

The post-war period is critical for countries to rebuild their land administration systems and establish effective governance frameworks.

a) Land Administration System in Post-War Rwanda

After the genocide in 1994, Rwanda embarked on a comprehensive land reform program. The government implemented a nationwide land registration and titling campaign to clarify land rights and reduce conflicts. The land administration system in Rwanda is now considered one of the most efficient and transparent in Africa.

Post-war Rwanda has made significant strides in land administration and land administration systems. After the genocide in 1994, the country embarked on a comprehensive land reform program, including a nationwide land tenure regularisation program (Ali et al., 2011). The aim was to clarify land rights, reduce conflicts, and promote investment. The program had several positive impacts, including improved land access for legally married women and better recordation of inheritance rights (Ali et al., 2011). It also led to significant investment impacts, particularly for women (Ali et al., 2011). However, the program also reduced land market activity (Ali et al., 2011).

The Rwandan government recognised the importance of proper land administration for sustainable peace and security, social equity, and conflict prevention (Todorovski & Potel, 2019). They implemented a systematic land registration program to register land, aiming to ease land administration practices and reduce land-related claims and disputes (Todorovski & Potel, 2019). The program faced challenges, including continuous land claims and disputes, mainly due to how land issues were handled during the post-conflict emergency and early recovery period (Todorovski & Potel, 2019). However, the government's efforts in land administration have been recognised as successful in improving land governance and reducing conflicts (Todorovski & Potel, 2019).

The land administration system in Rwanda is considered one of the most efficient and transparent in Africa (Ali et al., 2011). The government's initiatives have focused on enhancing land tenure security, promoting gender equality in land rights, and improving land administration practices (Ali et al., 2011). The systematic land registration program has formalised land rights and reduced land disputes (Todorovski & Potel, 2019). It has also facilitated credit and agricultural investment access, increasing productivity and economic development (Ali et al., 2011).

To strengthen land administration practices, Rwanda has also embraced technological advancements. The country has implemented the Land Administration Domain Model (LADM), which provides a standardised framework for land administration data management (Alkan, 2023). Integrating spatial planning processes into the land administration system has enhanced the efficiency and effectiveness of land management practices (Alkan, 2023).

In conclusion, post-war Rwanda has made significant progress in land administration and land administration systems. A nationwide land tenure regularisation program and

systematic land registration have improved land governance, reduced conflicts, and promoted investment. Efforts to enhance gender equality in land rights and embrace technological advancements have strengthened the land administration system. However, challenges such as continuous land claims and disputes persist, requiring ongoing efforts to ensure sustainable and equitable land administration practices.

b) Land Administration System in Post-War Bosnia and Herzegovina

Post-war Bosnia and Herzegovina faced significant challenges in rebuilding its land and land administration systems. The country experienced complex ethnic and political dynamics, which hindered the establishing of a unified land administration system. The foreign intervention in Bosnia-Herzegovina aimed to implement post-war recovery policies, but it often disregarded the population's local cultural specificities and aspirations. The emphasis on property and safety rights in the reconstruction process channelled the trajectory of postsocialist neo-liberalization.

The return of displaced persons was a crucial aspect of post-war reconstruction in Bosnia and Herzegovina. However, the process was complicated by the multi-ethnic nature of displacement, the war gains, and the post-war aspirations of nationalist leadership. The return policies were seen as accomplishments in holding up human rights and recreating a nationally mixed Bosnia-Herzegovina.

Economic factors and structural characteristics influenced Bosnia, Herzegovina, and Serbia refugee movements. The demographic and socio-economic characteristics of refugees from Bosnia and Herzegovina who sought refuge in Serbia were found to be more favourable than other refugees. Historical trends of ethnic migrations within the former Yugoslavia continued to shape the movements of refugees.

The International Criminal Tribunal for the Former Yugoslavia (ICTY) played a role in providing justice for the people of Bosnia and Herzegovina. However, the impact of the ICTY's efforts on Bosnia's societal peace was limited. The country also faced attacks on healthcare facilities during the conflict, destroying many hospitals.

In summary, post-war Bosnia and Herzegovina faced challenges in rebuilding its land and land administration systems due to complex ethnic and political dynamics. The foreign intervention and return policies influenced the reconstruction trajectory, often disregarding local aspirations. Economic factors and historical trends influenced refugee movements in the country and Serbia. The ICTY's efforts limited societal peace, and attacks on healthcare facilities further hindered recovery.

c) Land Administration System in Post-War Liberia

Post-war Liberia has faced challenges in rebuilding its land and land administration systems. The country implemented land reforms to address land disputes and promote investment (Deininger & Feder, 2009). Efforts were made to establish a Land Commission and implement a land tenure and land administration program (Deininger

& Feder, 2009). However, challenges remain in implementing the reforms and ensuring secure land rights for all citizens (Deininger & Feder, 2009).

The formalisation of land rights through land registration has been shown to enhance tenure security and lead to higher levels of investment and productivity (Deininger & Feder, 2009). However, there is limited evidence on land registration impacts' cost-effectiveness and long-term sustainability (Deininger & Feder, 2009). It is crucial to carefully diagnose the policy, social, and governance environment before implementing interventions in land administration systems (Deininger & Feder, 2009).

Resilience among youth in post-conflict Liberia has been a research focus, given the significant trauma and loss experienced by children during the civil war and the Ebola epidemic (Levey et al., 2016). Factors contributing to resilience include adaptive functioning, psychological health, and access to education (Levey et al., 2016).

Transparency and accountability are essential for sustainable development and democracy in Liberia. The right to access government information is included in the national constitution, and the Freedom of Information Act has been enacted to enhance transparency and the free flow of information (Svärd, 2016).

In recent years, cloud computing and machine learning techniques have supported land cover and ecosystem extent mapping in Liberia (Sousa et al., 2020). These approaches have shown promising results in producing high-quality land cover products nationally (Sousa et al., 2020).

In summary, post-war Liberia has faced challenges in rebuilding its land and land administration systems. Efforts have been made to address land disputes and promote investment through land reforms. The formalisation of land rights through land registration has positively impacted tenure security and investment. Resilience among youth, transparency, and access to government information have also been areas of focus. The utilisation of advanced technologies has contributed to improving land cover mapping in the country.

d) Land Administration System in Post-War Sierra Leone

Post-war Sierra Leone has tried to address land administration challenges and promote sustainable development. Land administration interventions, such as land registration, have been shown to enhance tenure security and lead to higher levels of investment and productivity (Deininger & Feder, 2009). However, the literature highlights the importance of carefully diagnosing the policy, social, and governance environment before implementing interventions in land administration systems (Deininger & Feder, 2009).

Gender dynamics intersect with land administration in Sierra Leone. While legal provisions have been put in place to give women the right to inherit land, the practical implementation of these provisions remains limited (Ryan, 2017). The impacts of large-

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scale land deals in the country are highly gendered, and lineage and patronage intersect with these gendered impacts (Ryan, 2017).

Remote sensing techniques have been utilised to assess changes in land cover, particularly mangrove ecosystems, along the coast of Sierra Leone (Mondal et al., 2017). The country has experienced both mangrove loss and gain over the years, with potential for regeneration and sustainability under carefully constructed management strategies (Mondal et al., 2017).

Efforts have also been made to establish functional surveillance systems, such as the Influenza Sentinel Surveillance (ISS) system, to monitor public health in Sierra Leone (Kebede et al., 2013). The systematic approach, national ownership, and external support have contributed to successfully implementing the ISS system (Kebede et al., 2013).

Corruption has been a challenge in Sierra Leone, with cases often arising from the abuse of public offices for private gains (Fayiah, 2022). However, the country has progressed in graft control, with corruption levels rated below Africa's average (Fayiah, 2022).

In summary, post-war Sierra Leone has tried to address land administration challenges and promote sustainable development. Land administration interventions, gender dynamics, remote sensing techniques, public health surveillance systems, and anti-corruption measures have been areas of focus. However, the practical implementation of gender-equal legal provisions and the long-term sustainability of land administration impacts require continued attention.

e) Land Administration System in Post-War Timor-Leste

Post-war Timor-Leste has faced challenges in land administration and land administration systems. The country has extensive areas of customary land holdings, and the development of land tenure and resource management policies has been a critical issue Langton et al. (2005). The interaction between customary and contemporary tenure is still a work in progress, and the definition of boundaries, particularly in marine tenure, remains loosely defined (Tilley et al., 2019).

The displacement caused by conflict has led to a population shift and land administration system changes (Joireman & Yoder, 2016). Reports of depopulation in rural areas have been observed, accompanied by conflicts over land claims (Joireman & Yoder, 2016). Recognising and valorising customary institutions and joint property management are prerequisites for sustainable and equitable land tenure reform in Timor-Leste (Batterbury et al., 2015).

Regarding fisheries governance, co-management approaches have been implemented, with successes in establishing small marine closures and no-take zones (Tilley et al., 2019). However, challenges remain in ensuring legitimate community engagement and

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avoiding external appropriation that may reinforce marginalisation and power hierarchies (Tilley et al., 2019).

Remote sensing techniques have been utilised to assess changes in land cover, particularly mangrove ecosystems, along the coast of Timor-Leste (Fisher, 2012). The country has experienced both mangrove loss and gain, highlighting the need for carefully constructed management strategies to ensure regeneration and sustainability (Fisher, 2012).

In summary, post-war Timor-Leste has faced challenges in land administration and land administration systems, particularly in developing land tenure policies and the interaction between customary and contemporary tenure. Efforts have been made in fisheries governance and remote sensing applications. Recognising customary institutions and establishing legitimate community engagement is crucial for sustainable and equitable land tenure reform.

f) Land Administration System in Post-War South Sudan

Post-war South Sudan has faced land administration and land administration systems challenges due to ongoing conflicts, displacement, and health system disruptions (Jervase et al., 2018). The country has experienced a low and generalised HIV epidemic, with pockets of higher prevalence among crucial and vulnerable populations (Jervase et al., 2018). The prevalence of HIV has been associated with high-risk behaviours, such as multiple partners and low condom use, particularly among the main army (Jervase et al., 2018). The civil crisis and displacement have led to massive population shifts and conflicts over land claims. Gender dynamics intersect with land administration, with women facing challenges accessing land, livelihoods, and political rights (Grabska, 2013). The expansion of informal settlements in urban areas, such as Juba, has led to land conflicts (McMichael, 2016). Establishing a federal system of government has been mandated to achieve unity in diversity and address governance challenges (Dau, 2022). In summary, post-war South Sudan has faced land administration and land administration systems challenges due to ongoing conflicts, displacement, and health system disruptions. The prevalence of HIV, gender dynamics, land conflicts, and the establishment of a federal system of government have been critical issues in the country's post-war context.

g) Land Administration System in Post-War Afghanistan

Post-war Afghanistan has faced land administration and land administration systems challenges due to ongoing conflicts and the complex socio-political context (Rahimi, 2020). The war in Afghanistan and subsequent refugee status have had differential effects on different ethnic subgroups of refugees, with varying levels of post-traumatic stress disorder (PTSD) and depression observed (Mghir & Raskin, 1999). Ethnic

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differences, such as exposure to traumatic events and socioeconomic backgrounds, have influenced the current psychopathology among Afghan refugees (Mghir & Raskin, 1999). Regarding land administration, Afghanistan's uncertain business climate and underdeveloped formal property rights system have posed challenges to securing credit transactions and enforcing contracts (Rahimi, 2020). In this context, hawala, an informal money transfer system, has significantly stabilised financing and markets, particularly within supply chains and trade financing (Rahimi, 2020). Hawala has been utilised as a form of credit, supporting Afghan merchants in coping with the uncertainties of the business climate (Rahimi, 2020). However, hawala regulations need to consider the multifaceted functions of hawala and involve all stakeholders to regulate the system (Rahimi, 2020) effectively.

In summary, post-war Afghanistan has faced land administration and land administration systems challenges due to ongoing conflicts and the complex socio-political context (Rahimi, 2020). The differential effects of war trauma on different ethnic subgroups of refugees and the role of hawala in stabilising financing and markets have been notable aspects in the post-war landscape of Afghanistan.

h) Land Administration System in Post-War Iraq

Post-war Iraq has faced challenges in land administration and land administration systems due to the complex socio-political context and ongoing conflicts (Unruh, 2020). The country has experienced property rights and land degradation changes, particularly in agricultural lands (Pasko et al., 2020). The legislative and institutional framework for land rights in Iraq has been a subject of discussion, with questions raised about its ability to manage large-scale land and property problems emerging in the country (Unruh, 2020).

The Iraq war received high public support as it was framed as an extension of the war on terror, linking it to the September 11 attacks (Gershkoff & Kushner, 2005). The importance of the al Qaeda problem was a significant predictor of war support, while the importance of the Iraq problem was not (Gershkoff & Kushner, 2005). The war in Iraq prolonged the 9/11 effect, and most Americans affirmed a link between the Iraq war and the war on terror (Norpoth & Sidman, 2007).

Regarding land administration, the introduction of patent laws formed a vital part of the transformation conducted by the Coalition Provisional Authority in Iraq (Saunders, 2023). The Hawala system has significantly stabilised financing and markets, particularly within supply chains and trade financing. However, hawala regulation requires all stakeholders' involvement to manage the system effectively.

In summary, post-war Iraq has faced challenges in land administration and land administration systems due to the complex socio-political context and ongoing conflicts. The legislative and institutional framework for land rights has been a subject of

discussion, and the war in Iraq was framed as part of the war on terror. The introduction of patent laws and the role of the hawala system have been notable aspects in the post-war landscape of Iraq.

i) Land Administration System in Post-War Mozambique

Post-war Mozambique has faced various challenges in land administration and land administration systems, as well as socio-economic and health issues. The country has experienced a high prevalence of HIV/AIDS, with challenges in accessing treatment and managing the social stigma associated with the disease (Audet et al., 2010). Mozambique's healthcare system has been inadequate to support the need for new chronic disease services for people with AIDS (Audet et al., 2010).

Land conflicts and land grabbing have been significant issues in Mozambique, with large-scale foreign investments in national agricultural land raising concerns about the displacement of small farmers and the impact on food security (Clements & Fernandes, 2013). The government's promotion of concessions and long-term lease agreements has been criticised for facilitating land-grabbing practices (Clements & Fernandes, 2013).

Natural disasters like cyclones have also affected Mozambique, leading to outbreaks of waterborne diseases like cholera (Cambaza et al., 2019). The government's response to these disasters has highlighted the need for effective and proven response plans to combat disease outbreaks (Cambaza et al., 2019).

In summary, post-war Mozambique has faced challenges in land administration and land administration systems and issues related to HIV/AIDS, land conflicts, and natural disasters. The country's health care system, social stigma, and the displacement of small farmers due to land grabbing have been significant concerns in the post-war context.

j) Land Administration System in Post-War Sri Lanka

Post-war Sri Lanka has faced challenges in land administration and land administration systems and issues related to urbanisation and political connections. Implementing soil and water conservation measures has been crucial in reducing soil erosion and sediment yields in watersheds, particularly in the Upper Mahaweli Catchment Diyabalanage et al. (2017). However, land conflicts and land grabbing have been significant concerns, with large-scale foreign investments raising concerns about the displacement of small farmers and food security. The rapid urbanisation in Sri Lanka has led to converting agricultural and natural land into built-up areas, necessitating effective urban planning and management (Pathiranage et al., 2018). The SLEUTH urban growth model has been utilised as a decision-support tool for understanding and planning future urbanisation patterns (Pathiranage et al., 2018).

In terms of political connections, studies have found no convincing evidence that political connections increase firm value in Sri Lanka (Berkman & Galpoththage, 2016). The

government's granting of major projects does not favour politically connected firms (Berkman & Galpoththage, 2016).

In summary, post-war Sri Lanka has faced challenges in land administration and land administration systems, including land conflicts and urbanisation. Implementing soil and water conservation measures has been critical in mitigating soil erosion, while rapid urbanisation requires practical planning tools. The impact of political connections on firm value has been examined, with no significant evidence found.

In summary, post-war countries faced significant challenges rebuilding their land administration systems. While some countries have made significant progress in implementing land reforms and establishing transparent and efficient land administration systems, others face challenges due to political disputes, administrative fragmentation, and weak institutional capacity. The success of land administration reforms in post-war countries depends on political will, institutional capacity building, and the involvement of local communities in the decision-making process.

Land Administration System in Burundi
Land Administration System in Burundi Before the colonial period

The land administration system in Burundi before traditional practices and governance structures shaped the colonial era. Land in pre-colonial Burundi was primarily governed by customary law, with land rights and access determined by communal norms and practices (Juan, 2017). The land administration system was decentralised, with local chiefs and councils responsible for resolving land disputes and managing land allocation (Juan, 2017).

The traditional land administration system in pre-colonial Burundi was characterised by communal land ownership and collective decision-making processes. Land was considered a communal resource, and access to land was based on social and kinship ties (Juan, 2017). The land administration system focused on maintaining social harmony and ensuring equitable access to land resources within the community (Juan, 2017). Land disputes were resolved through traditional dispute resolution mechanisms, such as mediation and arbitration, led by local chiefs and elders (Juan, 2017).

 However, pre-colonial Burundi's traditional land administration system was not without challenges. The lack of formal land registration and documentation made land rights less secure and susceptible to disputes (Bundervoet, 2009). The absence of a centralised land administration system also limited the ability to manage land resources effectively and address conflicts that arose from competing claims (Juan, 2017). Additionally, the traditional land administration system was influenced by power dynamics and political structures, which could lead to inequalities in land access and distribution (Bundervoet, 2009).

Land Administration System in Burundi during the colonial period

The colonial period brought significant changes to the land administration system in Burundi. The colonial authorities introduced a centralised land administration system based on European models to establish private land ownership and individual land rights (Bundervoet, 2009). The colonial government implemented land surveys, cadastral mapping, and land registration to formalise land ownership and establish a system of land tenure based on individual property rights (Steudler et al., 2004). This shift from communal land ownership to private land ownership had profound implications for land governance and access in Burundi.

Burundi's colonial land administration system was characterised by the imposition of European legal frameworks and the displacement of traditional land governance structures (Bundervoet, 2009). Introducing private land ownership and individual land rights disrupted the communal land tenure system and led to conflicts over land ownership and boundaries (Bundervoet, 2009). The colonial authorities also favoured certain ethnic groups, particularly the Tutsi, in land allocation and administration, exacerbating existing social tensions and inequalities (Bundervoet, 2009).
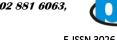
European colonial powers, including Germany, Britain, and France, influenced Burundi's land administration system during the colonial period. The colonial authorities introduced a centralised land administration system based on European models to establish private land ownership and individual land rights. This shift from communal land ownership to private land ownership had significant implications for land governance and access in Burundi.

Burundi's colonial land administration system was characterised by the imposition of European legal frameworks and the displacement of traditional land governance structures. Introducing private land ownership and individual land rights disrupted the communal land tenure system and led to conflicts over land ownership and boundaries. The colonial authorities also favoured certain ethnic groups, particularly the Tutsi, in land allocation and administration, exacerbating existing social tensions and inequalities.

Burundi's colonial land administration system had implications for equity, fairness, and justice in land access and distribution. The requirements and processes for land tenure formalisation favoured societal elites, including bureaucrats, politicians, and entrepreneurs, while marginalising indigenous communities and disadvantaged groups. The colonial land tenure system perpetuated inequitable access to land and exacerbated socioeconomic inequalities. The land titling process, a vital component of the colonial land administration system, aggravated the problem of inequitable, unfair, and unjust access to land inherited from the colonial era.

Furthermore, the colonial land administration system in Burundi was influenced by the colonial powers' disregard for the customs and traditions of the indigenous population. The administering authorities did little to honour the rules set by the League of Nations, which required respecting the customs and traditions of the native population in matters relating to land tenure and land use. The colonial land administration system disregarded the indigenous land governance structures. It imposed European models, leading to a disconnect between the formal system and the customary practices of the local population.

Land Administration System in Burundi After the Colonial Period

The land administration system in Burundi underwent significant changes and reforms after the colonial period. The post-colonial land administration system aimed to address the challenges inherited from the colonial era and promote sustainable land governance. One of the critical aspects of Burundi's post-colonial land administration system was the recognition and formalisation of customary land rights (Chi & Urdal (2018). Efforts were made to integrate customary land practices into the formal system and ensure equitable access to land resources. This recognition of customary land rights aimed to promote social justice, protect the rights of vulnerable groups, and prevent land grabbing and encroachment.

The post-colonial land administration system also focused on resolving land disputes and conflicts. Traditional modes of conflict resolution, rooted in pre-colonial cultural and political centres, continued to play a significant role in resolving land disputes (Juan, 2017). The system aimed to strengthen these traditional mechanisms and integrate them with formal dispute resolution processes to ensure effective and fair resolution of land conflicts (Tchatchoua-Djomo et al., 2020).

Furthermore, Burundi's post-colonial land administration system emphasised the role of international actors and non-governmental organisations (NGOs) in land governance (Betge, 2019). International actors provided technical assistance, capacity building, and financial support to strengthen land governance systems and promote sustainable land administration. NGOs play a crucial role in advocating for land rights, promoting transparency, and ensuring the participation of marginalised groups in land administration processes (Saiget, 2016).

However, challenges remain in the post-colonial land administration system in Burundi. The scarcity, high land value, and insufficient land tenure rights have contributed to conflicts and disputes over land resources (Juan, 2017). The lack of precise estimates of the total number of land disputes indicates the ongoing prevalence of land conflicts in Burundi (Juan, 2017). Additionally, women's access to land and inheritance rights

continue to be challenging, with most women lacking the resources to acquire land (Betge, 2019).

Land Administration System in Burundi Before the War

The land administration system in Burundi before various challenges, including limited land registration, tenure insecurity, and land disputes, characterised the war. The lack of comprehensive land registration made establishing clear land rights and resolving disputes difficult, leading to conflicts and instability (Juan, 2017). The absence of a systematic land administration system hindered the development of a transparent and efficient land governance system (Steudler et al., 2004). Additionally, customary land tenure systems were prevalent, but their recognition and formalisation were limited, contributing to tenure insecurity and conflicts (Juan, 2017).

The limited land registration in pre-war Burundi resulted in unclear land rights and overlapping claims, leading to land disputes and conflicts (Juan, 2017). The absence of a systematic land administration system meant land transactions were often informal and lacked legal recognition, further exacerbating tenure insecurity (Steudler et al., 2004). The lack of clear land rights and tenure security negatively affected agricultural productivity and investment in land-related activities (Deininger & Castagnini, 2006). Insecurity about the ability to use land in the future reduced incentives for land-related investments, both by local farmers and outside investors (Deininger & Castagnini, 2006). The institutional framework for land administration in pre-war Burundi was also weak, with limited coordination and enforcement mechanisms (Steudler et al., 2004). The lack of effective governance and regulation contributed to the prevalence of land disputes and conflicts (Juan, 2017). Traditional modes of conflict resolution, rooted in pre-colonial cultural and political centres, played a significant role in resolving land conflicts (Juan, 2017). However, these traditional mechanisms could not always address the complexities and scale of land disputes in a rapidly changing society (Juan, 2017).

Land Administration System in Post-War Burundi

In the post-war period, efforts were made to reform the land administration system in Burundi to address these challenges and promote sustainable development. The new land administration system aimed to improve tenure security, enhance transparency, and prevent conflicts related to land disputes (Steudler et al., 2004). One of the critical approaches adopted was systematic land registration, which involved the comprehensive registration of land parcels and the establishment of a reliable land information system (Steudler et al., 2004). Systematic land registration aims to clarify and secure land tenure, facilitate land transactions and prevent disputes (Steudler et al., 2004). By registering land systematically, individuals and communities gained legal

recognition and documentation of their land rights, enhancing their tenure security (Steudler et al., 2004).

The new land administration system also recognised the importance of integrating customary land into the formal system. Efforts were made to recognise and formalise customary land rights, ensuring equitable access to land resources and preventing conflicts arising from competing claims (Steudler et al., 2004). This inclusion of customary land aimed to promote social justice, protect the rights of vulnerable groups, and prevent land grabbing and encroachment (Steudler et al., 2004).

After the war, Burundi underwent significant changes in its land administration system to address the challenges faced before the conflict and promote sustainable development. The post-war land administration system in Burundi aimed to improve tenure security, enhance transparency, and prevent conflicts related to land disputes (Krigsholm et al., 2018). The system underwent several changes and adaptations to meet the evolving needs of stakeholders and align with global trends in land administration. One of the critical aspects of Burundi's post-war land administration system was integrating technology and developing a user-driven approach. The system recognised the importance of collaborative and participatory relationships with stakeholders, including government agencies, civil society, and international organisations (Krigsholm et al., 2018). Technology, such as geographic information systems (GIS) and digital services, facilitated the streamlining of environmental permit procedures, integration of public services, and coordination among public data agencies (Krigsholm et al., 2018). These technological advancements improved the accuracy, reliability, and accessibility of land information, contributing to more efficient land administration processes.

Burundi's post-war land administration system also emphasised recognising and formalising customary land rights. Efforts were made to ensure equitable access to land resources and prevent conflicts arising from competing claims. The inclusion of customary land in the formal system aimed to promote social justice, protect the rights of vulnerable groups, and prevent land grabbing and encroachment. Recognising customary land rights contributed to tenure security and stability in post-war Burundi.

The policy and institutional frameworks supporting Burundi's post-war land administration system were crucial in its implementation and effectiveness. Government agencies were responsible for formulating land policies, enacting legislation, and implementing land administration programs. They provided the legal and regulatory framework for land administration, established land registration systems, and ensured the enforcement of land rights. Civil society organisations (CSOs) played an essential role in advocating for land rights, promoting transparency, and ensuring the participation of marginalised groups in land administration processes. International organisations

provided technical assistance, capacity building, and financial support to strengthen land governance systems and promote sustainable land administration.

Lessons from Burundi's post-war land administration system can provide insights for other nations recovering from conflicts. The integration of technology, recognition of customary land rights, and stakeholder engagement were critical factors in the system's success (Krigsholm et al., 2018). As exemplified by the Land Administration Toolbox, the holistic approach emphasised the importance of land policy, legislation, institutions, spatial data infrastructures, and capacity building in achieving sustainable land administration (Bennett et al., 2008). These lessons highlight the need for an interoperable, accurate, and reliable land administration system that addresses the evolving needs of stakeholders and aligns with global trends in land administration (Krigsholm et al., 2018; Bennett et al., 2008).

The Significance of Land Administration in Post-War Contexts

The significance of land administration in post-war contexts is multifaceted, encompassing its role in post-conflict recovery and stability, mitigating land disputes to prevent further conflict, and examples of post-conflict nations prioritising land administration.

Role of Land Administration in Post-Conflict Recovery and Stability

The aftermath of conflict leaves societies in disarray, with disrupted social fabric, shattered infrastructure, and uprooted communities. A functional land administration system is a cornerstone of this milieu's post-conflict recovery and long-term stability. The land is not merely a physical resource; it embodies historical, cultural, and economic significance. A well-structured land administration system facilitates the restoration of property rights, offering individuals and communities a sense of security, belonging, and identity. Providing mechanisms for resolving land disputes and safeguarding tenure contributes to rebuilding social trust and engenders an environment conducive to economic growth and social cohesion. Land administration plays a crucial role in post-conflict recovery and stability. After the end of a conflict, land and its administration are often negatively affected, and neglecting or mishandling land issues can hinder the rebuilding of a post-conflict society (Todorovski et al., 2016). Proper land administration is essential for restoring land rights, resolving land disputes, and facilitating the return and resettlement of displaced populations (Todorovski et al., 2016). It provides a foundation for economic development, social stability, and the rule of law (Todorovski et al., 2016). By establishing transparent and efficient land governance systems, post-conflict nations can promote investment, stimulate economic growth, and enhance social cohesion (Todorovski et al., 2016).

Mitigating Land Disputes to Prevent Further Conflict

Land disputes, often arising due to unclear ownership and weak land governance, have the potential to reignite conflicts, hampering recovery efforts. In post-war scenarios, where grievances remain fresh and tensions remain high, land disputes can rapidly escalate into violence. A robust land administration system, equipped with accurate land records, transparent procedures, and accessible mechanisms for conflict resolution, plays a pivotal role in mitigating these disputes. By providing an impartial platform to settle conflicts, land administration reduces the risk of violence and enables communities to focus on rebuilding their lives.

Mitigating land disputes is another critical aspect of land administration in post-war contexts. Land disputes are a common consequence of conflicts, as land rights may have been violated or become unclear during the conflict period (Todorovski et al., 2016). Unresolved land disputes can perpetuate tensions, hinder reconciliation efforts, and potentially reignite conflict (Todorovski et al., 2016). Effective land administration systems can provide mechanisms for resolving disputes, such as through mediation, arbitration, or formal legal processes (Todorovski et al., 2016). By addressing land disputes fairly and transparently, post-conflict nations can promote social justice, reduce conflict risks, and foster trust in the land administration system (Todorovski et al., 2016).

Examples of Post-Conflict Nations Prioritizing Land Administration

Several post-conflict nations have recognised the importance of prioritising land administration in their recovery and reconstruction efforts. For example, Kosovo, a post-conflict nation, has prioritised land administration as part of its recovery and reconstruction efforts. With the international community's support, developments in the land administration sector have been evident (Todorovski et al., 2016). Strengthening institutions in the land sector has positively impacted the post-conflict society's institutional weaknesses (Todorovski et al., 2016). However, Kosovo still faces challenges regarding internal legitimation and diversity management, as different narratives and movements question the framing of Kosovo as a multiethnic state (Landau, 2017).

Rwanda, another post-conflict nation, has also recognised the significance of land administration in its recovery process. Following the genocide, land administration reforms were implemented to address land-related grievances and promote social stability (Todorovski & Potel, 2019). These reforms aimed to clarify land rights, establish a systematic land registration system, and resolve land disputes through community-based mechanisms (Todorovski & Potel, 2019). By prioritising land administration,

Rwanda aimed to prevent further conflicts related to land, promote equitable access to land resources, and support sustainable development (Todorovski & Potel, 2019).

Liberia, which experienced a civil war from 1989 to 2003, has also made efforts to prioritise land administration in its post-conflict recovery. The Land Commission of Liberia was established in 2009 to address land-related issues and promote land reform. The commission has been working on land policy development, land rights documentation, and resolving land disputes. These efforts aim to secure land tenure, promote investment, and contribute to post-conflict Liberia's social stability and economic development.

Colombia, a country that has faced decades of armed conflict, has also recognised the importance of land administration in its post-conflict context. The Colombian government has implemented land restitution programs to address land-related grievances and promote peace and reconciliation (Morehouse, 2014). These programs aim to return land to victims of displacement and resolve land disputes through legal mechanisms (Morehouse, 2014). Colombia prioritises land administration and restitution to address historical injustices, promote social justice, and prevent further land-related conflicts.

Timor-Leste, a nation that gained independence in 2002 after a long conflict, has also prioritised land administration in its post-conflict recovery. The government has implemented land reform programs to address land disputes and provide secure land tenure. These programs promote social stability, economic development, and the return and resettlement of displaced populations. Timor-Leste seeks to build a foundation for sustainable development and peace by prioritising land administration.

In conclusion, several post-conflict nations, including Kosovo, Rwanda, Liberia, Colombia, and Timor-Leste, have recognised the significance of prioritising land administration in their recovery and reconstruction efforts. These nations have implemented various measures, such as land reforms, land restitution programs, and the establishment of land administration institutions, to address land-related grievances, promote social stability, and support sustainable development. While progress has been made, challenges and ongoing efforts remain to ensure equitable access to land resources, resolve land disputes, and promote social justice in these post-conflict contexts.

The Evolution of Burundi's Land Administration System

The evolution of Burundi's land administration system has been shaped by its historical progression, the shortcomings of the previous system, limited land registration, and new approaches introduced in the post-war period.

Historical Progression of Land Administration Systems in Burundi

The historical trajectory of Burundi's land administration system has been marked by distinct phases shaped by both pre-war and post-war contexts. Burundi's land administration system has been influenced by its historical context, including periods of conflict and colonial rule. The country has experienced civil war, coup d'états, and ethnic tensions (Chigudu, 2021). During the colonial era, land administration favoured the Tutsi ethnic group, leading to inter-group conflicts with the majority Hutu population (Chigudu, 2021). These historical factors have had a lasting impact on land governance in Burundi. Before the conflict, Burundi operated under a largely informal land tenure system, with customary practices governing land rights and usage. This system held deep cultural significance but lacked the legal and administrative frameworks needed to ensure clarity and security in land ownership.

With the eruption of conflict, this already fragile system was further destabilised. The war disrupted administrative structures, leading to the loss of land records and the displacement of communities. This upheaval resulted in contested land claims, leaving many individuals and families needing clear documentation of their land rights.

Shortcomings of the Previous System and Limited Land Registration

The previous land administration system in Burundi had several shortcomings.

Burundi's pre-war land administration system could have been improved, particularly in documentation, transparency, and dispute resolution mechanisms. While deeply ingrained in local culture, customary practices often needed more formal recognition to provide legal protection to landholders. It suffered from institutional weaknesses, lack of transparency, and limited access to land rights (Bizimana et al., 2020). The system was characterised by unclear land tenure arrangements, overlapping claims, and unresolved land disputes (Bizimana et al., 2020). These shortcomings contributed to social tensions and conflicts and hindered post-war recovery efforts.

Moreover, the limited land registration that did exist under the pre-war system primarily covered urban areas and formal land transactions. Rural lands, a significant portion of Burundi's territory, often remained unregistered and undocumented. This created vulnerabilities for rural populations, as their customary land rights were not recognised under the prevailing legal framework. Limited land registration was a significant challenge in Burundi's land administration system. The lack of comprehensive land registration made establishing clear land rights, resolving disputes, and promoting investment difficult (Bizimana et al., 2020). The absence of a systematic land registration process resulted in informal land transactions, informal settlements, and land-related conflicts (Bizimana et al., 2020). The limited land registration system hindered the development of a transparent and efficient land administration system.

New Approaches Introduced Post-War and Their Objectives

In the aftermath of the conflict, recognising the urgent need to address land-related issues, Burundi embarked on a series of reforms to revitalise the land administration system. In the post-war period, new approaches were introduced to address the shortcomings of the previous land administration system and promote stability and development. Efforts were made to strengthen institutions in the land sector and improve land governance (Steudler et al., 2004). They established a hierarchical framework for re-engineering land administration systems to enhance efficiency and effectiveness (Steudler et al., 2004). These new approaches aimed to clarify land rights, resolve disputes, and provide secure land tenure.

The objectives of the new approaches in Burundi's land administration system were to promote social stability, economic development, and the rule of law. By establishing transparent and efficient land governance systems, Burundi aimed to attract investment, stimulate economic growth, and enhance social cohesion (Guariso et al., 2018). The focus was on restoring land rights, resolving land disputes, and facilitating the return and resettlement of displaced populations (Guariso et al., 2018). These objectives were crucial for post-war recovery and stability in Burundi.

However, challenges remain in the evolution of Burundi's land administration system. The country still faces issues of internal legitimation, diversity management, and social justice (Chigudu, 2021). The ongoing efforts to strengthen institutions, improve land registration, and address land-related grievances are essential for achieving the objectives of a transparent and efficient land administration system.

New approaches included the introduction of systematic land registration, participatory mapping, and technology integration. These strategies aimed to:

1) Establish Legal Clarity: The systematic registration sought to formalise land rights by providing legal documentation for urban and rural areas. By registering previously undocumented lands, the system aimed to eliminate ambiguities and protect customary landholders.

2) Enhance Tenure Security: The new system bolsters land tenure security by offering legal recognition to customary and statutory land rights. This recognition was pivotal in reducing the risk of conflicts over land ownership.

3) Facilitate Dispute Resolution: Participatory mapping and transparent registration processes provided mechanisms for resolving land disputes. The goal was to prevent conflicts from escalating by offering equitable and accessible solutions.

4) Promote Economic Development: A comprehensive land administration system aimed to unlock economic potential by enabling landowners to leverage their property for investment, credit, and development initiatives.

These approaches collectively aimed to transform Burundi's land administration landscape from one plagued by ambiguity and conflict to a system that prioritised clarity, security, and sustainable development.

Approaches to Land Registration in Post-War Burundi

Various approaches have been adopted for land registration in post-war Burundi, including systematic land registration, participatory mapping, technology integration, and the inclusion of customary land. These approaches aim to address the challenges of limited land registration, promote transparency, efficiency, and inclusivity in land administration, and provide secure land tenure for individuals and communities.

Introduction of Systematic and Sporadic Land Registration

Systematic and sporadic land registration are two approaches implemented in post-war Burundi to address land administration challenges and promote secure land tenure. Systematic land registration involves the comprehensive registration of land parcels and the establishment of a reliable land information system (Deininger & Feder, 2009). This approach aims to clarify and secure land tenure, facilitate land transactions and prevent land disputes (Deininger & Feder, 2009). By registering land systematically, Burundi seeks to enhance land governance, promote investment, and support economic development.

On the other hand, sporadic land registration focuses on individual or specific land parcels within a territory or village (Yulianti & Adityarini, 2020). It is carried out individually or in bulk, addressing specific land registration needs (Yulianti & Adityarini, 2020). Sporadic land registration allows for the registration of land parcels that have not been previously registered, providing legal certainty and addressing land-related issues (Yulianti & Adityarini, 2020).

Participatory Mapping

Participatory mapping has also been integrated into the land registration process in post-war Burundi. This approach involves involving local communities in the mapping and documenting their land rights and boundaries (Chigudu, 2022). Participatory mapping empowers communities, enhances their knowledge of land rights, and promotes social cohesion. Participatory mapping contributes to more accurate and inclusive land administration systems by including local knowledge and perspectives. Participatory mapping is another approach that has been introduced in post-war Burundi. It involves involving local communities in the mapping and documenting of their land rights and boundaries (Balas et al., 2021). Participatory mapping empowers communities, enhances their knowledge of land rights, and promotes social cohesion

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(Balas et al., 2021). Participatory mapping contributes to more accurate and inclusive land administration systems by including local knowledge and perspectives. One critical approach Burundi embraced in its post-war land administration endeavours is participatory mapping. This approach involves engaging local communities in the process of mapping their lands. Communities identify and delineate their land boundaries through workshops, discussions, and collaborative efforts. This empowers individuals to actively participate in documenting their land rights but also creates a sense of ownership over the process. Participatory mapping incorporates local knowledge and traditions, ensuring that the resulting maps accurately represent the realities on the ground.

Technology Integration

The implementation of systematic land registration in post-war Burundi has been aimed at improving land administration and promoting transparency and efficiency (Deininger & Feder, 2009). It involves using technology, such as geographic information systems (GIS) and web-based land registration systems, to streamline the registration process and enhance data management (Hidayah & Fakrulloh, 2022). By integrating technology, Burundi aims to improve the accuracy and accessibility of land information, reducing the potential for disputes and promoting secure land tenure.

Recognising the potential of technology to streamline and enhance land registration processes, Burundi has integrated modern technology into its land administration efforts. Geographic Information Systems (GIS) and satellite imagery have been employed to map and register land parcels. This approach allows for accurate geospatial representation of land holdings, minimising errors and enhancing data management efficiency. Technology integration also facilitates data sharing and accessibility, providing a platform for transparent land governance.

Inclusion of Customary Land

Including customary land in the land registration system is another critical aspect of land administration in post-war Burundi. Customary land tenure systems are prevalent in many communities, and recognising and formalising customary land rights is crucial for ensuring equitable access to land resources (Deininger & Feder, 2009). By integrating customary land into the land registration system, Burundi seeks to protect the rights of customary landholders, prevent land conflicts, and promote social justice. Burundi's post-war land administration initiatives have also prioritised the inclusion of customary land within the formal legal framework. Traditional land tenure systems, deeply embedded in local cultures, were often overlooked or undervalued in the pre-war period. Recognising the significance of these practices, Burundi sought to integrate

customary land rights into the broader land administration system. This integration aimed to provide legal recognition and protection to traditional landholders, reducing the risk of disputes and promoting social cohesion.

Impact of Land Administration Interventions

The impact of land administration interventions in post-war settings has been the subject of extensive research. Studies have shown that formalising land rights through registration can enhance tenure security, increasing investment, productivity, and economic development (Deininger & Feder, 2009). Secure land tenure gives individuals and communities the confidence to invest in land improvements, access credit, and engage in long-term planning (Deininger & Feder, 2009). However, the effectiveness of land registration interventions depends on various factors, including the governance environment, the effectiveness of the state apparatus, and the distribution of socioeconomic power (Deininger & Feder, 2009).

Evidence on the cost-effectiveness, sustainability, and longer-term impact of land administration interventions is limited, and few quantitative studies have explored how land registration effects can be enhanced by complementary interventions (Deininger & Feder, 2009). Additionally, the literature highlights the need for benchmarking land administration systems regarding coverage, cost-effectiveness, and service quality (Deininger & Feder, 2009). This ensures that interventions are based on carefully diagnosing the policy, social, and governance environment (Deininger & Feder, 2009).

The impacts of different institutional structures on land rights and their interactions with power distribution have been discussed extensively in the literature (Deininger & Feder, 2009). The distribution of power and overall productivity in society play a crucial role in shaping the outcomes of land administration interventions (Deininger & Feder, 2009). It is essential to consider the social and political dynamics of post-war contexts when implementing land administration interventions to ensure equitable outcomes.

Land registration interventions have been shown to have various impacts on access to credit and land rental markets. In Thailand, where informal credit and land markets functioned relatively well before the intervention, land titling significantly impacted credit access (Deininger & Feder, 2009). However, in Paraguay, the credit supply effect benefitted medium and large landowners, while smaller producers remained rationed out of the credit market (Deininger & Feder, 2009). The impact of land registration on credit access depends on the existing institutional and market conditions in a specific context (Deininger & Feder, 2009). Land registration has also increased activity in land rental markets, increasing overall efficiency (Deininger & Feder, 2009). The formalisation of land rights through registration gives individuals the confidence to engage in land rental transactions, leading to more efficient land use (Deininger & Feder,

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2009). However, the literature contains little rigorous analysis of these impacts' cost-effectiveness and long-term sustainability (Deininger & Feder, 2009). Further research is needed to understand the long-term effects of land registration on land rental markets and overall efficiency.

Considering the potential unintended consequences of land administration interventions in post-war contexts is essential. Traditional land administration systems may have positive aspects, such as accessibility and the ability of households to make investments to secure land rights (Deininger & Feder, 2009). Interventions that aim to formalise land rights through registration may eliminate these positive aspects and have a limited impact on bringing forth new investment (Deininger & Feder, 2009). Therefore, it is crucial to carefully consider the existing land tenure arrangements and the potential impacts of interventions on local communities.

In conclusion, land administration interventions have the potential to have significant impacts on post-war countries like Burundi. Formalising land rights through registration can enhance tenure security, increasing investment, productivity, and economic development. However, the effectiveness of these interventions depends on various factors, including the governance environment, the effectiveness of the state apparatus, and the distribution of socioeconomic power. Benchmarking land administration systems regarding coverage, cost-effectiveness, and service quality is essential. Additionally, the potential unintended consequences of land administration interventions should be carefully considered to ensure equitable outcomes. Further research is needed to understand land administration interventions' long-term impacts and sustainability in post-war contexts.

Implications for Tenure Security and Conflict Prevention
Impact of the New Land Administration System on Tenure Security
Implications for tenure security and conflict prevention are significant when considering the impact of a new land administration system, effective land registration, and lessons for other post-war nations. Tenure security, which refers to individuals' and communities' confidence in their land rights, plays a crucial role in conflict prevention and stability (Place & Otsuka, 2002). Establishing an efficient and transparent land administration system, including effective land registration, can contribute to tenure security and mitigate conflicts related to land disputes and tenure insecurity (Place & Otsuka, 2002). Implementing a new land administration system in post-war Burundi has had profound implications for tenure security among its population. The historical lack of clear land rights and the prevalence of land disputes often left individuals vulnerable to displacement and conflicts. The new system addresses these vulnerabilities by legally recognising customary and statutory land rights. This recognition assures individuals

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and communities that their land holdings are legally protected, reducing the risk of arbitrary dispossession.

The new land administration system, including systematic land registration, has implications for tenure security in post-war Burundi. Systematic land registration clarifies and secures land tenure, facilitating land transactions and preventing land disputes (Deininger et al., 2003). By registering land systematically, individuals and communities gain legal recognition and documentation of their land rights, enhancing their tenure security (Deininger et al., 2003). Tenure security, in turn, encourages land-related investments, such as tree planting and agricultural practices, as individuals feel more confident in their land rights and are motivated to improve productivity (Place & Otsuka, 2002; Deininger et al., 2003). The increased tenure security resulting from effective land registration can contribute to conflict prevention by reducing the potential for disputes and promoting stability (Ali et al., 2014).

Moreover, the systematic registration and participatory mapping processes have enabled individuals to acquire formal documentation of their land ownership. This documentation serves as tangible proof of ownership, bolstering the confidence of landholders and enhancing their ability to engage in economic activities and investment. With improved tenure security, communities are more likely to invest in their lands, leading to increased agricultural productivity, infrastructure development, and economic growth.

Contributions of Effective Land Registration to Conflict Prevention and Stability

Effective land registration also affects conflict prevention and stability in post-war nations. By formalising land rights and providing legal recognition, land registration can reduce the risk of land-related conflicts and disputes (Ali et al., 2014). It establishes a clear framework for land governance, ensuring that land transactions are transparent and legally binding (Ehwi & Asante, 2016). Additionally, land registration can promote social justice by protecting the rights of vulnerable groups, such as women and marginalised communities, and preventing land grabbing and encroachment (Reale & Handmer, 2010). Including customary land in the land registration system is particularly important in post-war contexts, as it recognises and formalises the land rights of indigenous and traditional communities, reducing the potential for conflicts arising from competing claims (Reale & Handmer, 2010). A robust land administration system can prevent conflicts and foster stability in post-war environments. Clear land rights and transparent land governance mechanisms contribute to reducing the occurrence of land disputes, which often serve as triggers for violence. By providing accessible channels for resolving disputes and addressing grievances, the system minimises tensions and

reinforces trust among communities. In this context, conflict prevention is closely intertwined with fostering an environment of justice and equity.

Furthermore, effective land registration is crucial in creating an atmosphere conducive to post-war recovery and sustainable development. The Land is a critical asset for economic activities, and secure land tenure enables individuals to invest confidently in their properties. The resulting economic growth contributes to overall stability, as communities are more likely to focus on building livelihoods rather than engaging in conflicts over land resources.

Lessons for Other Post-War Nations

Lessons from implementing land administration systems and effective land registration in post-war Burundi can provide insights for other nations recovering from conflicts. The experiences of Burundi highlight the importance of integrating technology, such as GIS and web-based systems, to streamline land registration processes and enhance data management (NOUFE, 2023). Participatory mapping, involving local communities in documenting their land rights, promotes inclusivity and accuracy in land administration systems (Reale & Handmer, 2010). Recognising and formalising customary land rights are crucial for ensuring equitable access to land resources and preventing conflicts arising from competing claims (Ehwi & Asante, 2016). Furthermore, addressing the implementation gap in land registration laws and ensuring the registration of various land rights beyond leaseholds is essential for promoting tenure security and preventing conflicts (Twagiramungu et al., 2019; Abubakari et al., 2018).

Burundi's experience with its land administration system holds valuable lessons for other nations emerging from conflict:

1. Recognition of Customary Land: Integrating customary land within the formal legal framework acknowledges local practices and values, enhancing social cohesion and preventing disputes.
2. Inclusivity: Participatory mapping empowers communities and ensures local knowledge informs land documentation, reducing disputes and building trust.
3. Technology Integration: Incorporating technology streamlines processes, enhances transparency, and promotes efficient land governance.
4. Tenure Security as a Foundation: Ensuring tenure security is pivotal for stability and recovery, as individuals need assurance to rebuild their lives and livelihoods.
5. Conflict Prevention through Justice: A fair and transparent land administration system can contribute to preventing conflicts by addressing grievances and resolving disputes.

By adapting and applying these lessons, other post-war nations can establish land administration systems contribute to sustainable recovery, social stability, and conflict prevention.

Role of Institutions and Land Grievances

Institutions play a crucial role in shaping land administration systems and their outcomes. Effective institutions are essential for ensuring the rule of law, protecting property rights, and providing accessible and transparent land administration services (Deininger & Feder, 2009). The literature emphasises the need for solid institutional frameworks that promote accountability, transparency, and citizen participation in decision-making processes (Deininger & Feder, 2009). Institutions responsible for land administration should have clear mandates, adequate resources, and well-defined procedures to ensure efficient and effective service delivery (Deininger & Feder, 2009). The impacts of different institutional structures on land rights and their interactions with power distribution have been discussed extensively in the literature (Deininger & Feder, 2009). The distribution of power and overall productivity in society play a crucial role in shaping the outcomes of land administration interventions (Deininger & Feder, 2009). Inclusive, transparent, and accountable institutions can contribute to equitable outcomes and promote social stability (Deininger & Feder, 2009). On the other hand, institutions that are captured by powerful elites or lack legitimacy can perpetuate inequalities and exacerbate land grievances (Deininger & Feder, 2009).

Land grievances, particularly those related to land insecurity and competing land claims, can shape the mobilisation of electoral violence in post-conflict democracies (Klaus & Mitchell, 2015). Politicians can exploit land grievances to organise electoral violence in multi-ethnic and democratising societies where land and property rights are weak and politicised (Klaus & Mitchell, 2015). Land grievances can provide leaders with a powerful tool to mobilise their supporters and frame elections as a threat to their land security or an opportunity to reclaim land or strengthen land rights (Klaus & Mitchell, 2015). The type of land grievance shapes the logic and form of violent action, with grievances based on land insecurity shaping a preemptive logic of violence and grievances based on competing land claims, often shaping an opportunistic logic of electoral violence (Klaus & Mitchell, 2015).

The role of institutions in addressing land grievances and resolving land disputes is crucial for maintaining social stability and preventing the escalation of conflicts (Deininger & Feder, 2009). Customary land administration systems, often deeply rooted in local traditions and norms, can significantly resolve community conflicts (Deininger & Feder, 2009). However, these systems may face challenges in reducing conflicts across groups, ethnicities, and different types of land use (Deininger & Feder, 2009).

Additionally, under traditional systems, women are often severely disadvantaged regarding land rights and access to institutions for land administration (Deininger & Feder, 2009).

It is important to note that the impacts of land administration interventions on land grievances and conflicts can vary depending on the specific context and the design and implementation of the interventions. Numerous examples show that the supply-driven establishment of land administration institutions, without considering the existing traditional actors and systems, can create parallel systems and increase transaction costs (Deininger & Feder, 2009). This can undermine the positive aspects of traditional land administration systems, such as accessibility and the ability of households to make investments to secure land rights (Deininger & Feder, 2009).

In conclusion, institutions are crucial in shaping land administration systems and addressing land grievances in post-war contexts. Effective, inclusive, transparent, and accountable institutions can contribute to equitable outcomes and social stability. Land grievances, particularly those related to land insecurity and competing land claims, can shape the mobilisation of electoral violence. Customary land administration systems can play a role in resolving conflicts within communities, but challenges may arise in reducing conflicts across groups and different types of land use. The design and implementation of land administration interventions should consider the existing institutional context and traditional actors to ensure positive outcomes and minimise unintended consequences.

Decision-Making in Post-Conflict Settings

Decision-making around land governance in post-conflict settings is influenced by migration, ethnic division, power struggles, and limited statehood (Betge, 2019). The realities of working on land governance in such contexts require a structured and theoretically informed analysis of actors and structures (Betge, 2019). The decision-making of practitioners relating to land rights in post-conflict areas is affected by factors such as the duality of structure and the factors that foment or constrain the mobilisation of election violence (Klaus & Mitchell, 2015).

Decision-making in post-conflict settings is a complex process influenced by various factors. Understanding decision-making dynamics requires a structured and theoretically informed analysis of actors and structures involved in land governance (Fearon & Laitin, 2003). The literature highlights the importance of considering the duality of structure, which encompasses both formal and informal institutions, in shaping decision-making processes (Fearon & Laitin, 2003).

One key factor influencing decision-making in post-conflict settings is the prevalence of insurgency or rural guerrilla warfare (Fearon & Laitin, 2003). Insurgency can be

harnessed to diverse political agendas, including but not limited to ethnic nationalism (Fearon & Laitin, 2003). The factors that explain which countries have been at risk for civil war are not their ethnic or religious characteristics but rather the conditions that favour insurgency, such as poverty, slow growth, rough terrain, and large populations (Fearon & Laitin, 2003). These conditions create an environment conducive to the mobilisation of armed groups and the emergence of conflicts.

The decision-making process in post-conflict settings is also influenced by the logic of violence in civil war (Kalyvas, 2006). Violence in civil war is not a simple reflection of the optimal strategy of its users but has a profoundly interactive character that produces surprising outcomes (Kalyvas, 2006). The decision to engage in violence is jointly produced by political actors seeking information and individual civilians trying to avoid the worst while grabbing opportunities presented by their predicament (Kalyvas, 2006). This interactive nature of violence complicates decision-making processes and makes them less predictable.

In post-conflict settings, decision-making around land governance is further complicated by the challenges faced by healthcare workers (HCWs) (Bou-Karroum et al., 2020). HCWs are essential for delivering healthcare services in conflict areas and rebuilding health systems post-conflict (Bou-Karroum et al., 2020). However, conducting primary research in conflict settings poses numerous challenges, including security concerns, difficulties obtaining representative samples and data collection, political bias, lack of tools and methods specific to conflict settings, and insufficient research funding and capacity (Bou-Karroum et al., 2020). These challenges can hinder the availability of reliable data and evidence to inform decision-making processes.

To address these challenges, a systematic mapping of the literature on HCWs in conflict and post-conflict settings has been conducted (Bou-Karroum et al., 2020). The study identified and mapped published evidence on HCWs in these settings to inform researchers, funders, and relevant stakeholders (Bou-Karroum et al., 2020). The mapping provides a comprehensive resource of evidence about HCWs in conflict and post-conflict settings on a global scale (Bou-Karroum et al., 2020).

In conclusion, decision-making in post-conflict settings is a complex process influenced by various factors. The prevalence of insurgency, the logic of violence in civil war, and the challenges HCWs face all contribute to the complexity of decision-making processes. Understanding decision-making dynamics requires a structured analysis of actors and structures involved in land governance. Further research and evidence gathering are needed to inform decision-making processes and address the challenges faced in post-conflict settings.

Political Dimensions of Land Conflicts

Land conflicts in post-conflict Burundi have crucial political dimensions, including protracted ethno-political violence, forced displacement, misappropriation of landholdings, and erosion of customary tenure arrangements (Tchatchoua-Djomo et al., 2020). Land policy reform emerged as a critical priority to preserve peace, enable reconstruction, and enhance food security (Tchatchoua-Djomo et al., 2020). However, land registration programs risk inflaming conflictive property relations in rural communities (Tchatchoua-Djomo et al., 2020).

The political dimensions of land conflicts in post-conflict settings are complex and multifaceted, encompassing power, inequality, and governance issues (Castagnini & Deininger (2004). These conflicts often arise from the redistribution of land and land rights, which can create winners and losers in the political landscape (Boone, 2012). In Kenya, for example, land conflicts have been intertwined with distributive politics, as changes in the land regime have the potential for significant redistribution (Boone, 2012). The decentralisation of land allocation authority to county governments further complicates the political dynamics of land conflicts (Boone, 2012). The allocation and redistribution of land and land rights have been critical tools of state power in many post-conflict settings, such as the Rift Valley in Kenya (Boone, 2012). In Côte d'Ivoire, land lease markets have become entangled in the national political game, leading to conflicts and tensions between ethnic groups (Kouamé, 2010).

The socio-political dimensions of land conflicts are also significant. Intra-family tensions and conflicts can arise from land lease markets, particularly about the distribution of land lease income (Kouamé, 2010). These tensions can lead to intergenerational conflicts and disputes within communities (Kouamé, 2010).

Resolving land conflicts requires addressing distributive and procedural justice (Whiting, 2011). Distributive justice focuses on the fairness of outcomes, ensuring that land and land rights are allocated equitably (Whiting, 2011). Procedural justice emphasises the fairness of the dispute resolution process, ensuring that all parties have access to a fair and transparent mechanism for resolving conflicts (Whiting, 2011).

In conclusion, the political dimensions of land conflicts in post-conflict settings are complex and multifaceted. These conflicts arise from power, inequality, and governance issues and have wide-ranging implications for political stability and social cohesion. The allocation and redistribution of land and land rights are often intertwined with distributive politics, creating winners and losers in the political landscape. The socio-political dimensions of land conflicts, including intra-family and inter-community conflicts, further complicate the resolution of these conflicts. Addressing distributive and procedural justice is crucial for resolving land conflicts and promoting peace and stability in post-conflict societies.

Policy and Institutional Frameworks for Sustainable Land Administration

Policy and Institutional Frameworks to Support the New Land Administration System

Policy and institutional frameworks are crucial for supporting sustainable land administration systems. These frameworks provide guidance, regulations, and coordination mechanisms to ensure adequate land governance, tenure security, and conflict prevention. In post-war contexts, establishing robust policy and institutional frameworks is particularly important to address the challenges and complexities of land administration and promote sustainable development. The successful implementation of Burundi's new land administration system relies heavily on well-structured policy and institutional frameworks. Recognising the multifaceted nature of land governance, Burundi has undertaken comprehensive policy reforms to provide a solid foundation for its land administration efforts. The Land Code 2009, a pivotal legislative measure, introduced provisions for recognising customary land rights, streamlining land registration procedures, and promoting equitable land access. This legal framework fosters clarity and consistency in land transactions, reducing opportunities for corruption and disputes.

Furthermore, institutional arrangements have been established to manage and oversee the land administration system. The National Land Agency is crucial in coordinating land administration activities, implementing policies, and providing necessary services to the public. This agency contributes to the system's efficiency and effectiveness by centralising responsibilities and ensuring accountability.

Roles of Government Agencies, Civil Society, and International Organizations

Government agencies play a central role in these frameworks. They are responsible for formulating land policies, enacting legislation, and implementing land administration programs. Government agencies provide the legal and regulatory framework for land administration, establish land registration systems, and enforce land rights. They also play a crucial role in coordinating and collaborating with other stakeholders, such as civil society organisations and international organisations, to achieve the objectives of sustainable land administration.

Civil society organisations (CSOs) also play a vital role in advocating for land rights, promoting transparency, and ensuring the participation of marginalised groups in land administration processes. CSOs contribute to developing inclusive land policies, monitor the implementation of land administration programs, and provide support and services to vulnerable communities. Their involvement helps ensure that land administration systems are responsive to the needs and rights of all stakeholders, particularly those traditionally marginalised or disadvantaged. International organisations, such as the World Bank and United Nations agencies, support developing and implementing policy

and institutional frameworks for sustainable land administration. They provide technical assistance, capacity building, and financial support to post-war nations to strengthen their land governance systems.

International organisations also facilitate knowledge sharing, best practices, and lessons learned from other countries' experiences in land administration. Their involvement helps to ensure that land administration systems are aligned with international standards and principles, promoting good governance, transparency, and accountability. Effective policy and institutional frameworks significantly affect tenure security and conflict prevention. Tenure security refers to individuals' and communities' confidence in their land rights and is crucial for preventing land disputes and tenure insecurity. Effective land registration, supported by robust policy and institutional frameworks, provides legal recognition and documentation of land rights, enhancing tenure security. Tenure security, in turn, promotes stability, encourages land-related investments, and reduces the potential for conflicts arising from competing claims.

Lessons from developing and implementing policy and institutional frameworks for sustainable land administration in post-war contexts can provide valuable insights for other nations recovering from conflicts. These lessons highlight the importance of integrating technology, such as geographic information systems (GIS) and web-based systems, to streamline land administration processes and enhance data management. They also emphasise the need to recognise and formalise customary land rights, ensuring equitable access to land resources and preventing conflicts. Furthermore, the lessons underscore the importance of stakeholder engagement, including civil society and international organisations, to ensure inclusivity, transparency, and accountability in land administration systems.

Challenges and Future Directions

Challenges faced during the New Land Administration System:

Implementing a new land administration system in post-war Burundi has been relatively complex. Several obstacles have emerged during this transformative process:

1. Resource Constraints: Limited financial resources and technical capacity have hindered the swift and comprehensive implementation of the new system. Adequate funding is crucial for developing technological infrastructure, training personnel, and scaling up land registration efforts.

2. Capacity Building: Developing the technical skills of professionals involved in land administration is essential. Training programs are needed to ensure personnel can manage complex data collection, mapping, and dispute resolution processes.

3. Community Engagement: Despite participatory mapping initiatives, engaging all community members and ensuring their meaningful involvement in land registration remains challenging. Ensuring representation and inclusivity in decision-making can be complex in culturally diverse settings.

Future Directions for Research, Policy, and Practice

1. Strengthening Data Management: Future research should focus on refining data management and integration processes within the land administration system. This includes exploring the potential of Geographic Information Systems (GIS) to store and analyse land-related data effectively.

2. Community Empowerment: Research can explore innovative ways to enhance community participation and ownership in land administration. Exploring digital tools, awareness campaigns, and capacity-building programs can empower communities to engage actively.

3. Conflict Resolution Mechanisms: Further research is needed to develop efficient and accessible conflict resolution mechanisms within the land administration system. This involves creating platforms that allow disputes to be settled impartially and promptly.

4. Legal Harmonization: Future policy efforts should focus on harmonising customary land practices with formal legal frameworks. Achieving a balance between cultural norms and legal recognition is essential for long-term stability.

5. International Collaboration: International organisations and development partners should continue supporting capacity-building initiatives in post-war nations. Collaborative efforts can bridge gaps in expertise, resources, and technical assistance.

6. Gender Equity: Future policy and research should address gender disparities in land ownership and administration. Ensuring women have equal access to land rights is crucial for social justice and economic development.

Conclusion

This review provides a comprehensive understanding of the land administration system in post-war Burundi. The findings in the literature review highlight the developmental impact of land administration interventions, the role of institutions, the dynamics of land grievances, and the challenges of decision-making in post-conflict settings. The review emphasises the need for careful consideration of the governance environment and benchmarking of land administration systems. It also underscores the political dimensions of land conflicts and the potential risks of land registration programs. Overall, this review contributes to the existing literature on land administration in post-

war contexts and provides insights for policymakers and practitioners in Burundi and other post-conflict countries.

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