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# Gender and the Trajectories of Land Digitalisation in Kenya: Recounting Gains and Losses

Margaret Njoki Mwareri

## Abstract

The digitalisation of land administration systems in Kenya has been widely promoted as a means of enhancing transparency, efficiency, and accessibility in land governance. Leveraging technologies such as satellite imagery, drones, geospatial databases, and computerised land registries, these initiatives—often supported by institutions like the World Bank, aim to simplify land registration processes and reduce the logistical burdens of accessing title deeds, particularly for smallholder farmers. While the potential benefits of these reforms are considerable, emerging evidence suggests that digital land governance may also reproduce and deepen existing structural inequalities. This paper critically examines the gendered implications of land digitalisation in Kenya, arguing that

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**Margaret Njoki Mwareri** (njokimargaret756@gmail.com) is a Kenyan educator, human rights advocate, and youth leader dedicated to social justice, gender equality, championing environmental justice through tree planting and community action and empowerment. She earned a Bachelor of Education (Arts) from Laikipia University in 2022, where she led both the Human Rights and UNESCO Clubs. Since 2021, Margaret has championed human rights initiatives in Laikipia County, taught as a peer educator, and contributed to youth empowerment and research projects with I Choose Life Africa. She has also represented Kenya at international forums, including The Yale Model African Union I in Rwanda (2022) and the Leadership and Governance Conference on Digitalization of Land in Africa, University of Ghana (2023).

such processes can unintentionally reinforce patriarchal norms and exclusionary land tenure practices. In many marginalised regions, digital systems have been found to privilege individuals with formal land claims—often men, while neglecting the customary and informal tenure rights that many women depend upon. Moreover, the default listing of male household heads as landowners within digital registries risks entrenching women's historical disenfranchisement from land ownership and control. The paper contends that unless gender-sensitive safeguards are integrated into digital land reforms, such initiatives may exacerbate rather than alleviate land-related injustices.

**Keywords:** women, gender, digitalisation, land, rights, Kenya

## Résumé

La numérisation des systèmes d'administration foncière au Kenya a été largement présentée comme un moyen d'améliorer la transparence, l'efficacité et l'accessibilité de la gouvernance foncière. S'appuyant sur des technologies telles que l'imagerie satellitaire, les drones, les bases de données géospatiales et les registres fonciers informatisés, ces initiatives, souvent soutenues par des institutions comme la Banque Mondiale, visent à simplifier les procédures d'enregistrement des terres et à réduire les contraintes logistiques liées à l'obtention des titres fonciers, en particulier pour les petits exploitants agricoles. Si les avantages potentiels de ces réformes sont considérables, des éléments empiriques récents suggèrent que la gouvernance foncière numérique peut également reproduire et approfondir les inégalités structurelles existantes. Cet article examine de manière

critique les implications genrées de la numérisation foncière au Kenya, en soutenant que ces processus peuvent involontairement renforcer les normes patriarcales et les pratiques d'exclusion en matière de tenure foncière. Dans de nombreuses régions marginalisées, les systèmes numériques tendent à privilégier les individus disposant de droits fonciers formalisés, souvent des hommes, tout en négligeant les droits coutumiers et informels dont dépendent de nombreuses femmes. En outre, l'inscription par défaut des chefs de ménage masculins comme propriétaires dans les registres numériques risque d'ancrer davantage la dépossession historique des femmes en matière de propriété et de contrôle fonciers. L'article soutient que, sans l'intégration de garanties sensibles au genre dans les réformes numériques du foncier, ces initiatives pourraient aggraver, plutôt que réduire, les injustices liées à l'accès et à la gouvernance des terres.

**Mots clés:** Femmes, Genre, Numérisation, Foncier, droits, Kenya

## Introduction

The digitalisation of land administration has emerged as a key strategy for improving land governance in sub-Saharan Africa, offering solutions to historical inefficiencies, corruption, and bureaucratic opacity. In Kenya, digital land reforms have been promoted by both national institutions and international agencies, such as the World Bank, with the promise of streamlining land registration, reducing disputes, and enhancing tenure security (World Bank, 2008). The deployment of geospatial technologies — ranging from drones and satellite mapping to digital databases—has the potential to transform how land is documented, titled, and transferred, particularly in

rural and peri-urban areas where formal registration has historically been limited. However, this transition is not without social and political consequences. Scholars and practitioners have increasingly drawn attention to the unintended effects of land digitalisation on marginalised populations, particularly women, who often lack formal documentation despite playing a central role in land use and agricultural production (Giovarelli & Scalise, 2006). In Kenya, the persistence of patriarchal norms in both statutory and customary land tenure systems means that the shift to digital registries can inadvertently reinforce gendered exclusions. For example, where digital systems default to registering the male head of household as the landowner, women's claims to land may be erased or made invisible (Djurfeldt, 2013).

This paper critically examines the gendered trajectories of land digitalisation in Kenya, interrogating the dual character of these reforms as both a site of empowerment and a mechanism of dispossession. While digital technologies offer promise for improving transparency and access to land services, they also risk consolidating control in the hands of those already privileged by formal systems of land ownership. By exploring case studies and recent findings, this study highlights the urgent need for gender-responsive land policies that safeguard women's land rights within the digital era. The paper examines the unfolding institutional reform around land pursuant to Kenya's 2010 Constitution. It explores the political economy of land in Kenya by examining incentives for and impediments to institutional change toward better land management, and long sought-after land justice. As with many reforms adopted throughout the Global South, Kenya's land reforms were premised on 'getting the incentives right' (Mathenge, 2010). Incentivisation behaviour is extremely complicated in a sector as complex, dynamic, and profitable as the land sector. The paper highlights the impact of digitalisation

on gender within the literature on Kenya's land politics while examining losses and gains so far. Kenya's faltering land reform is a result of the internal conflicting incentives of land actors and the fact that no legal reform will be sufficient to alter entrenched behaviour without renewed pressure from a broad-based land justice/human rights movement, especially on how this impacts gender relations.

This study adopts a qualitative research approach, combining document analysis, key informant interviews, and case studies to examine the gendered effects of land digitalisation in Kenya. Primary data were collected through semi-structured interviews with government land officers, officials from the Ministry of Lands and Physical Planning, representatives of civil society organisations focused on land rights, and women's rights activists. In total, 20 interviews were conducted across three counties of Laikipia, Kisumu and Narok, selected for their contrasting land tenure systems and experiences with land digitisation initiatives. Secondary data were drawn from government policy documents, project reports from the World Bank and other development agencies, and legal frameworks governing land registration and digital reforms in Kenya. The study also incorporated field observations and community dialogues, particularly in areas where digital land registries have been piloted. A gender lens was applied throughout the analysis, guided by feminist political economy and critical legal studies, to interrogate how digitalisation interacts with existing power structures, customary norms, and institutional practices. Thematic analysis was employed to identify patterns in the data related to ownership, access, exclusion, and resistance, with particular attention to how women's land rights are negotiated, contested, or undermined in the digital transition.

In 2010, Kenyans voted to adopt a new Constitution. Among its many provisions was one on devolved governance,

which established 47 independent counties, each led by a directly elected governor and legislative assembly. The Constitution also sought to address the country's land question by radically reworking land institutions and administration. It introduced an independent body, the National Land Commission, empowered to oversee public land management and allocation. Constitutional provisions devolved significant powers and responsibilities in land management and planning to the county level. Previously, these powers were centralized in the national government, particularly within the Ministry of Lands and Physical Planning and its associated agencies. These reforms, which stressed transparency, accountability and greater community participation in land planning and administration, were intended to halt endemic corruption at the Ministry of Lands, address land injustices, enhance tenure security, and facilitate better-functioning land markets.

## Gender and power and the Kenyan constitution

Constitutional reform is an important window of opportunity with respect to renegotiating the rules of the game regarding how power is exercised and resources are distributed. For non-elite groups, it is thus a relevant site of contestation for struggles aimed at institutional and political change that address discrimination and exclusion. The 2010 Constitution, as the outcome of growing political and social pressure to address the failings of the post-colonial political order, represents an important milestone in Kenya's political process. Local opposition forces and an increasingly mobilised social changes reflected an increased demand for democratisation and a more inclusionary and rights-based model of state-society relations. From the 1990s until a new Constitution was approved by referendum in 2010, Kenya saw a succession of attempts at constitutional reform, mostly trumped by resistance from

political parties and elite actors unable and unwilling to find sufficient common ground for compromise. Within this process, there is wide consensus that the women's movement and feminist activists were among the interest groups that mobilised most effectively to influence the wider normative content and advance very concrete objectives relating to women's rights, as well as maintain the general momentum behind the constitutional reform process. This included ensuring the process was sufficiently participatory and took on board a range of demands.

Influential feminist activism was not new in Kenya by any means. Rather, the 2010 Constitution and its gains for women need to be seen against a longer-term continuum of laws and policies that already reflected the autonomy, political capabilities, and experiences of women's movements and gender activists. Developments since the 1990s indicate a trend towards a thickening of women's activism that attests to growing capacity for agenda-setting and legal change. This is despite limited access to formal decision-making in formal political space and in a context of patriarchy and discriminatory gender norms. The 2010 Constitution is a progressive text that advances women's participation in political, social, and economic life and establishes important gains and developments on women's rights and gender equality. In terms of normative content, it establishes an ambitious Bill of Rights that contains specific gains in relation to women's rights, as well as on the justifiability of rights. The Constitution also establishes a set of values and principles trumping any discriminatory law, practice or action – including in relation to customary norms and traditions. Affirmative action measures compensate for historical inequality and discrimination, an especially important victory for Kenyan women. It furthermore sets up an institutional framework of checks and balances, including through strengthened judicial review, something women

activists actively lobbied for. In sum, the Constitution potentially provides an enabling institutional architecture for the realisation and protection of women's rights and gender equality principles. At its core, Article 27 guarantees equality and non-discrimination, explicitly prohibiting discrimination based on sex and mandating legislative and other measures — including affirmative action programmes—to address historical gender imbalances. For example, it states that equality includes the full and equal enjoyment of all rights and fundamental freedoms, and women and men having the right to equal treatment, including the right to equal opportunities in political, economic, cultural and social spheres. This is operationalised through Article 81(b), which requires the state to ensure not more than two-thirds of elective or appointive bodies are of the same gender, creating a constitutional imperative for gender parity in governance. It also states that the State shall not discriminate directly or indirectly against any person on any ground, including race, sex, pregnancy, marital status, health status, ethnic or social origin, colour, age, disability, religion, conscience, belief, culture, dress, language or birth. Further, the Constitution embeds gender equality in foundational principles like public participation (Article 10), equitable resource sharing through devolution (Chapter 11), and the protection of socio-economic rights (Article 43), which directly benefit women disproportionately affected by poverty and lack of access to healthcare, education, and sanitation. The robust Bill of Rights (Chapter 4) incorporates international treaties like Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) into domestic law, while independent constitutional bodies, such as the National Gender and Equality Commission, are empowered to oversee implementation, investigate violations, and hold state actors accountable.

## Women land and property rights

While women's rights to land and property are protected under Kenya's 2010 Constitution and in various national statutes, in practice, women remain disadvantaged and discriminated against. The main source of restriction is customary laws and practices, which continue to prohibit women from owning or inheriting land and other forms of property. Customary practices in Kenya generally grant women secondary rights to land, namely through their relationships to a male relative; women are rarely able to inherit land in their own right. Kenya has undergone legal reforms that are geared towards granting Kenyan women equal inheritance rights. This section highlights some of the key challenges that women face as a result of customary practices and examines some of the legal reforms that promote women's rights, highlighting persistent gaps.

Kenya currently operates three types of land tenure: private land, owned exclusively by individuals or companies; customary land, held communally under customary law and also known as trust land; and public land, owned by the state for its purposes, or comprising unutilised or unalienated and is supposed to be reserved for public purposes until privatised. It is administered under the Government Lands Act, 1965 (Payne, 2002). None of these tenure systems favour women in land ownership. The public tenure system has emphasised individual ownership of land at the expense of communal or group rights. Also, traditional systems and institutions of land management have been weakened and their effectiveness undermined, leading to uncertainty about land rights. According to the Kenya Land Alliance, trends show that trust lands (Community and Public Lands) are increasingly being privatised lands and titles given to individual male owners. This inequality has had adverse effects on women. In the past, women accessed these lands for food, fodder, firewood, building material, medicine, and herbs. Allocating trust land to individual male owners has

systematically dismantled women's customary land rights and undermined their economic autonomy, depriving them of secure access to land–based livelihoods for themselves and their families (Kenya Land Alliance, 2002). This process has entrenched gendered poverty, heightened women's vulnerability to dispossession, and generated enduring social and economic pressures that remain a major structural challenge in rural Kenya

In most communities, women had to seek s permission to cultivate the land, although some males traditionally reserve fields for their wife or wives. For example, under Luo customary law a man usually parcelled out his tract of land to his wife or wives, and each wife cultivated her tract and could amass a larger tract based on her labour (Kenya National Commission on Human Rights, 1998). Nevertheless, this does not mean that the husband has to consult her when he intends to sell the land; he can do so independently and even use the money to marry another woman.

Most of the women who settle in Kibera, a settlement in Nairobi, Kenya, arrived there after being driven out of their matrimonial homes through disinheritance by their in–laws—a process that often precipitated marital breakdown or forced separation from their husbands. Many left with nothing but their clothes. Some of these women, who had been farmers in their former rural homes, have since turned to "sack farming" as a survival strategy in the absence of secure access to land. They plant vegetables in sacks and put them on top of roofs, both for lack of space and security reasons, to earn a living to fend for their families. Also, the lack of land ownership has increased these women's economic and social vulnerability. This is because they are less secure economically and more dependent on men who control the land. Literature on this topic is varied and elaborate (see, for example, McCloskey et al., 2005).The literature on this topic is both extensive and conceptually

diverse (see, for example, McCloskey et al., 2005), encompassing studies from feminist legal theory, development economics, anthropology, and human rights scholarship. Existing research documents how women's disinheritance and loss of land rights are embedded in patriarchal kinship systems, customary law, and unequal power relations within households and communities. Scholars also show that land dispossession is closely linked to marital instability, poverty, food insecurity, and women's increased vulnerability to exploitation and urban migration. At the same time, the literature highlights the tension between statutory land reforms and customary practices, demonstrating how legal protections for women are often undermined in practice by social norms and institutional weaknesses. Together, these studies frame women's landlessness not merely as a property issue, but as a broader question of gendered citizenship, economic survival, and social justice.

## Land digitalisation in Kenya: A history

The concept of land digitisation in Kenya began in 2013 to give effect to Sections 9 and 10 of the Land Registration Act, 2012. Section 9 mandates the Registrar of Lands to maintain the land register and any document required in a secure, accessible, and reliable format, which includes electronic files. Section 10, on the other hand, emphasises public access to the register, including through electronic means, among others. In 2013, Charity Ngilu, the then Cabinet Secretary for Lands, began the process of digitising the land registry with the aim of improving efficiency and transparency in Kenya's land sector. This marked the commencement of digitisation of 57 land registries that had been keeping manual records since 1895. The computerisation initiative was meant to improve service delivery by addressing the disappearance of documents, a failed file tracking system, tattered land registry records, the poor image of the Lands

Ministry, and long service delivery timelines, among other challenges.

The automation also necessitated the reconstruction of records registered under the Government Lands Act regime which were in a poor state, making it extremely difficult to conduct searches. It further included the creation of a property value database within the Lands Valuation Division Developing a file tracking system for all settlement plot files was intended to enable more efficient allocation of settlement files; reduce the time taken to retrieve files for action; ensure reasonable timelines for all settlement transactions; minimise cases of missing files, and allow procedures to run simultaneously through an integrated and unified system. The automation also involved the creation of a Document Management System (DMS) to reduce the time required for vetting and verifying plans submitted for approval by County physical planners as well as the time taken by officers, professionals and members of the public to access and retrieve authenticated survey plans. The DMS was also intended to provide secure and accessible document storage, provide security and backup in the event of loss, and allow survey plans to be accessed simultaneously by multiple officers for quality control checks. Further, it entails scanning, indexing and archiving of deed files, land rent cards and green cards. A land rent information database system was also developed to handle payment of land rent and issue demand notices. It involved the production of digital topographical maps; the establishment of the Kenya National Spatial Data Infrastructure aimed to create a platform for discovery and access of spatial information to facilitate data sharing through the internet; and the creation of a land information for informal systems meant to map out informal settlements.

The automation programme has stalled due to various challenges, including torn and missing land records; capacity

deficits; poor working environments and staff attitudes; lack of integration by the land department, use of outdated procedures and practices. This in turn has affected the public and professionals who count on efficiency in the land registries. Despite these challenges, there is reason for optimism, that's to say, going by the experiences of countries that have pursued this path. The United States, for example, has successfully digitised land records. In April 2021, Kenya, through the Ministry of Lands and Physical Planning and the National Land Commission achieved an unprecedented milestone in land management and administration by launching the National Land Information Management System, dubbed Ardhisasa. Ardhisasa is designed to enhance the provision of services related to land registration, administration, physical planning, survey and mapping, valuation, and adjudication and settlement. The benefits of enhancing efficiency in the management of these services to both the demand (users/consumers) and supply (the Government of Kenya) sides cannot be over–emphasised.

Land governance, use and management are a crucial anchor for Kenya's long–term development blueprint, Vision 2030 and its three pillars—economic, social and political which are critical to achieving the country's desired transformation by 2030. Similarly, land governance, management and security of tenure are pivotal to the success of the Big Four Agenda which focuses on food security, affordable housing and healthcare, and manufacturing (Government of Kenya, 2021/GLTN SDG Land Indicators Kenya Report). Regionally, mainstreaming good land governance is pertinent to Africa's Agenda 2063, which was endorsed by African Heads of State and Government and adopted in January 2015 by the African Union. Globally, the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs) explicitly recognise the importance of good land governance and tenure security for sustainable development in order to ensure that no one and no

place is left behind in its mission to enhance partnerships for peace and prosperity for all people and the planet. Evidently, these multi-level commitments recognise the imperativeness of sound land governance and management towards a just and inclusive society. In fulfilment of its mandate and furtherance of Vision 2030 and the Big Four Agenda, Kenya's Ministry of Lands and Physical Planning has prioritised the digitisation of land records and processes, decentralisation, national titling and administrative and legal reforms. Its inherent data nature and outlook directly link Ardhisasa to evidence-based land governance and the achievement of several SDGs, inter alia, poverty eradication (SDG 1), the eradication of hunger and promotion of food security (SDG 2), gender equality and the empowerment of women and girls (SDG 5), inclusive, safe, resilient, and sustainable cities and human settlements (SDG 11), climate action (SDG 13), and sustaining life on land (SDG 15). Moreover, the successful rollout of Ardhisasa is poised to contribute significantly to Goal 16 on peace, justice and strong institutions.

## Prevailing problems and Emerging Issues

Good records management boosts efficient and effective public service delivery by minimising litigation risks, promoting accountability and transparency, ensuring compliance with regulatory requirements and supporting informed decision-making (Abuzawayda, Yusof & Aziz, 2017). According to Hoque and Sorwar (2019), the development of any country depends on its capacity to access and use records effectively. Accordingly, records managers should refine their records management programmes by implementing retention and disposal schedules, international records management standards and procedures, disaster management plans, user-friendly classification schemes, records management policies, and electronic records

management systems, which will improve information access and public service delivery. The advent of technologies and increasing digital adoption has led to increased user-generated data and content. While the potential benefit of this data is obvious, systems often find it difficult to derive actionable insights and make decisions from available data (Ambira, 2016).

It is believed that these technologies can transform features of information management from mere documentation to the processing, storing, and retention of information (Drucker, 2013). In developed economies, information systems have been successfully integrated to improve records management. In this regard, the Open System Interconnection standard has been adopted to create, manage, and maintain standards in records management. This has resulted in improved efficiency in service delivery and raised the level of client satisfaction with delivered services (Sanderson & Ward, 2016). In Tanzania for example, the high incidence of poor service delivery in the land boards due to poor records management has necessitated the improvement of record-keeping processes and the implementation of various electronic records management systems (Kettani & Moulin, 2018; Ayieko & Gitonga, 2020). This concurs with Lantmateriet's (2019) observation that the Department of Land Boards Services in Botswana has been facing some challenges regarding tribal land administration. These challenges include dispersed records, leading to significant time spent locating records; incomplete registers; loss of records; the absence of a common register for tribal land; poor recordkeeping, leading to backlogs; duplication of rights over land parcels, and the lack of proper registers for allocated land. According to Abuki (2014), Kenya is among those countries with significant challenges in integrating records management systems into their ministries.

Mitullah and Waema (2015) report that for the country to achieve its vision 2030 of enhancing efficiency and

effectiveness in service delivery, it has to integrate new technologies to enhance records management. The Kenyan Government has made significant strides in its attempt to improve land transaction operations. Through legislative reforms and technological adoption, the country has adopted the National Land Information Management System (NLIMS) which assures improved transparency and business operations ,while at the same time limiting vices such as corruption (Kariuki, Karugu, & Opiyo, 2018; Ayieko & Gitonga, 2020). The World Bank Economic Report (2013) attributes the issues at the Kenyan Ministry of Lands to a weak and poor land administration system. The ministry is reported to still use a paper-based records management system, with millions of land record papers distributed across the national headquarters and around the counties. The development of the NLIMS in Kenya has been dismal due to constraints pertaining to technology, stakeholders, leadership, governance and budget. This has resulted in the project being only partially implemented (Nyongesa, 2013; Kamande & Orwa, 2015).

## Discussions

Digitisation thus generally refers to the transformation of "analogue or physical object or attribute to digital form" (FIG et al., 2022; IFAD (2023), while digitalisation is "the use of digitised information to improved [organizational] processes" (IFAD p.4). As understood here, the digitisation of Land Information Management Systems (LIMS) is the process of converting the LIMS processes from a manual paper-based system to a digital system. The digitisation of land information management systems is a worldwide trend, with numerous countries investing in new technologies and processes to streamline the management of land information and records. Kenya is no exception, with the government investing in

digitising its land information management systems in an effort to improve transparency and efficiency. The country's paper-based land records include certificates of title and lease, survey plans, valuation reports, maps, mutations, land transaction receipts, and land sale agreements, among others. These are among the documents that the Kenyan digitalisation programme is digitising within respective land registries.

One of the key achievements of the land digitalisation programme in Kenya was the establishment of the National Land Information Management System, also known as the Ardhisasa System. Ardhisasa provides a one-stop-shop for land transactions, enabling users to undertake several online land transactions, such as land registration, valuation, surveying, adjudication, planning, and allocation. The development and implementation of Ardhisasa in Kenya have been fraught with challenges (https://ar). For example, the study's preliminary findings indicate that implementing Ardhisasa has been complex and messy, with several challenges yet to be addressed. This study identifies several issues, namely:

a) The lack of standardisation in the country's existing land records: With most land records being manual, there is a wide variation in the quality and format of land information. This makes it difficult to digitise records in a consistent and accurate manner, raising concerns about the reliability and accuracy of the information that is being captured.
b) Low levels of digital literacy among elderly staff: The older staff who make up about 80% of the land administration bureaucracy usually feel left out of the digitisation process. While efforts have been made to train them, our findings show that their digital literacy levels are still low, and this author is still examining

why this may be the case. The low digital literacy levels put at risk the land digitisation and digitalisation efforts, given that a capable workforce is one of the main enabling factors for an effective land digitalisation programme. In addition, there is a shortage of properly trained personnel to handle the huge volume of existing records.

c) Low digital literacy levels of landowners and other stakeholders: Many Kenyans, especially the elderly who own most of the country's land, are still digitally illiterate. As a result, many find it difficult to access land information and land transactions digitally. Another related issue is their lack of trust in digital systems and the belief that paper-based land records are the only authentic documents.

d) Lack of proper planning to integrate existing manual records into the new digital system: Though the government has invested in new software and systems to support the digitisation of land information management systems, there is a need to ensure that the new systems are able to accommodate the large volume of existing records. However, despite the obvious realisation that careful planning and management are important to ensure that the new systems are able to manage the new LIS data effectively, recent events such as protests by built environment professionals indicate that this continues to be a challenge.

Despite the above challenges, the situation is not entirely bleak; given the government's push to digitise all its services, the digitalisation of Land Information System (LIS) is inevitable (Office of the President, 2022). According to the different key informants we interviewed (e.g., land

professionals and officials), this will lead to more transparent and efficient land transactions and fewer opportunities for corruption and fraud. While we acknowledge that digital systems remain vulnerable to some of the challenges that plagued paper-based system, such as human error, land digitalisation can nevertheless be an important step toward addressing longstanding land administration problems in Kenya.

Land digitalisation in Kenya promises to modernise land administration, but it also presents significant challenges for gender relations. One major issue is the disparity in access to digital technologies between men and women. Women in Kenya are 30% less likely to use the internet compared to men, limiting their ability to engage with digital land administration systems (World Wide Web Foundation, 2020). This digital divide reinforces existing gender inequalities, making it harder for women to access information and participate in land transactions, thus disadvantaging them in securing their land rights. Many women, especially in rural areas, lack the necessary skills to navigate digital platforms effectively. This gap in digital literacy stems from lower educational opportunities for women and limited training programmes targeted at them. As land records and transactions become digitised, women without adequate digital skills may find themselves excluded from processes essential for securing land rights, thereby undermining their economic opportunities and ability to challenge patriarchal land structures (Daley & Englert, 2010).

Despite these challenges, land digitalisation also presents opportunities to address gender disparities if implemented with a gender-sensitive approach. Initiatives that promote digital literacy among women and ensure affordable access to digital technologies are crucial. Legal reforms that recognise and protect women's land rights, coupled with efforts

to document and digitise these rights, can help bridge gender gaps. Successful examples from other countries, such as Rwanda's land tenure regularisation programme, demonstrate that integrating gender perspectives into digitalisation projects can significantly increase women's ownership and control over land (Daley & Englert, 2010). By prioritising inclusivity and equity, Kenya can leverage land digitalisation to empower women and promote more equitable gender relations.

## Conclusion

Kenya's land digitalisation process holds transformative potential to improve land administration by enhancing efficiency, transparency, and accessibility. However, the journey is complex and fraught with multiple challenges that extend beyond gender disparities. These include infrastructural limitations, uneven digital literacy across various demographic groups, institutional capacity constraints, and socio–political hurdles that risk slowing or complicating implementation.

While gender inequalities remain a critical concern with women disproportionately affected by limited access to digital technologies and skills addressing these disparities must be part of a broader, inclusive strategy that considers all marginalized groups and structural barriers. Efforts to promote digital inclusion through affordable technology access, targeted training programs, and legal reforms protecting land rights are essential for creating equitable participation in the digital land ecosystem. Moreover, the government's phased and cautious approach to digitisation, exemplified by initiatives like the Ardhisasa system rollout across counties, reflects an awareness of the need to balance ambition with practical realities. The success of these initiatives will depend on ongoing stakeholder collaboration, robust policy frameworks, and continuous adaptation to emerging challenges.

As such, the digitisation of land information management systems presents Kenya with a unique opportunity to modernize land governance, improve tenure security, and foster sustainable development. By embracing a comprehensive and inclusive approach one that addresses gender, socio–economic disparities, and institutional capacities Kenya can ensure that digital transformation in the land sector benefits all citizens, strengthens governance, and contributes to the country's broader development goals.

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