Contemporary Journal of African Studies Vol. 12 No. 2 (2025), pp.1–36

Legitimising Public Action by Digitising Urban Land: Social Perceptions and Popular Strategies of Resistance

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Abstract

Urban land management is a major challenge in view of the rapid expansion of cities in general and African cities in particular. The introduction of digital technology in the management of cadastral and property affairs in Burkina Faso is seen as an alternative to securing land tenure. However, the introduction of such a policy measure disrupts the traditional levers of land-related social organisation. This raises the following questions: What are the societal implications of digitising the land register in Burkina Faso? What are the resistance strategies of people affected by the digitisation of urban land? To what extent does the digitisation of land ownership represent an instrument for legitimising political power and social control? This research is theoretically rooted in the sociological theories of the Chicago School

https://dx.doi.org/10.4314/contjas.v12i2.1

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of urban phenomena. Using a hypothetical–deductive anthropological approach, empirical data obtained from semi–structured interviews and direct observation were supplemented with documentary information. The results show, on the one hand, that digitisation of the land register represents an alternative way of preventing land disputes and conflicts, and helps to legitimise public action. On the other hand, the democratisation of land information affects social groups such as property developers, land brokers and certain institutional players. These affected populations adopt resistance strategies that are deemed unfavourable to the digitisation of land governance.

Keywords: digitisation, urban land tenure, land register, resistance strategy, public action.

Résumé

La gestion de l'espace urbain est un défi majeur au regard de la fulgurante expansion de la ville en général et de la ville africaine en particulier. L'introduction du numérique dans la gestion des affaires cadastrales et domaniales du Burkina Faso est perçue comme une alternative à la sécurisation foncière. Toutefois, l'introduction d'une telle mesure politique bouleverse les leviers traditionnels de l'organisation sociale orientée vers le foncier. Dans cette perspective, il est important que des réflexions soient menées autour des questions de recherche ci–après: Quelles sont les implications sociétales de la digitalisation du cadastre foncier au Burkina Faso? Quelles sont les stratégies de résistance des populations affectées par la mesure de numérisation du foncier urbain? Dans quelle mesure la digitalisation du foncier représente–t–elle un instrument

de légitimation du pouvoir politique et de contrôle social? La recherche trouve son ancrage théorique dans la posture des théories sociologiques sur le phénomène urbain de l'Ecole de Chicago. Dans une démarche anthropologique de type hypothético-déductif, des données empiriques résultant de l'entretien semi-structuré et de l'observation directe ont été complétées par des informations documentaires. Les résultats révèlent d'une part, que la numérisation du cadastre représente une alternative de prévention des litiges et conflits fonciers et participe à la légitimation de l'action publique. D'autre part, la démocratisation de l'information foncière affecte des groupes d'intérêt, notamment les promoteurs immobiliers, les courtiers en terrain et certains acteurs institutionnels. Ces populations affectées adoptent des stratégies de résistance jugées défavorables à l'opérationnalisation de la numérisation de la gouvernance foncière.

Mots clés: numérisation, foncier urbain, cadastre, digitalisation, stratégie de résilience, action publique.

Introduction

In some societies, land resources are the primary source of wealth from which populations derive the fundamental assets for their socioeconomic development (Sibiri, 2022). At once an issue, a source of tension and a source of income, urban land is now essential to understanding the dynamics and mutations of African cities (Goerg, 2006). The land issue is at the heart of improved urban planning and management standards. In Burkina Faso, the land question is a major issue due to the organisation of the current land tenure system, which not only fails to clean up this environment and avoid land conflicts, but also to better secure real property rights. Land tenure is at the heart of

development discourse. Gapyisi (1989) justifies the importance given to land tenure by the fact that access to land and plots of land is a prerequisite for the construction of housing and urban infrastructure. Land precedes real estate. Sigué (2022) also believes that access to land is an essential step in "decompressing" the psychological burden of owning a home in the city. According to Coquery-Vidrovitch (1993, p. 1101), "urban land history is a long-term theme. But urban land tenure was a colonial creation. In ancient times, land was inalienable in Africa". The urban framework inherited from colonisation collapsed after independence. Doumbia (2018, p. 145) asks: " Does this explain the imbalance between state action and that of actors in urban reproduction? Or is it explained by the weak articulation of the city's urban framework with the social dynamics in which its inhabitants are engaged?" The answer to these questions can be found in Biehler's (2006, p. 59) reflections for whom "the city is changing, and the state is doing its utmost to convince (...) of the need to control this evolution so that it takes place under the best possible conditions". Urban renewal requires the socialisation of players in urban norms and codes. Measures to digitise urban land are part of this effort to control land management. According to Sigué (2022, p. 26), "urban land management mechanisms have an impact on the construction of a city marked by inter-generational equity". These mechanisms are the result of urbanity and the predisposition of urban actors to internalise the norms and values of urban life.

Urban land management is a major challenge in view of the rapid expansion of cities in general and African cities in particular (Sanogo & al., 2022). The management of urban space is understood to mean the management of urban land in a context of legal pluralism and the intervention of various players, even if the customary aspect is not discussed in this text. From the perspective of Le Roy & al. (1996, p. 235), it

involves "regulating the relationships of all those associated with it (...) in terms of rights and obligations". The introduction of digital technology in the management of cadastral and state affairs in Burkina Faso is seen as an alternative to control land management. In the management of land archives, it has been observed that the storage of various land documents in all administrative departments in charge of land management has hitherto been physical. The manual storage of cadastral records represents a major risk to land tenure security. According to Sibiri (2022, p. 265), "in addition to taking up a lot of space, such storage is exposed to the elements, and therefore to the effects of time and deterioration". At the institutional level, therefore, it is accepted that digital archiving and digitisation of land records is important to provide written proof of any claim or allegation. However, the introduction of such a policy measure upsets the traditional levers of land-related social organisation. With this in mind, it is important to reflect on the following research questions: what are the societal implications of digitising the land registry in Burkina Faso? What are the resistance strategies of populations affected by the digitisation of urban land? To what extent does the digitisation of land represent an instrument for legitimising political power and social control? These are the questions addressed in this article. These questions are justified insofar as the population, precisely those who own several parcels of land, are opposed—even if not openly, to the digitisation measure perceived as a source of exposure of their assets to the public. The situation prior to digitisation was one of formal, but not digitised, urban land management, enabling owners to jealously guard their land holdings clandestinely.

This paper is theoretically rooted in the sociological theories of the Chicago School of urban phenomena. These theories are well-suited to explaining the problem of social relations in relation to the digitisation of urban land. The

reference to these theoretical positions is justified by two major ideas. On the one hand, the ethnographic approach promoted by Park (1929) in the study of urban issues, which describes the city as a social laboratory:, is a scientific reference that helps us understand the behaviour of actors and social resistance to measures for the digitisation of urban land. On the other hand, the interactionist approach developed by the Chicago School thinkers is methodologically appropriate for a better understanding of social interactions around land digitalisation. Moreover, the interactionist approach is considered "one of the most vibrant currents in empirical research in sociology" (Becker, 1985, p. 21). The term "resistance strategy" used in this article refers to behaviours adopted by certain interest groups to circumvent or conceal their land ownership in the face of the democratisation of land information (Gautreau & Noucher, 2016) through digitalisation. This is not resistance in the form of active protest, but rather covert, underground, or subtle resistance through the strategy adopted.

Using a hypothetico–deductive anthropological approach, the paper uses documentary material such as grey and academic literature as secondary sources. This approach is complemented by empirical tools resulting from semi–structured reflexive interviews and direct observation. The aim is to show that popular strategies for resisting or circumventing land digitalisation measures are at odds with the prospects for creating a sustainable city. The article also seeks to show how the control of land management through digitalisation represents the legitimisation of political power and social control.

Research design and methods

As the aim of the research was to understand the societal implications of the digitisation of urban land tenure and popular

mechanisms of resistance in Burkina Faso, anthropological inquiry was the most appropriate approach. The paper combined individual interviews, documentary research and direct observation of relationships around the digitisation of , land tenure. The use of documentary review is in line with the principle that social sciences are cumulative and draw on previous research (Quivy & Van Campenhoudt, 1995). The empirical information gathered in the city of Ouagadougou in July and August 2023 involved actors with a variety of profiles. These include institutional actors from land registry services, notably the State and Land Affairs Department (DADF), the Land Registry Department. Heads of households who owned their accommodation were interviewed. Real estate agency managers and brokers were important participants in the research. These different actors were interviewed individually with the focus broadly on social perceptions of the implications of digitising the land registry and its links with the legitimisation of political power and social control.

The data collection instruments and informants were diversified with a view to triangulation (Le Meur, 2002). A total of 48 interviews were carried out. The principle of saturation guided the selection of sample. Information was thus collected to saturation point, which Mucchielli (1996) describes as "the moment when the researcher realizes that adding new data to his research does not lead to a better understanding of the phenomenon under study". The diversity of people's profiles, which was favoured in this work, made it possible to take into account the different perspectives that exist on the subject. Interviews were recorded using a dictaphone and transcribed. Direct observation focused on social interactions around cadastral and land services. Given the essentially qualitative nature of the information gathered, the preferred processing technique was content analysis, a technique that "offers the possibility of methodically processing information and

testimonies that present a certain degree of depth and complexity" (Quivy & Van Campenhoudt, 1995, p. 230). We carried out a thematic analysis of the discourse, which consisted in identifying all the passages in the interviews that seemed significant, then identifying, organising and classifying the themes that emerged, insofar as "epistemological vigilance is required (...) between common opinion and scientific discourse" (Bourdieu & al., 1983, p. 27). The themes that emerged from the study are, among others, "the transition from physical to digital support for securing urban land", "counter-productive popular resistance strategies adopted in the face of the digitization of land", and "the digitization of land as a means of legitimizing political power and social control". Analysis of the empirical data consisted of a systematic and repeated reading of the interviews to identify central and recurring themes grouped according to a convergence of meaning (Huberman & Miles, 1991), which made it possible to draw up a definitive analysis plan.

Digitisation of urban land: Security issues and social impact

This section presents the results of the research, grouped into three parts. The first part analyses social perceptions of the implications of digitising the land register in Burkina Faso, highlighting the justifications and advantages of the measure. The second part is based on social contestation linked to unpleasant factors and highlights popular strategies for circumventing them. Finally, the last part attempts to understand the digitisation of land as a factor in legitimising political power and social control.

From physical to digital support to secure urban land tenure

In this section, the analysis highlights social perceptions of the concept of digitising the land registry and its implications for the management of urban land conflicts. The positive aspects of digitisation are highlighted in this section.

The meaning of urban land digitisation

Land tenure insecurity is omnipresent in sub-Saharan Africa, and in Burkina Faso in particular, as a result of land registration introduced by colonial powers. Land tenure insecurity is the result of several factors, in particular the lack of recognition of land rights, conflicts of interest, demographic pressure and legal pluralism (Lavigne Delville, 1998; Le Roy et al.,1996). Land tenure insecurity is understood here in the sense that the informal, manual management of cadastral documents threatens the guarantees of land rights by individuals and communities. This land insecurity affects both urban and rural populations. Most lists of plot owners are still in paper format. There are too many problems associated with the conservation and large-scale use of cadastral data and a paradigm shift is needed. According to an official from the Land registry department, digitisation of the land registry in Burkina Faso means "A transitional phase of securing cadastral files by moving from physical media to digital, computerised or virtual media" (Interview extract, land register, August 2023). This statement by the respondent shows that the notions of digitisation, computerisation, and dematerialisation, whether used interchangeably, contain the same semantic content. They pursue the same objective of moving from the physical or material format of urban land management to a digital or virtual medium. This is also evident from the testimony of an agent from the Department of State Property and Land Affairs:

> The first popular demand in Burkina is for transparency in urban land management. In the emergency action plan

> for the transition, the transition authorities made control of urban land management a priority. We are currently in a transitional phase to move progressively towards digitisation (Interview extract, Land Affairs Department, 2023).

The digitisation of urban land is the result of a rethink of traditional cadastral information management methods. These methods did not offer good traceability, control and transparency in land management. The transition to digitisation has greatly facilitated the management and storage of cadastral files, as reported by a member of the cadastral department:

> In a city like Ouagadougou, we currently have over 500,000 plots. The manual management of this number is quite delicate and cannot be done without errors. We encounter too many problems both in the production and distribution of plots (Interview extract, Land registry, August 2023).

Or this testimony from a head of household who supports digitisation:

> The digitisation of urban land is justified by the fact that in our society, there are too many problems linked to land. We see people selling land to several people. They fight over plots, which creates disorder in the city (Interview extract, head of household, August 2023).

Reading these two excerpts above implies that unlike the vertical model in northern cities, horizontal urban growth is the prevailing model in southern cities in general, and in West Africa in particular. In response to this urban dynamic, digitisation is seen as an alternative to the land disputes faced by the administration and individuals involved in real estate. It provides real-time information on property ownership, area, and location of a plot of land, facilitating the work of land services.

Digitisation, a dual therapy for tax and lands issues

The benefits of digitising urban land records are evident in participants' responses to the following two assumptions. On the one hand, it is assumed that the many problems associated with land governance are the result of manual management of land records. On the other hand, the digitisation of land file processing procedures has a positive impact on land security by reducing land conflicts. Digitisation plays an important role in land crisis management. A head of household narrates that:

> Today, there's too much tension linked to land. There are people who have their land titles but don't dare build infrastructure on their plots. Unlike manual management, digitisation will limit errors and consequently, land disputes (Interview extract, head of household, August 2023).

As we can see, digitisation helps to avoid double allocation of plots. The same applies to land tenure insecurity in a broader sense. From a fiscal point of view, the computerisation of cadastral plots will enable broadening the tax base. In terms of taxes, this will help clean up the database and prevent fraud (scams, corruption, etc.), resulting in significantly higher revenues. As one tax official explains: "Unlike the manual model, with digitization, you have to pay for the cadastral extract via mobile networks in a completely transparent manner" (interview excerpt, August 2023). As a result, this measure is a factor in reducing land conflicts and will help to establish good land governance in Burkina Faso. Most of the comments from those surveyed agree that the showcase effect of urban land computerisation is multifaceted, particularly the fact that "digitization saves time for both users and the administration" (interview excerpt, land registry, August 2023). The digitization of urban land ownership has three advantages: governance, administrative, and social. In terms of

governance, for example, the land registry archiving system poses a problem in terms of preserving these records. Digitisation makes it possible to secure data at all times and in all places. It avoids the manual management of files, which is fraught with insecurity and uncertainty. As far as administration is concerned, digitisation facilitates file processing procedures. However, if there is a database in the land management chain, a file that should have been processed in one or two months can be processed in two days. Finally, on the social side, the population will benefit greatly because digitisation means that land documents can be obtained in a relatively short time. This advantage of the measure is highlighted by a department manager at the land affairs department:

> For example, in business, time is money. However, a merchant who wants to mortgage a land title to obtain a bank loan often has to wait between one and five years. With digitisation, if we put the barcode for the authenticity and credibility of the document online, the interested party pulls it and it goes straight to the bank. This relieves the applicant (Interview extract, DADF, August 2023).

This statement shows that digitisation helps prevent land disputes. People often make the mistake of building on someone else's plot, after misidentifying their own. Today, one measure instituted with the computerisation process is that all applications for permits or land titles must be accompanied by a cadastral extract (a plan) to certify the authenticity and ownership of the plot. Furthermore, from the perspective of analyzing digitization as a remedy for land issues, to what extent can digitization correct gender disparities related to access to land? In Africa in general, gender inequalities in access to, ownership of, and control over land are an important aspect of urban land relations. This importance is justified by the fact that

"the interactions of actors in the dynamics surrounding land generate lasting and complex conflicts" (Doumbia, 2018, p. 227). In Burkina Faso, the digitisation of land as a political tool for legitimising governance (through the transparency of land procedures) incorporates the gender dimension in order to avoid exacerbating pre-existing inequalities. To this end, the current policy framework for development, which is highly sensitive to the gender-specific variable of access to land, sets as its main objective "to computerize the national land registry and ensure that by 2030, all men, women, poor and vulnerable people have the same rights to access, own and control land" (PA-SD-Burkina Faso, 2023, pp. 147－148). This objective shows that the process of digitising land registration does not ignore the prevalence of customary and traditional law, which penalises women in land practices. Taking gender equity into account in this objective certainly implies that land ownership will not be systematically registered in the name of a man as head of the family without taking into account the rights of women, which would otherwise be negatively affected. Moreover, from the perspective of land legality, "systematic land registration is only possible in very specific cases" (Doumbia, 2018, p. 131). With regard to the social group particularly threatened by the process of land digitisation in Burkina Faso, real estate agents, land brokers, and certain institutional actors are all concerned as landowners. Men are the most represented as landowners in these groups due to social and cultural constructs that have historically limited women's access to land.

As can be seen, the dual therapy consideration relates to the fact that, on the one hand, digitisation will improve land governance by moving from manual to computerised management of land files. Secondly, it will broaden the tax base through taxpayers' taxes identified in a well-structured file. The implications for society of digitising urban land records are

diverse and multi-sectoral. The structures authorised to manage land archives do not have the material or financial resources or premises suitable for archiving in a context marked by diverse threats. The major significance of the digitisation policy measure is that it is a response to this shortcoming in urban land management. However, from the perspective of Grislain et al.'s (2023) analysis of the myths that accompany the implementation of land tenure observatories, particularly in Madagascar, as well as in Cameroon and Burkina Faso, digitisation still faces difficulties that hamper its operationalisation. Citing Compagnon and Saint-Martin (2019), Grislain et al. (2023) describe the use of technological tools as a "belief in technological miracles". Tools can sometimes be very useful, but they do not replace the production of data, and they are sometimes poorly adapted to the material realities of territories.

From social relationships to the digitisation of land through the prism of counterproductive resistance strategies

In analysing strategies of resistance to the digitisation process, two main lines of thought emerge. On the one hand, we need to assess the factors that the population finds unpleasant in the face of digitisation policy; on the other, we need to diagnose the by-passing strategies derived from it.

When digitisation faces a population allergic to exposing its heritage

One of the objectives of urban land digitisation is to guarantee transparency in land and property management. The aim is to ensure transparency and security of tenure on the one hand, and to facilitate the management and collection of property taxes on the other. For landowners, the unpleasant aspects of digitisation lie in this dual objective. Transparency (regarding land ownership) means making the real estate holdings of all owners public. However, the majority of these landowners are opposed to such an option, as evidenced by the comments of a land registry official:

> One of the unpleasant things for the population is that Burkinabé in general don't like their assets to be made public. This includes land. When people buy a plot of land, they don't even want anyone to know about it. It's quite an important sociological factor to take into account (Interview extract, land registry, August 2023).

This indicates that although publication of land ownership exists in the physical process, it becomes more important in terms of scope with the digitised process. People want to make achievements in secret, which is part of Burkinabé culture. This point of view is supported by another

interviewee, who stated, "If you expose your assets, you won't have a long life, so people don't want their assets to be put on public display" (Interview extract, head of household, August 2023). Or this statement, "beyond friends and acquaintances, Burkinabé in general hide their assets (including land, of course) right down to family members" (Interview extract, DADF, August 2023). The problem of the opposition to property exposure is once again taken up by this real estate agency manager in the following terms:

> Generally speaking, people aren't too keen on this measure. When you look at wealthy people who have quite a lot of land, they naturally don't want us to know how many plots they have, because there's the property tax in force (interview extract, estate agent, August 2023).

What analysis can be made of these statements? Taken together, these statements are rooted in the heritage paradigm postulated by Le Roy et al. (1996) and applied to urban land tenure. For these authors, "land (...) can be neither a good nor a bad thing, but a heritage belonging to past and future generations. The present generation is merely its manager" (Le Roy et al., 1996, p. 173). The representations of land ownership for these respondents correspond to this logic. Thus, showing off one's land holdings or exposing oneself to tax by displaying them is tantamount to undermining the security of these holdings for generations of the same family line. This runs counter to the objective of digitization, where the principle of transparency aims to make the ownership of all owners public. People's opposition to the digitisation of property may be due to the owner's motivation to avoid the many social demands made on them if their personal data becomes exposed to the public. As Grislain et al. (2023) point out, "data is a source of power and income, and sharing it can lead to a loss of power or

to risks". In Africa, assistance to family members or members of social networks is always a duty for the socially mobile. This explains the resistance to the exposure of private assets. But what accounts for this tendency to hide, especially for a member of parliament, when the law states that land information must be made public?[1] As evidenced by an agent from the land registry department:

> It's the political decision-makers themselves who don't want this project to succeed. The plots are for them. They're the ones with the political and economic power. They're the ones with more land and more assets, so they're against the transparency that digitisation aims to achieve. The lack of will on the part of these players is a real brake on the smooth running of the process (Interview extract, land registry, August 2023).

In other words, the resistance to digitisation in itself reveals the depth of the prevailing land issues and, as a result, hinders the social anchoring of the project.

Members of interest groups affected by digitisation are aware of the existence of unpleasant factors in various forms, and the broker's comments below illustrate this point:

> What I don't like about digitisation is that it's going to shrink the estate agency market and the markets for us land broker. It will slow down our activities. Everything will be made public and accessible to the customer, so it's going to create unemployment for us. (Interview extract, land broker, August 2023).

For the state, good knowledge and control of property and real estate taxation is an advantage of digitisation. However, as noted by another land officer and a real estate

[1] LAW N° 034-2012/AN on agrarian and land reorganisation in Burkina Faso.

manager, this position is not shared by the interviewees as it generates additional taxes:

> Through digitisation, the State aims to collect additional taxes, for example, tax on built and unbuilt properties. This means that, in apart from your main residence, you have to pay taxes on all other properties in your name (Interview extract, DADF, August 2023).

Digitisation here implies the automation of property tax assessment processes, helping to optimise the profitability of property taxes. Accepting the digitisation policy means endorsing the introduction of additional taxes on your assets. It means revealing yourself to the taxman and no one is prepared to "throw himself into the lion's den" when he is not under pressure to do so, one is tempted to conclude.

The use of nominees to circumvent the dematerialisation of land ownership

Diverse strategies exist for circumventing what the population sees as the negative effects of digitisation. Underground resistance and the use of pseudonyms are the population's main resistance strategies. Underground resistance refers to all behaviours likely to slow down the process of implementing and generalising digitisation. Conceptually, the underground resistance discussed here is linked to Pierre Bourdieu's model for analysing symbolic violence. It is a kind of hidden resistance, gentle and non-violent, but incorporated into the everyday behaviour of certain rulers, legislators or the social stratum that is supposed to promote the operationalisation of digitisation. This idea of underground resistance ties in with the popular ideology of aversion to the exposure of one's heritage. One interviewee puts it thus:

> People hide their assets, even from family members. With digitisation, you can no longer hide yourself or your assets, and you'll pay taxes accordingly (Interview, DADF, August 2023).

Another strategy for circumventing the effects of the policy is the use of name tags to escape revealing ownership.

> People may develop circumvention strategies to avoid detection by the tax authorities. Many will use nominees. But we have the means to reveal who's behind the plot, but I'm not going to tell you our strategy. We can cross-check information to find the real purchaser of the plot (Interview extract, land registry, August 2023).

Although the use of nominees as strategy does not make it possible to avoid taxation, the social implications of this strategy of fictitiously attributing one's assets to another person in the short term is to hide the traceability of cadastral information. In the long term, however, it can negatively impact a person when it comes to land inheritance, with the resulting sociological problems of succession. The purpose of nominees is to conceal information. From this perspective, there will be both real and apparent owners. Conflicts may arise from the inheritance of land. Most of the people we spoke to, however, suggested that the values of integrity and transparency should be given priority over any ploy to avoid digitisation, and that the measure should therefore be accepted, since it will bring clear benefits to the public, as stated by a tax office agent:

> Society needs to prepare itself psychologically to accept digitisation. It's the people who win. Many people have been victims of deception regarding land ownership. (Interview extract, General tax department, August 2023).

In asserting that it is the population that wins, the respondent recognises the socio-economic stakes of land, noting that digitisation should be welcomed in view of its contribution to the provision of land and cadastral information. We talk about land speculation because land is a privileged area for money laundering. People take refuge in this sector in the form of money laundering. They have capital, but they do not want to deposit it in a bank, preferring to pay for land. Numerical identification of plots can reduce land speculation. The privileged social class sees land and real estate as a sector where it is easier to invest without being known or prosecuted. It is not forbidden for an individual to own several plots of land in the city, but when it comes to state-owned housing estates, an individual is not allowed to own several in the same locality. So, if the digitisation policy is to be accepted, it is important for public authorities to use the communication lever to change behaviour, and to inform and raise awareness among the population, so that they know that a good land database is above all a factor in reducing conflicts and securing land tenure.

This awareness campaign must take into account the values of transparency and sincerity among the population in order to avoid concealment. Biehler (2006) has also analysed the ideology of concealing assets or the "nominee" strategy in the face of the problem of "allergy to exposure of assets". The author sees the transformation of city dwellers' mentalities as an alternative to the success of policies to modernise city management tools. Coquery-Vidrovitch (1993, p. 1103) finds that Odile Goerg has shown how (African) city dwellers have (...) made the city "their" city, by adopting strategies to avoid the norms of the modern city". It should therefore be emphasised that the strategies for circumventing the digitisation measure raise the issue of the urban identity of

urban players. "Citadinité"[2], considered as an urban identity (Biehler, 2006), makes it possible to evaluate the practices of urban players and to see whether they convey signs of a sense of belonging to the city. In this sense, urban identity can be a tool for understanding how the "right to the city", as defined by Lefebvre (2009), is exercised by the population in the face of digitisation.

Digitisation of land as a means of legitimising political power and social control

This section focuses on the legitimisation of public power through land digitisation. It examines, on the one hand, the place of computerisation in the management of urban land and, on the other, suggested approaches to making digitisation a tool for good urban governance. The importance of digitisation revealed in the discourse of institutional players in this section reflects the significance and meaning given to digitisation from an interactionist perspective. This perspective follows in the wake of the theoretical foundations of symbolic interactionism in the understanding of Herbert Blumer, for whom "humans act towards things according to the image they have of them (...) things take on meaning as a result of interaction with others" (Delas & Milly, 2012, p. 401). This is why the policy option of disciplining people's land practices through digitisation is so important.

Disciplining society through urban land digitisation

Urban land, particularly undeveloped plots, is subject to double-selling, misidentification of owners and mis-location, creating

[2] According to Biehler (2006, p.74), "citadinité" is a french term, similar to the concept of urbanity, which refers to "the practices of city dwellers, such as signs expressing their belonging to the city."

urban land conflicts and various challenges to public authorities during popular protests. Digitisation could therefore help to improve the control and management of urban land and reduce these conflicts through better owner identification. In this sense, for public authorities, digitisation is as much a means of controlling land and the urban fabric, as it is an indicator of economic and social development, if the cadastral tool can be understood, as a technician from the land registry acknowledged:

> The transitional authorities have focused their energies on digitising land parcels in Burkina Faso by the end of December 2023. The authorities have understood that if nothing is done, the next major social crisis will be caused by urban land tenure (Interview extract, August 2023).

The land register is a decision-making tool. Digitisation is helping to modernise land management structures by providing a digital platform for resolving land issues in Sub-Saharan Africa in general. Sharing digitised land data strengthens the power of the State. From the perspective of Gautreau and Noucher (2016, p. 35), digitisation "changes the ways in which the State is legitimised, as the guarantor of a form of spatial justice because of its (...) role in information flows". The problems are manifold. The main ones are multiple sales of the same plot of land, described as fraud, and the sale of other people's plots or "mortgage", not forgetting the interference of intermediaries and the problem of land lending. The state's social control is also being strengthened through the modernisation of land transaction processes (Sibiri, 2023). The legitimacy of public authority is reaffirmed in the following statement by the land registry official:

> It's a tool that makes it possible to provide land information in real time. Digitisation has several functions that contribute to the legitimacy of political power and

social control: the fiscal function, the technical function, the documentary mission and the legal function (Interview extract, land registry, August 2023).

A reading of the above statement reveals that the fiscal function of digitisation is a response to strategies for mobilising additional tax revenue for the state. The technical function relates to the new dynamics (efficiency) in updating plans. The documentary function is that which enables a good system for archiving land information, in this case, digital archiving. The legal function enables secure occupancy titles, certificates, permits, and other documents, all of which help to avoid conflicts. This point of view is shared by a head of household for whom 'the strength of digitisation is that it will enable us to have control over real estate and urban development in general' (Interview, August 2023). In a sense, the interviewee alludes to the disorder and anarchy that reign in land management under a capitalist and liberal logic in Senegal, Mali and Burkina Faso as described by Le Roy et al. (1996). Faced with the pressure on land tenure and the anarchy in land management that can provoke popular revolt, these authors use a threatening tone to condemn "land anarchy or never again" (Le Roy & al., 1996, p. 325). In most sub-Saharan African countries, several informal players are involved in urban and peri-urban land issues. These include property developers, land grabbing by predatory elites and private individuals involved in buying and selling land. Faced with this situation, the legitimacy of state power is being called into question precisely in this area, with public opinion or the lower social classes feeling that the state's role in land control is not always perceptible. From this perspective, digitisation is a tool that will enable the public authorities to better discipline all social intervention in urban land.

An entrenched mentality and logistical constraints: Two major obstacles to the digitisation of urban land

The use of digitisation for good urban governance comes up against two challenges. On the one hand, there are the technical and logistical difficulties associated with the general roll-out of land information systems. On the other hand, the challenges relate to the mentality of the population when faced with digital land information, in the image of the difficulties linked to the deployment of land observatories in several African countries analysed by Grislain et al. (2023). Relationships with urban land have long-term consequences for urban sustainability. The difficulties involved in implementing digitisation are varied, and most interviews reflect the same sentiment, as explained by a land registry official:

> There are technical difficulties and risk factors. Human and material resources are insufficient. We need tools that are in step with modern trends. In addition to GPS, we need many more drones to create a territorial grid and good georeferencing in order to have reliable data to build the database for digitisation (Land register, interview extract, August 2023).

These difficulties include the fact that in order to circulate drones, there are conflicts in Burkina Faso's airspace, especially in a context of security crisis, making it necessary to seek prior authorisation from the civil aviation authority. Added to this is the low level of qualification of the personnel involved in the deployment of computerisation. Their actions, which relate more to the "sale of plots" than to real estate, involve risks that may impact the implementation of the land digitisation policy. Chenal et al. (2021), who have worked on the technological and societal challenges and obstacles to the development of digital technologies, address these risk factors. According to these authors, digital technologies in West African cities present challenges linked to their accessibility, but also to the fact that they are not firmly rooted in the habitus of the

population. All change is fraught with uncertainty. It destroys the past, even if it only makes sense if it is rooted in the past. The introduction of this modern tool clashes with the mentality of a population conditioned to act informally and anonymously. Digitisation will therefore overturn the traditional levers of social organisation in urban land management.

Digitisation of urban land: A contested informational democracy?

The results highlight the consubstantial relationship between digitisation of urban land and securing cadastral plots by controlling urban planning. In this respect, we can agree with Chenal et al. (2021, p. 68) that "digital technology presents itself (...) as an innovative way of rethinking urban development: it makes it possible to get round the difficulties of urban planning". It is the object of great public transparency and the prevention of conflicts and social disputes over land ownership rights. According to Gautreau and Noucher (2016, p. 1), "digital spatial data is a new informational regime that promotes informational democracy, the democratisation of territorialised public policies and the strengthening of national sovereignty". However, in the perspective of Simmel (1994), the "'reserved' posture is the main characteristic of city dwellers". In the example of Burkina Faso, the attitude of reserve in the face of digitisation is a stance adopted by estate agency managers, land brokers and certain institutional players who feel their interests are under threat. The issue of social relations linked to the digitization of urban areas has been raised by various authors, whose work is analyzed here in light of the research findings. Digitisation has advantages in terms of land tenure, taxation and government (Chenal et al., 2021; Gautreau & Noucher, 2016; Sibiri, 2022, 2023; Sigué, 2022). The benefits of digitisation in the land management chain listed in the empirical data are in

line with the benefits identified by Sibiri (2023, p. 720) for whom "Among other things, digitization provides security in land transactions while minimizing the risk of fraud and any anomalies in land and property management". Digitisation plays a major role in the management of land crises by helping to reduce the practices that lead to land conflicts. This point of view is shared by Gautreau and Noucher (2016, p. 35) for whom digitisation represents a kind of informational regime "promoting public transparency and informational democracy, or aiming to compensate for the inadequacies of the state by promoting citizen participation in land management". While several authors (Chenal et al., 2021; Gautreau & Noucher, 2016; Sibiri, 2023) consider the above-mentioned reasons to be advantages of digitisation, these same advantages turn out to be disadvantages for sections of the population. The notions of transparency and contribution to taxation make city dwellers uncomfortable. This is why, from the perspective of Biehler (2006, p. 59), the notion of digitisation highlights "everything that does not fit into what the majority ideology agrees is normal". Indeed, one of the results we have arrived at is that the popular dislike to the exposure of assets (land and property) and the use of nominees are strategies of resistance developed by the population. Such a consideration has to do with the mentality and outlook (Fijalkow, 2013; Grafmeyer, 2000) of urban actors.

From the point of view of the resistance strategies developed to adapt to or avoid these new modern measures for controlling urban land ownership, we could say with Choplin (2006, p. 79) that "nonsense and contradictions characterise land ownership (...). Circumventing the rules and the strategies implemented attest to the dynamism of this sector". In the same vein of bypassing the rules, Kailou (2022, p. 93) shows that the discrepancy between official standards and practices can be seen almost everywhere in Africa. Drawing on a spatial

analysis of the city of Accra in Ghana, Agyemang and Morrison (2018), referenced in Kailou (2022) argue that large-scale spontaneous housing development is taking place in the city without authorisation or official supervision by urban planning officials. Also, Aloko-N'guessan and N'dahoule (2008) highlight the extent to which urban planning tools are out of step with the reality on the ground in Abidjan. If resistance to the digitisation of land tenure were to get the better of public authorities' desire to legislate on the issue, we could speak, with Yapi-Diahou (2001), of what is known as a situation of "legislative inflation", insofar as the land tenure regulations are rich, but are not being effectively implemented due to the societal contradictions in force. The policy of digitising land governance, although a promising instrument for social control and legitimising political action, affects certain interest groups who feel their interests are under threat.

A legitimate political measure, but one that affects property developers, land brokers and institutional players

This section sheds light on the legitimacy of public action based on the digitisation of land governance in African countries. It also shows how different interest groups feel affected by the digitisation of land governance, particularly in Burkina Faso. With regard to the legitimisation of political power and social control through the digitisation of the urban land register, the public authorities have made this measure a means of controlling land, the urban fabric and the city in general (PA-SD-Burkina Faso, 2023). From the perspective of Boussaguet et al. (2019, p. 332), legitimacy refers to "the ability of those in power to deal with and resolve problems (...), and to account (accountability) for the social acceptability and effectiveness of public action". By demonstrating their ability to be good

managers of urban land through digital technology, those in power give a form of legitimacy to public action. Legitimacy, in the sense of taking the general interest into account, is recognised above all in the sense that urban land is a vector of multiple social conflicts in most African cities, and in Burkina Faso in particular.

The political measure of digitisation is already reflected in the reference framework of the transitional government of Burkina Faso.[3] One of the strategic axes of the reference framework is devoted to the digitisation of land ownership. Pillar 3, entitled "Rebuilding the State and improving governance", reaffirms the authority of public authorities through the "digitization of the national land registry and the determination of a single authority" (PA-SD-Burkina Faso, 2023, p. 149). Over and above all these arguments, if digitisation is to become a modern instrument of urban governance, a change of paradigm and a change of mentality on the part of the players involved will be required. As Biehler (2006) puts it, people have to adapt to the new rules of the modern" (Chenal et al., 2021, p. 41). The same is true of the digital land register project developed since 2015 in Ghana using blockchain[4], which enables more controlled management of the precariousness of informal settlements and property titles (Chenal et al., 2021, p. 85). These advances in land governance through digital technology are remarkable in most West African governments (Benin, Mali, Côte d'Ivoire or Senegal) that have chosen to bank on the development of digital technology as a growth driver.

[3] Action Plan for Stabilisation and Development, PA-SD (2023), Burkina Faso, https://www.pndes.gov.bf/fileadmin/user_upload/storage/accueil/PA-SD.pdf, consulted on 18 September2023.

[4] The blockchain is a growing list of records, called blocks, which are linked together using cryptography. This technology for storing and transmitting information ensures the transparency and security of the data recorded.

As digitisation becomes operational, some social groups feel threatened and affected. These social groups, affected by the digitisation of land governance, cover different social classes, which adopt an attitude of detachment, resistance, or even clandestine opposition to the measure. Resistance as a characteristic of city dwellers, as discussed by Simmel (1994), is apparent here in that the modernisation of the cadastral tool for urban land use through digitisation plunges people into uncertainty, leading them to adopt 'resistant' positions to the operationalisation of the project. How are these players affected by the digitisation of land governance? They feel affected by the fact that the success of the digitisation policy means a reduction in turnover for some (land brokers, real estate agency managers) and exposure of their land holdings for others (certain institutional players). The first category, more specifically land brokers, see their turnover as threatened by the fact that land information will be made public through digitisation. As a reminder, in the empirical data, land brokers revealed that 'digitisation involves unpleasant factors insofar as it will affect land broker's markets (Interview extract, land brokers, August 2023). Their core business of directing customers to the geographical location of a plot of land in return for financial compensation will lose its meaning when cadastral information is made public and therefore accessible to everyone. Most of them will be out of work once all cadastral parcels have been digitised.

As for property developers, they are affected to the extent that digitisation will reveal irregularities in their practices. According to the law on property development, they are supposed to be involved in property development rather than land development (Law n° 034-2012/AN). Digitisation will make it possible to identify the vast plots of land that they occupy without building anything, as well as land developed on rural land. This constitutes an infringement of their original

purpose of such land. Indeed, "property development operations may only be carried out on developed urban land" (Article 3 of Law no. 008–2023/ALT of 20 June 2023). The second category concerns certain institutional players who are opposed to the exposure of their land holdings. These are members of the upper classes of society, rulers who have used their social position to buy several plots of land, and whose digitisation could bring their assets to the attention of the public. Resistance strategies are thus centred on the use of nominees and underground resistance. As a reminder, the underground resistance of the 'protesters' of digitisation refers to behaviour aimed at slowing down the process of making digitisation operational. This is a form of sabotage of the digitization process by a fringe group within the ruling elite (certain government officials, legislators) who are supposed to be promoting this digitization policy.

Moreover, it appears that the majority of the Burkinabe working class, mainly those who do not own land and are therefore not required to share information about their land holdings, favour digitisation as a means of securing land tenure and modernising urban governance. Their position is in line with the trend in West Africa, where "digital cities or smart cities are a growing phenomenon" (Chenal et al., 2021, p. 69). However, the social category mentioned above[5] opposes the measure in a non-violent way, or what we have called "underground resistance", or the use of front men to hide their assets. In this case, government for the people (Boussaguet et al., 2019), i.e., the model of government that prioritises the collective interest without taking into account social specificities, seems to be the preferred option for the successful digitisation of land.

[5] As a reminder, the social category that is reluctant to share information about its real estate assets includes real estate agency managers, land brokers, and certain institutional players (land owners).

The legitimacy of public action is the result of an opposition between "government by the people and government for the people" (Boussaguet et al., 2019, p. 331). In government by the people or legitimation by inputs, political choices are legitimate if they reflect the will of the people. However, with regard to certain affected social categories and underground resistance, digitisation is not necessarily the result of the will of the people as a whole. Based on the analyses of Lacasse and Thoenig (1996) and Scharpf (2000) taken up by Boussaguet et al. (2019, p. 331), legitimisation by the outputs or the government for the people is the option that comes closest to the digitisation of land insofar as it is the collective interest that is put forward in the absence of popular consensus. However, in the sense of Meister (1979), there can be no popular consensus around a development initiative. It is a painful and conflict-ridden process that must be carried out without qualms in order to promote the collective well-being of the community. The digitisation of land registration is an example of a development initiative. Public authorities justify digitisation by the need to improve urban land management, control urban sprawl, resolve land conflicts and promote an informational democracy of urban land (Gautreau & Noucher, 2016). However, public action comes up against the unpleasant effects of digitisation, which are felt by certain social groups. These include property developers, land brokers and certain institutional players who feel that their interests are threatened by the transparency and public accessibility of land information.

Conclusion

The aim of this research is to identify the societal implications of the digitisation of the land register in sub-Saharan Africa, and in Burkina Faso in particular. The research highlights the bipolar relationship between securing cadastral plots and

resistance strategies for populations affected by the policy of digitising urban land. Digitisation has fiscal, social and land-related benefits, with the transition from manual to digitised management of cadastral files. However, this modern measure for securing urban land is affecting a certain social category, particularly land brokers, property developers and certain institutional players. The digitisation of land governance is therefore facing underground resistance for essentially social, fiscal and economic reasons. Transparency as a showcase for digitisation faces a popular aversion to exposing one's assets. Achievements made "in secret" appear to be the prevailing ideology internalised by the social class resistant to digitisation. From this point of view, circumvention strategies are geared towards underground resistance and the use of pseudonyms in order to remain anonymous and escape the status of a publicly identified land owner. Digitisation is part of a political desire to discipline societal intervention in urban land. It encourages control of the urban fabric, and the discharge of land liabilities, and thus represents a factor in legitimising political power or what Gautreau and Noucher (2016, p. 35) describe as a "major break in the paradigm linking the state and its citizens through land information". In any case, the digitisation of land tenure can be achieved by strengthening coercive measures or by communicating to encourage behavioural change, so that digital solutions serve the governance of urban land tenure.

References

Aloko-N'Guessan, J., & N'Dahoule, Y. (2008). La planification urbaine à l'épreuve des pratiques résidentielles dans la métropole ivoirienne. In J. Aloko-N'Guessan, A. Diallo, & K. Mocho (Eds.), *Villes et organisation de l'espace en Afrique* (pp. 221-238). Karthala.

Becker, S. (1985). *Outsiders: Étude de sociologie de la déviance*. A.-M. Métailié.

Biehler, A. (2006). Renouveau urbain et marginalisation: Le cas d'habitants du centre-ville de Ouagadougou (Burkina Faso). Revue Tiers Monde, 185(1), 57 - 78. https://www.cairn.info/revue-tiers-monde-2006-1-page-57.htm.

Blumer, H. (1969). Symbolic interactionism: Perspective and method. Prentice-Hall.

Bourdieu, P., Chamboredon, J., & Passeron, J.-C. (1983). *Le métier de sociologue* (4th ed.). Mouton.

Boussaguet, L., Jacquot, S., & Ravinet, P. (2019). *Dictionnaire des politiques publiques* (5th ed.). Presses de Sciences Po.

Chenal, J., Ciriminna, C., Jaligot, R., Ginisty, K., & Rudaz, F. (2021). L'utilisation du numérique dans le contexte des villes de l'Afrique de l'Ouest. Centre Excellence in Africa (EXAF) - École Polytechnique Fédérale de Lausanne (EPFL).

Choplin, A. (2006). Le foncier urbain en Afrique: Entre informel et rationnel, l'exemple de Nouakchott (Mauritanie). *Annales de géographie*, 115(647), 69-91.

Coquery-Vidrovitch, C. (1993). *Histoire des villes d'Afrique noire: Des origines à la colonisation*. Albin Michel.

Delas, J., & Milly, B. (2012). *Histoire des pensées sociologiques*. Armand Colin.

Doumbia, L. (2018). Une sécurisation foncière urbaine dans l'impasse: Exemple de Bamako (Mali). Topics in Interdisciplinary African Studies. Klever GmbH.

Fijalkow, Y. (2013). *Sociologie des villes*. La Découverte.

Gapyisi, E. (1989). Le défi urbain en Afrique. L'Harmattan.

Gautreau, P., & Noucher, M. (2016). Information géographique numérique et justice spatiale: Les promesses du partage. Justice spatiale/Spatial justice, 10. http://www.jssj.org/article/information-geographique-numerique-et-justice-spatiale-les-promesses-du-partage/

Goerg, O. (2006). *Pouvoirs locaux et gestion foncière dans les villes d'Afrique de l'Ouest*. L'Harmattan.

Grafmeyer, Y. (2000). Sociologie urbaine. Nathan.

Grislain, Q., Bourgoin, J., Magrin, G., Burnod, P., & Anseeuw, W. (2023, July 25). Les observatoires fonciers en Afrique: Un outil de gouvernance des territoires face aux réalités du terrain. Bulletin de l'Association de géographes français. https://doi.org/10.4000/bagf.10751

Huberman, A. M., & Miles, M. B. (1991). Analyse des données qualitatives: Recueil de nouvelles méthodes. De Boeck-Wesmael.

Kailou, D. (2022). La gouvernance foncière à l'aune de la décentralisation dans la ville de Zinder au Niger. African and Mediterranean Journal of Architecture and Urbanism, 4(2). https://revues.imist.ma/index.php/AMJAU/article/view/35169

Lavigne Delville, P. (1998). Quelles politiques foncières pour l'Afrique rurale? *Réconcilier pratiques, légitimité et légalité*. Karthala.

Le Meur, P. (2002). Approche qualitative de la question foncière: Note méthodologique (Document de travail de l'UR 095 IRD, No. 4). IRD.

Le Roy, E., Karsenty, A., & Bertrand, A. (1996). *La sécurisation foncière en Afrique: Pour une gestion viable des ressources renouvelables*. Karthala.

Lefebvre, H. (2009). Le droit à la ville (3e éd.), *Anthropos-Economica*.

Meister, A. (1979). Quel développement rural pour l'Afrique noire? Nouvelles éditions Africaines.

Mucchielli, A. (1996). *Dictionnaire des méthodes qualitatives en sciences humaines et sociales*. Armand Colin.

Park, R. (1979). La ville comme laboratoire social. In Y. Grafmeyer & I. Joseph (Eds.), *L'École de Chicago: Naissance de l'écologie urbaine* (pp. 163-179). Éditions du Champ Urbain.

PA-SD Burkina Faso. (2023). Plan d'action pour la stabilisation et le développement. Government of Burkina Faso.

Pirès, A. (1997). *Échantillonnage et recherche qualitative: Essai théorique et méthodologique*. Université d'Ottawa.

Quivy, R., & Van Campenhoudt, L. (1995). *Manuel de recherche en sciences sociales.* Dunod.

Sanogo, A., Niang, M., & Doumbia, L. (2022, July). Foncier et aménagement du territoire en Afrique de l'Ouest: Perspectives empiriques. *Les Lignes de Bouaké-la-Neuve*, 14, 1-133.

Sibiri, D. (2022). Problématique de la gestion des archives foncières et immobilières au Burkina Faso. *Revue Internationale du Chercheur*, 3(4), 264-277.

Sibiri, D. (2023). La problématique de la digitalisation de la gestion foncière et domaniale au Burkina Faso. *Revue Internationale des Sciences de Gestion*, 6(3), 699-727.

Sigué, M. (2022). Implications de la perception sociale du foncier (péri)urbain ouagalais sur la construction d'une ville durable. In A. Sanogo, L. Doumbia, & M. Niang (Eds.), Foncier et aménagement du territoire en Afrique de l'Ouest: Perspectives empiriques (pp. 6–29). *Les Lignes de Bouaké-la-Neuve*.

Simmel, G. (1994). Métropoles et mentalité. In Y. Grafmeyer & I. Joseph (Eds.), *L'École de Chicago: Naissance de l'écologie urbaine* (pp. 61–82). Aubier.

Yapi-Diahou, A. (2001). Politique urbaine en Afrique: Les normes en question. In G. Winter, J. Chauveau, G. Courade, & J. Coussy (Eds.), *Inégalités et politiques publiques en Afrique: Pluralité des normes et jeux d'acteurs* (pp. 225–241). Karthala; IRD.