



Responsible Land Governance: Towards an Evidence Based Approach

ANNUAL WORLD BANK CONFERENCE ON LAND AND POVERTY
WASHINGTON DC, MARCH 20-24, 2017



Land – The Hidden Assets in African cities

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Abstract

African capital cities offer multiple opportunities as a hub of economic activities as well as a link to local, regional and global economies. Today, they have an added advantage associated with their high population density and their youthful population, two important drivers of economic productivity and growth. Cities are built by people with their concentration offering economies of agglomeration starting from their land and housing assets. With functioning institutions and laws, land and housing assets can contribute to the planning, management and provision of services in settlements. However, in absence of functioning institutions and laws providing legal propriety rights, most of these assets remain dead investments sheltering only people. To tap into the potential of high densities, African cities must formalize their land system, which will be the driver of many other components of their foundation such as streets and public spaces, provision of basic infrastructures such as water, sanitation and energy, and waste management. It is urgent that national and local authorities recognize the wealth of their citizens and involve them in the planning, the building and the management of their city.

Key Words: Land Tenure, urban planning, infrastructure, security, investments, assets



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Introduction and Conceptual framework

One fundamental driver of a sustainable, inclusive, resilient and prosperous city lies on the institutions and laws that govern its human settlements. The way the city is planned, land distributed and basic infrastructure laid down is governed and administered within functioning institutions and laws. Providing security of tenure depends on a range of policies related to institutions and laws put in place to protect people against unlawful eviction, to ensure equitable distribution of basic services to all communities, and to put in place transparent and accountable processes of land regulation, key for secure land tenure. However, in most African cities, land tenure is neither well governed nor well administered. Poor land governance is surrounded by poor land administration characterized by a poor determination, recording and dissemination of information about tenure. In addition to being exposed to eviction, without legal proof of ownership, households cannot enjoy the economic and financial opportunity associated with investment and saving using their property as collateral. At the community level, the municipality cannot also legally collect various taxes that can be used to improve basic infrastructures. Promotion of secure land tenure in African cities will boost investment in property development, increase municipal tax collection and in turn promote economic growth.

Secure tenure goes beyond protection against eviction and includes economic and financial advantages. *Tapping in the Triangle of Economic Productivity - People, Land & Infrastructures* will create sustainable, inclusive prosperous and resilient cities. Dakar as a coastal city offers multiple opportunities as a hub of economic activities as well as a link to local, regional and global economies. Today, they have an added advantage associated with their high population density and their youthful population, two important drivers of economic productivity and growth. Cities are built by people; with their concentration offering economies of scale and agglomeration starting from their land and housing assets. With functioning institutions and laws, land and housing assets can contribute to the planning, management and provision of services in settlements. However, in absence of functioning institutions and laws providing legal propriety rights, most of these assets remain dead investments sheltering only people. To tap into the potential of high densities, African cities must formalize their land system, which will be the driver of many other components of their foundation such as streets and public spaces, provision of basic infrastructures such as water, sanitation and energy, and waste management. It is urgent that national and local authorities recognize the wealth of their citizens and involve them in the planning,



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the building and the management of their city. No city can claim to be sustainable, inclusive, prosperous and resilient, when the wealth of its citizens is not fully taken into consideration in the economy.

Dakar as most African Capital cities are not, however, fully benefiting from its land assets due to the fact that most of its land is considered as irregularly acquired and lacks legal ownership document such as a title deed.

Conceptual framework of land tenure as a dimension of the Triangle of the Sustainable City

Foundation

A sustainable city foundation is composed of three elements: Urban Planning & Design, Land Policies and Basic Infrastructure. For a city foundation to be sustainable, it must be inclusive at the onset of the urban planning and promotes mixed neighborhoods where social clustering is deterred. Having all the poor living together creates slums and fuels instability and insecurity. Inclusive urban planning eases access to basic services (water, sanitation, housing, education & health) and to decent employment for all. A key element of smart urban planning is a smart street network that reduces travel time and encourages walking and social interactions. Smart urban planning enhances infrastructure development, environmental sustainability, economic and social development; makes cities resilient and prepared to overcome natural disasters; and promotes mixed neighborhoods where services are walking distances from people's residences (Figure 1 - Sustainable City Foundation). The three dimensions of the city foundation, which are: urban planning, land tenure and basic infrastructures must be well integrated at the onset of settlements to form a sustainable city foundation. With a sustainable foundation, a city can thrive and become sustainable, inclusive, resilient and prosperous.

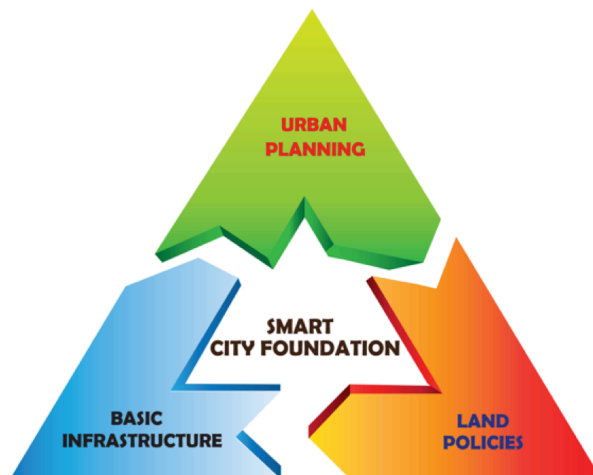


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Figure 1 Sustainable City Foundation



Source: Mboup G., 2016

Together with sustainable institutions and laws, the sustainable city foundation is, indeed, the key pillar to the other seven dimensions of a sustainable city. **Infrastructure Development** includes transport, ICT, industrial energy, school, health infrastructures, etc. in addition to the basic infrastructure as elements of the city foundation: water facilities, household energy sources, sanitation systems, solid waste and water waste management. **Environment Sustainability** is composed of elements of energy, transport, building and pollution. **Social Inclusion** includes aspects of participation in decision making as well as equal opportunities for growth and prosperity. **Social Development** is composed of elements of education, health, public spaces, social inclusion and social capital. **Disaster Exposure** incorporates elements of exposure, mitigation and adaptation to various disasters such as flooding, droughts, storms and earthquakes. **City Resilience** is composed of elements of City Foundation, Environment, Social Capital, and Social Development. **Peace & security** incorporates the prevention of all forms of violence and conflicts, including domestic violence, violence in public places, crime, armed conflicts, terrorism, policing, etc. An insecure city limits opportunities for investment and economic growth and cannot be a smart city, while with peace and security city creates sustainable and inclusive prosperity (figure 2).

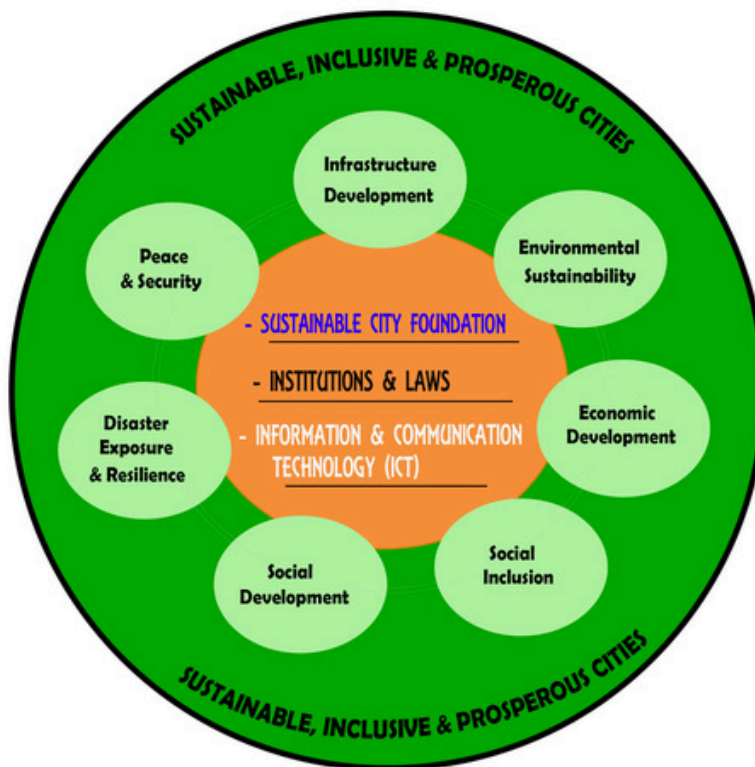


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Figure 2 – Sustainable, Inclusive & Prosperous Cities



Source: Mboup G., 2016.

In this study, we will analyze, in the first section “**Urbanization and emergence of informal land tenure since the 19th century**” the urbanization of the city against the three dimensions of the sustainable city foundation with more focus on land tenure, which is the main object of this paper. In the second section “**Measuring land tenure in Dakar**”, the assessment of land tenure will be based on official information as well as on other sources. In the third section “**Economic and social costs of settling in unplanned, informal land areas**”, we will present the cost of unsustainable city foundation on disaster, particularly flooding and lack of basic infrastructure, with the incapacity of the national as well as local authorities in solving the problem despite various initiatives just as response to immediate needs leaving the burden to future generation. A fourth section “**Land: The Hidden Assets**” is a tentative valuation of the land of Dakar. Here we will use official sources as well as the approach developed by the World Bank to estimate land value in Dakar and in other African cities to estimate land value in the context disaster risk reduction. With land, employment and finance, economy can be jumpstarted. No city had claimed to be prosperous without having a formal land register, where people enjoy fully their property rights. This



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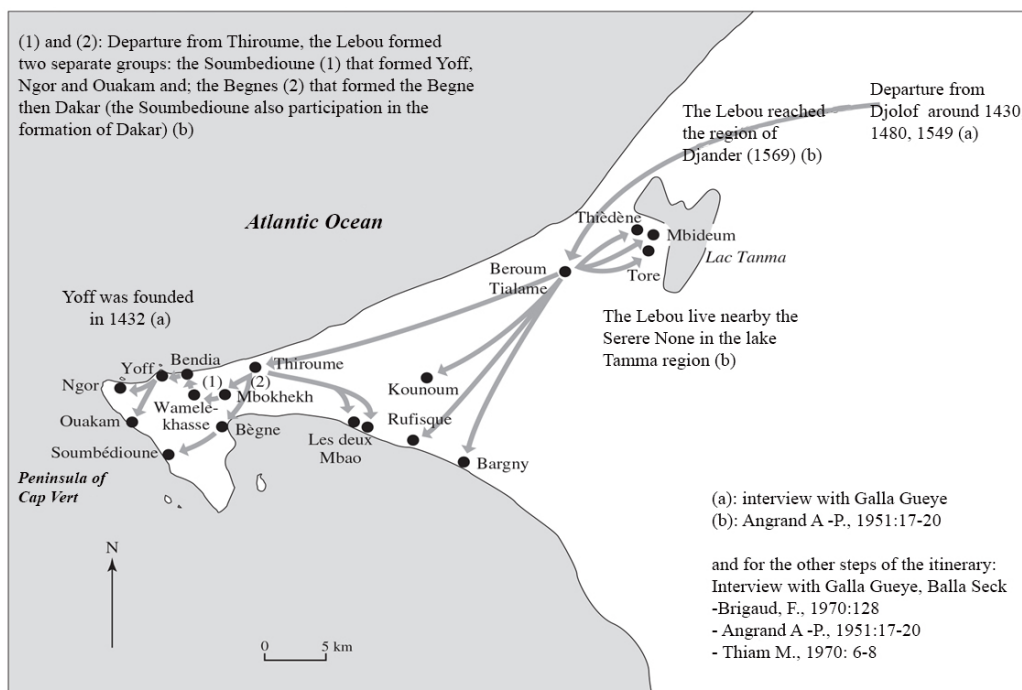


section will make reference to de Soto with the difference that our focus is on all situations of informal land tenure not only the poor. Here we will illustrate how regularization of land can contribute to the city of Dakar sustainability, inclusion, resilience and prosperity. The process of regularization will also be briefly presented based on Senegal experiences, which will be further developed in another paper.

A. Urbanization and emergence of informal land tenure since the 19th century

The city of Dakar is located to the extreme west of Senegal. Its history is marked by several migrations dating back to the 14th century. The most prominent recorded settlements were however in the 15th and 16th centuries when the Lebou group settled in the area called "Yoff" located to the north of the city and in other areas such as Ouakam, Ngor and Camberene. The second major settlement was recorded later in the 19th century when the French colons started to settle to the extreme south of the city, which later became the center of the city - hosting most of the administrative and state buildings (*including the State house, the Parliament and the Court house*)¹. Both settlement eras had varying influence on the city form of Dakar, which has resulted into two unique spatial organization patterns - an organic pattern evident in the Yoff area and a grid system evident in the French occupied southern parts.

Figure 3 Settlements of the Lebou group in 15th and 16th centuries in the Peninsula of Cap Vert (Dakar).



Source: Dumez R., and Kâ M., 2000. *Le territoire assiégé. Un village lébou dans la banlieue de Dakar.*



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UNESCO (translated from French to English by the authors)

Settlement in Yoff was influenced by the Lebou group's system of governance that advocated for decentralized social, economic and political setups aimed at promoting integration among various ethnic groups that formed the group (*Lebou was a symbiosis of various ethnic groups*). The Lebou system of governance, which was the opposite of the kingship system practiced in other parts of Senegal, promoted equality among community members, and creation of autonomous villages. Each village was under the leadership of the “Djaraf”, assisted by the “Ndeye ji Rew” for interior and foreign affairs, and the “Saltigue” who was in charge of land, water and local collectivities. With the influence of Islam, the function of “Serigne Ndakarou” was introduced in late 18th century to provide justice based on the Quran. Until today, the Lebou community conserves its socio-political structure where the “Serigne Ndakarou” and other local authorities still play a key role².

The settlement of the French colons in Dakar in the 19th century brought forth a new form of settlement pattern, one which was influenced by the French norms and regulations in urban planning and architectural design and land tenure system. The urban planning policies adopted during the colonial period only served the needs of the French as the indigenous communities were relocated to poor settlements of the city, such as Medina in 1914-1915³. This spatial segregation was accompanied by other types of segregation, particularly in access to land and other services such as piped water, sewerage systems, education facilities and health centers. Medina soon became densely populated due to high levels of immigration, and since the area lacked basic services, disease outbreaks became the norm. In response, most of the indigenous communities were further relocated to the outskirts of the city, in a new unplanned settlement called Pikine that lacked most basic infrastructures. This marked the second phase of proliferation of slums. Today, Pikine remains haunted by this early spatial and social segregation and particularly lacks formal land tenure as well as most basic services⁴.

After Senegal became independent in 1960, Dakar became the country's capital giving it an additional political function. Further rural-urban migration was reported, drastically increasing the population of Pikine. The relocation policy continued post independence, in which the poor urban residents were relocated to newly developed settlements such as Grand Yoff and Dagoudane Pikine, Pikine-extension (in 1967) and Guédiawaye (1971). Like other parts of Pikine, these new settlements were neither planned nor served with basic infrastructure, making them slums from the onset; pointing to the fact that the



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creation of irregular settlements in Dakar was a result of political decisions made both during the colonial days and after independence. Denial of permanent land rights to the urban poor became one of the main factors behind the “peripherization” associated with urban expansion in Dakar. The urban population of the region of Dakar is estimated at 3.3 million in 2015. The Urban agglomeration of Dakar (excluding the department of Rufisque) is densely populated with 15 780 habitants per square kilometer in an area of 178.3 km². From an economic point of view, cities with high densities have the potential for a concentrated, large labor and consumer market. Dakar with its population of more than 15,000 habitants per km² is relatively compact and is well placed to enjoy the benefits of concentrated labor and consumer markets. The city's compactness and its associated economies of scale and agglomeration of economies must thus be viewed as an opportunity rather than a challenge to be tapped on as means of promoting economic growth.

At the same time, city authorities need to understand that when not well planned and managed, the high densities will become liabilities to the city. In fact the average population density of over 15 000 habitants per km² masks densities as high as 40 000 habitants per km² observed in certain municipalities of Dakar city proper as well as in the suburban areas of Pikine. Despite the early relocation of people from Medina to Pikine, today the municipality of Medina holds a very high population density (43579 habitants per km²) similar to many other municipalities in Dakar city proper such as Colobane, Grand Dakar, Camberene and Parcelles Assainies, The situation is alarming in many municipalities in Pikine where densities exceed 50 000 habitants per km². Yeumbeul Sud (51468 habitants per km²), Djidah Thiaroye Kao (102 932 habitants per km²) and Pikine Sud (49665 habitants per km²) are among the municipalities with very high population densities in Pikine. On the other hand, the municipalities of Plateau, Fan-Point E, Ngor, Yoff, Mermoz and Sacree Coeur (located within the Dakar city proper) have densities as low as 10 000 habitants per km². These numbers are indicative of a segregated city and point to a need for the national authorities to consider a balanced urban and territorial planning coupled with provision of basic services in their urban development programmes. National and local authorities must improve the foundation of the city of Dakar with smart planning, smart basic infrastructure and smart institutions and laws. Smart basic infrastructures, which are particularly of great urgency in the city, include connection to water, connection to sewerage facilities and connection to energy sources, as well as development of efficient waste management systems. Effecting this will enhance the economic value of land, encourage investments, reduce risks from natural hazards and increase resilience and minimize the costs of infrastructure maintenance among various other positive impacts

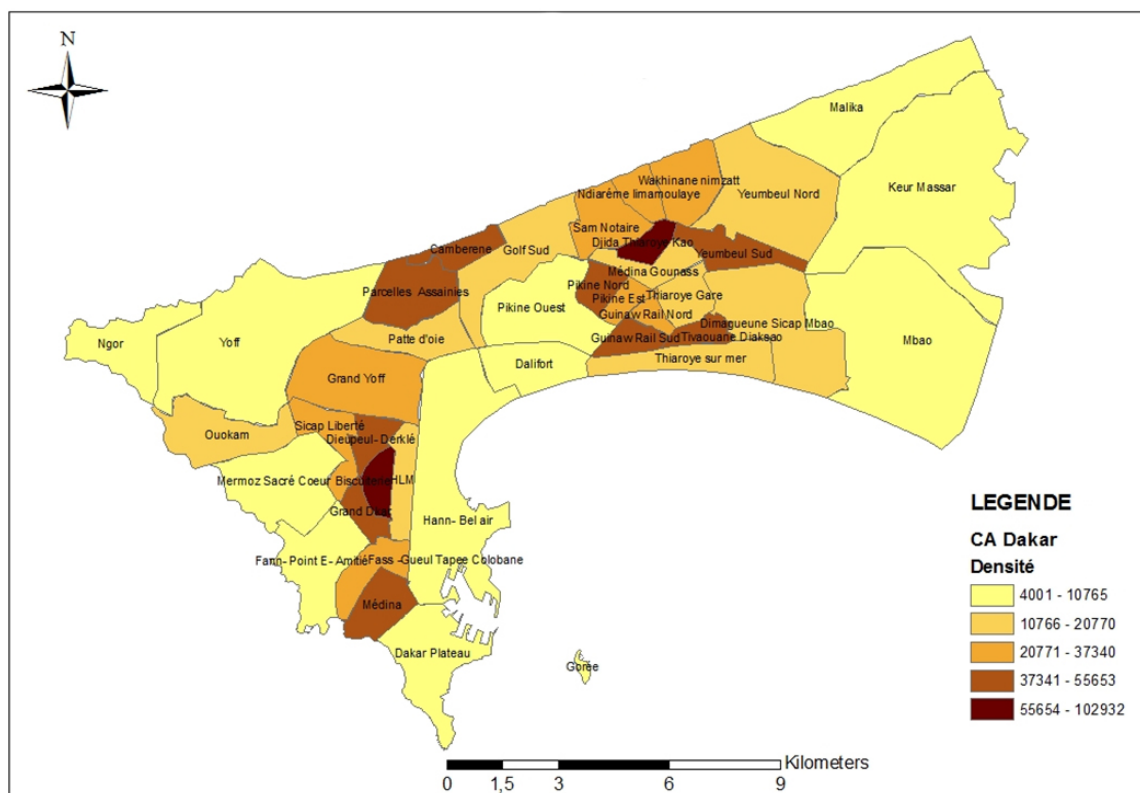


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Figure 4: Dakar Population Density, 2013.



Source: Population density computed and geo-referenced using ARCGIS software by the authors applied to the ANSD 2015 Projection. Population, Housing, Agriculture and Livestock National Census, 2013.

The land tenure system was not able to synchronize with the population growth of Dakar due to lack of implementation of urban plans. Finally people settle first where there is land, and then proceed later for regularization that will never happen in most cases. Most of these people are not poor as noted in the development of suburbs of Dakar during both the colonial and post independence period. They are mostly composed of people of the middle and upper income group. These settlements are no longer only in the suburbs but also in the city core of Dakar, such as the settlements of Ouest Foire along the VDN arterial street. The indigenous people, regrouped in families, progressively abandoned agriculture and sold their land to whoever can pay. First they subdivided land in plots with the help of a geometer. In this case, the emphasis is more on the number of plots than in streets and other public spaces. However, they could only provide sale documents showing buyers and sellers. With these documents, the government accepts to collect sale tax as any registered sale, but it will not provide any document of land tenure even a building permit. However, certain buyers can negotiate and have legal documents in an illegal area. This opens the door for corruption, lack of transparency, and poor recording. Since this situation seems



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comfort the officials, there was little or no interest to improve it. Recently the Director of Cadaster was arrested for illicit enrichment, a former Director of Urbanism is under investigation for the same reason and his successor removed after he authorized building in illegal lands.

B. Measuring land tenure in Dakar

The measurement of land tenure is based on various sources, including official sources providing information on irregular settlements. This is coupled with information derived from household survey conducted in Dakar in 2005 on land tenure document using UN-Habitat Urban Inequities Survey definitions of secure tenure⁵.

Official classification of building based on the regularity and the formality of the land

The Urban Master Plan of Dakar has established criteria to classify houses and building on the following categories: Individual house type villa; Planned housing type real estate company; Regular spontaneous Habitat; Irregular Spontaneous Habitat; Habitat type buildings and; Village dwelling.

Individual house type villa: These are the residential districts (Fann Residence, Point E, Mermoz, Almadies, Corniche West ...). The habitat consists of villa of high standing with a maximum of three levels with possibility of swimming pool. The subdivisions have a very good asphalted road. Most sidewalks are paved.

Planned housing type real estate company: These are housing programs carried out by public or private bodies specialized in real estate development (SN HLM, SICAP, SIPRES, HAMO, COMICO, etc.). This type of habitat has asphalted roads for the main streets.

Regular spontaneous Habitat: This type of habitat, realized in self-construction on approved subdivisions, is constituted of so-called popular districts such as Medina, Gueule Tapée, Colobane, Grand Dakar and certain districts of Pikine and Guediawaye. This type of habitat is characterized by high densities.

Irregular Spontaneous Habitat: This type of habitat is manifested by an anarchic and unauthorized occupation of public spaces and land, especially in the urban peripheries. It is made up of poor quality



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buildings, more or less precarious, sometimes even slum type, most often installed in non-aedificandi areas, where the problems of infrastructure and public facilities are acute. The streets are narrow, sandy and difficult to access for motorized vehicles.

Habitat type buildings: This type of housing is characterized by buildings exceeding three floors. It is generally located in the city center and is the administrative district of the Plateau. It has the particularity of being located in buildings with a large proportion of offices, as well as commercial premises (on the ground floor). The road is paved and the sidewalks are all paved.

Village dwelling: These are mainly "traditional villages" in Dakar (Ngor, Yoff, Ouakam, Hann, Cambérène) and Pikine (Keur Massar, Thiaroye sur Mer, Mbao and Keur Mbaye Fall). These villages are characterized by a habitat of summary materials gradually replaced by permanent dwellings. The streets are narrow and sandy for the most part, only the primary road is paved. The shape of the lots is not regular and the houses are grouped around small squares (Pinthes) or around a mosque. The government has also classified settlements based on their coverage in terms of infrastructures. It has classified them as: settlements with infrastructures; settlements with limited infrastructures and; irregular settlements. The 19 municipalities of Dakar were distributed according to their settlements.

Based on the above classification of land use various sources of information on land tenure had been developed according to the purpose of the project that are supposed to inform. Official information indicated that the percentage of population living in regular areas is 60% in Dakar, 35.8% in Pikine, and 30% in Guédiawaye. Another study "Cities of Senegal without slums" revealed that there were 49 spontaneous settlements in the city core of Dakar, covering a total area of 418 ha; 47 large spontaneous settlements in the suburbs of Dakar covering a total area of 1856 ha. In the urban audit conducted in the city of Dakar in 2001⁶, equipped settlements were defined as settlements within a radius of 500 m that have an elementary school and a health center in addition to be connected to water, electricity and a paved street network. This type of settlements covers an area of 1917.56 ha in 2001, i.e. 57.8% of the total built up area of the core of Dakar. Under equipped settlements, defined as settlements that do not have these infrastructures or are far away from them, cover an area of 1029.96 ha, i.e. 31.1% of the total built area of Dakar. Others are considered irregular planned settlements with traditional structures, which mostly are the first settlements of Dakar, cover an area of 367.15 ha, i.e. 11.1% of the total built up area of the core of Dakar. However, it is important to note that these settlements considered are irregular in terms of



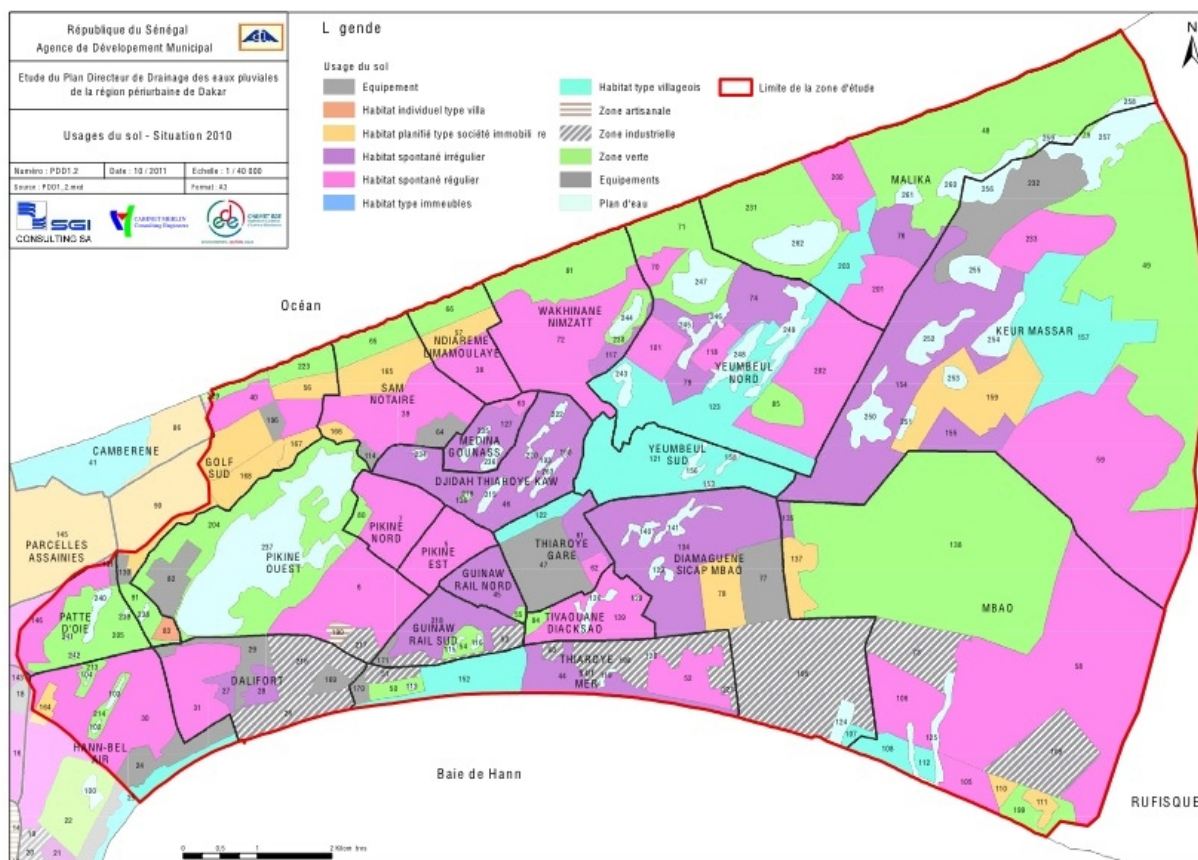
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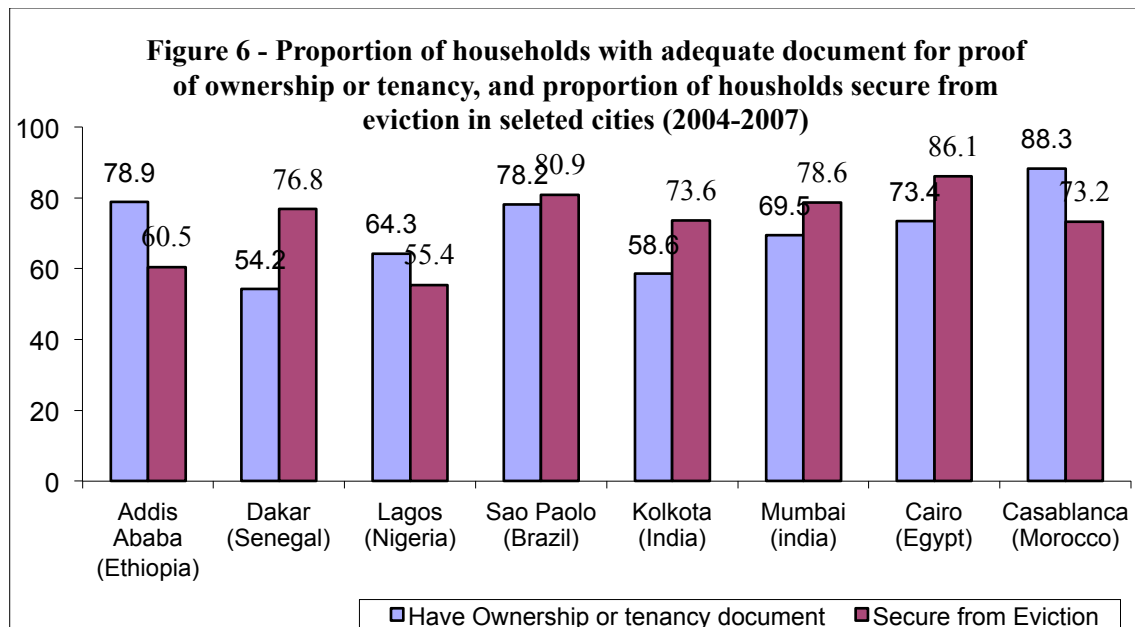
planning such as Ngor are also those hosting now wealthy people. The indigenous have sold their land to wealthy people who settled without changing the layout of the neighborhood. Other irregular settlements are in areas such as Camberene where mainly lively some indigenous people and poor migrants that cannot afford the cost of living in the center of Dakar. These settlements have an irregular planning and lack most the basic infrastructures. This again supports our assumption that irregularity in Dakar does not necessary means poverty. Irregular settlements can host rich families as well as poor families. As we previously state it, informal land tenure in Dakar does not concern only the poor, but also the rich; it is across social classes. Without access to financial market households are obliged to build based on their capacity. Mortgaged houses are about 5% in Senegal.

Figure 5: Classification of land use in the peri-urban of Dakar





In the Dakar Demographic and Health Survey conducted in 2005, people or households are considered to have secure tenure when there is *evidence of documentation* that can be used as proof of secure tenure status or when there is either *de facto* or *perceived protection against forced evictions*. For owners, documents that are adequate for proof of security of tenure are: land registration certificate, title deed to dwelling, purchase agreement for land, lease agreement for land and certificate of occupation. For tenants, documents that are adequate for proof of security of tenure are: registered or not registered lease agreement and informal agreement (written). Similar surveys were also conducted in other cities covered in the Urban Inequities Surveys of UN-Habitat between 2004 and 2007; they are presented in figure 5 for comparison.



Source: UN-Habitat, 2012.

Possession of ownership or tenancy document varies widely across the eight cities, with the lowest proportion reported in Dakar where only 54% have proof of legal ownership⁷. During the Demographic and Health Survey conducted in Dakar in 2005, proof of ownership includes title deed, sale certificate, power bill and other documents. When disaggregated, less than 15% of the household reported having a title deed, which is considered the most secure document. However, it is interesting to note that in the city of Dakar, despite the low proportion of households with ownership or tenancy document, a large proportion feel protected against eviction (77%). Measures to reduce the risk and stress associated with



lack of documents and fear of eviction are based on recognizing and respecting a plurality of tenure systems, including intermediate forms of tenure arrangements and alternative forms of land administration and land records.⁸ The legal institutional framework in a given country or city plays a key role on various elements of security of tenure such as acquisition or adjudication which is the process of final and authoritative determination of the existing rights and claims of people to land⁹.

C. Economic and social costs of settling in unplanned, informal land areas

Since the colonial period, many poor households have been forced to settle in flood prone areas due to inaccessibility to planned land in the city of Dakar. Due to poor land administration and governance, there is no compliance with standards of occupancy of the space leading to a high building density and irregularity of the urban fabric. Wetlands in Dakar cover an area of 40 square km of which nearly 72 % (29km²) are hosting human settlements¹⁰. From 1954 to 2003, 95% of these areas have been converted into habitation¹¹.

Apart from habitat degradation, floods cause considerable economic losses on the various activities performed by people across various income and social connections. The impacts of floods on people and communities are enormous ranging from economic, social and health issues to environmental aspects. Asset losses degrade the quality of life of households and reduce the housing value. Flooding affect the few existing social and community facilities such as schools, health centers, markets, etc. This means during the flooding, social development is severely hampered with people trapped in their houses. By Affecting social development with inaccessibility to most services, the economic development is also severely affected with significant decline of productivity of the active population. In 2009, the Post-Disaster Needs Assessment (PDNA) estimated damage and losses to total 44.5 billion FCFA nationwide (US\$89 million), of which 35.5 billion FCFA (US\$71 million) was for damage and loss in the Dakar region alone, with the most significant damage being on housing (61%), Transport (11%) and health (10%)^{12 13}. In terms of losses, the trade sector suffered the most losses, with 23% (mostly informal trade), followed by housing (18 %), urban community infrastructure (18%), energy (17%), and transport (16%) sectors. At the household levels, an estimated 30,000 houses were affected in the Dakar region, most of which are now uninhabitable and often abandoned¹⁴, and nearly 360,000 people representing 44% of the population of Pikine were affected. The impact of flooding related disasters remains a significant challenge to sustainable development of the city of Dakar¹⁵.



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The government has also spent million of dollars to manage damages and losses related to flood. For instance, in 2006, the project for construction of social housing and the fight against floods and slums was aimed at implementing the “Jaxaay Plan” and the “One Family, One House” program¹⁶. From 2006 to 2012, the “Jaxaay plan” built houses for flood victims and installed water drainage systems using emergency pumps. The plan has helped build more than 3000 housing units in Dakar and other regions of the country, as well as retention ponds, as part of the “Project de Gestion des Eaux Pluviales et d’Adaptation au Changement Climatique” (PROGEP), along with gravity-based drainage systems¹⁷. Faced with recurring floods in most cities across the country and especially in the Dakar region, public authorities felt the urgent need to find a solution in 2009. In August 2010, the Government of Senegal decided to prepare an urban development project for rainwater management and climate change adaptation, known as PROGEP, aiming to reduce floods through an integrated and sustainable approach¹⁸. However, all these projects require financial supports that divert funds from other priorities and needs. For instance, the PROGEP is a five-year project (2013-2017) funded for USD 72, 9 million¹⁹. In 2012, the emergency relief plan (ORSEC) was activated after the heavy rains in August of the same year. With most urban areas of the country affected by flooding, the government of Senegal adopted strong measures, starting with a ten-year program for flood management whose total cost is estimated at more than 700 billion FCFA (USD 1,4 billion) in 2014. According to the The Minister of Urban Renewal, Housing and living Environment, the government of Senegal allocated a budget of 3 billion CFA francs (US\$6 million) in 2015 to assist people in emergency areas affected by natural disasters during the rainy season.

These above figures constitute illustrations on how settling in unplanned land settlements foster huge economic and social costs both in terms of losses and in terms management. The fight against flooding in Dakar will be won beyond the current adaptation practices of retention basins or use of pumps. Integrated, enforced urban planning and formal land tenure are among the urgent solution to be introduced.

D. Land: The Hidden Assets

At the economic and financial aspect, there are various social and economic advantages including access to the financial and economic market as illustrated in de Soto publication (2000). De Soto argued that granting titles to the poor would liberate the plots they occupy and transform them into capital. This, in turn, could be used as collateral for loans to jumpstart their businesses, or improve their houses, among other gains that increase their quality of life. At the community level, the municipality can legally collect



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various taxes that can be used to improve basic infrastructures such as connection to water, sewerage facilities, energy sources and waste management facilities. This would also allow people to fully participate in the development of their communities at the policy as well as the implementation level instead of seeing proprieties as dead investments serving only for shelter. Urban land is a vital economic asset, and asset transactions are viable only where purchasers can rely on enduring extra-legal documentation of ownership. A formal market offers purchasers legal protection with transactions adequately recorded in land administration book; it also generates public good with accurate valuation²⁰. Transparent property rights to urban land are a precondition for formal land markets. When these systems pose barriers to urban land access, they impede the consolidation of plots and the evolution of land use. As noted by de Soto (2000), any asset whose economic and social aspects are not fixed in a formal property system is extremely hard to move in the market.... Without such a system, any trade of an asset, say a piece of real estate, requires an enormous effort just to determine the basis of the transaction: does the seller own the real estate and have the right to transfer it? Can he pledge it? Will the new owner be accepted as such by those who enforce property right? What are the effective means to exclude other claimants?" In Dakar, these questions enumerated by de Soto (2000) are difficult to answer. For most goods, there is no place where the answers are reliably fixed. That is why the sale or lease of a house may involve lengthy and complex procedures to ensure that propriety belongs to the seller. Land transactions are long, costly, and complicated in Dakar as in most African cities (World Bank 2015 cited by Lall et al., 2017). Such market constraints reduce the collateral value of structures, giving developers little incentive to invest in residential height. In such a condition transactions are made through informal arrangements (Collier 2016 cited by Lall et al., 2017).

D.1 Formal land tenure provides opportunities to settlements and people

Large infrastructure projects require huge investments. However, like any large structures, they depreciate very slowly over decades or even centuries (Philibert 2007). The central government transfers on which Dakar as most African cities often rely will not suffice to finance all infrastructures required to take advantage of the economies of scale and agglomeration that Dakar can offer its large population of more than 3 million inhabitants with high density of over 15,000 inhabitants per square km. Therefore national and local authorities should explore various financing options for infrastructure development. The costs of developing housing, infrastructure, and industrial premises must be coordinated with land markets and land use regulations in order to fully take advantage of the economies of scale and agglomeration of the city of Dakar. This calls for the formalization of the land tenure, which, in turn, will increase the land



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values that can be used to contribute to the development of basic infrastructures such connection to water, sanitation, drainage, solid waste management and streets. For instance, in Dakar due to lack of municipal finances most municipal street networks are not paved. Municipalities with formal land system have the large proportion of paved streets compared to others without formal land system.²¹ Secure tenure goes beyond the legal character; it attracts investments as illustrated by the level of provision of infrastructure in municipalities considered as legal settlements compared to others considered as informal settlements. These municipalities also enjoy health centers and school facilities. They also attract the financial market because they have a legal urban plan with a sufficiently documented cadaster system. This shows the community character of land tenure that goes beyond the household and embrace infrastructure in the municipality itself. In most irregular settlements, there are few or no paved streets, and the few streets they have do not have light. Lack of documented urban plans affects the financial as well as the land market. It is noted that capacity and resource constraints are the main reason infrastructure in most municipalities have been lagging behind. In absence of formal land system, a settlement is trapped into poverty. With this, there is no doubt that wealth is associated to formal land system. Let make secure tenure work for people and communities. Dakar is expected to reach 5 million inhabitants in 2035. This will propel new demand for infrastructure such as water, sanitation, sewerage, waste management and streets among others. To meet this demand, land transactions must be eased with transparent efficient land law, administration and governance with documented land and property rights; documented guidance of land valuation and prices and; coordinated land use and urban planning. Land tenure goes hand and hand with urban planning. Urban planning supported by accurate demarcation of public and private uses are of importance (Toulmin 2005). Without an accurate mapping, legal title deed cannot prevent land disputes as it often occurred in African cities. In Dakar, it may take several years before regularization, particularly when it is bought informally. Formal land Registration will ease transactions and boost economies of scale and agglomeration.

D.2 Tentative estimation of land value of Dakar

Under its Disaster Risk Reduction (DRR) strategy as part of its Poverty Reduction Strategy (PRS) process (IMF 2007), land has been given a central place. Apart from habitat degradation, floods cause considerable economic losses on the various activities performed by people across various income and social connections. The impacts of floods on people and communities are enormous ranging from economic, social and health issues to environmental aspects. As shown previously, damages and losses associated to flooding are particularly high in Dakar as a coastal city. The DRR team combined hazard



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and population maps, land price data, and land cover information to derive the exposure of different variables in different locations. This allowed to assess the potential economic impact of natural hazards, taking into account direct and indirect damages. This has been done in conjunction with analysis of detailed geographic information systems (GIS) data, cadasters, and field verification to ascertain detailed risks faced by populations and built areas. Exposure and vulnerability of economic assets in the area were estimated with the spatial analysis of land price values. It is estimated that the Dakar Metropolitan Area represents a total land value of \$44 billion. This figure represents is 8 times the city GDP. Considering the level of informality of 37%, we can assert that US\$17.4 billion out of the US\$44 billion of land value of Dakar is not convertible in the financial market to secure marketable financial transactions; it cannot also generate revenues for the development of infrastructures. In addition, due to poor urban planning and irregular land use, over \$2 billion or 5% is exposed to high natural hazard potentials. In the absence of functioning land market where prices are regulated and documented, these figures must be considered as rough estimations of the exposure of economic assets to natural hazard such as flooding²². Information from the PROGEP corroborates the economic damages and losses associated to flooding in Dakar. At the household levels, an estimated 30,000 houses were affected in the Dakar region, most of which are now uninhabitable and often abandoned²³, and nearly 360,000 people representing 44% of the population of Pikine were affected. The impact of flooding related disasters remains a significant challenge to sustainable development of the city of Dakar²⁴. These various estimates point out the importance of adequate planning and land use regulation to mitigate the city's economic vulnerability against risks such as flooding. Dakar has launched the Initiative for Sustainable Cities such aim to integrate vulnerability to urban planning and management²⁵.

Considering the weak financial revenues of the city Dakar, a land value of 44US\$ must be seen as an opportunity to tap on it. It represents nearly 500 times the annual revenue of the metropolitan area estimated at US\$94.8 million). Though there is a steady increase of the budget of Dakar from FCFA 2 billion to over FCFA 28 billion in 2006, the city is still in the incapacity to satisfy the increased demand in most basic services such as water, sanitation, solid waste management, health and education. The budget of the city finances mainly operational against investment expenditures ((59% against 41%)²⁶. The budgets mainly include local taxes and levies (around 90%) for all the departments. Subsidies from central government remain minimal, less than 2%. But this situation is more due to the nature of taxes levied in each entity rather than to performance of local authorities²⁷.



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It is also noted that due its rapid growth, land prices are high in the city of Dakar but benefits less to the infrastructural development of the city. It does not create revenues for the cities as illustrated in the city income-expenditures sheet. In cities of developed countries, land-based financing has significantly contributed to urban investment. Taxes on land use will reduce the high level of inactive land in Dakar. Considering that they are paying taxes on the land, landowners will either develop their land in its most profitable use or they will rent/sell it. Improved valuation of land and properties closer to their market value, deepening the tax base; Improved enforcement of land and property taxes on a larger number of owners, broadening the tax base and; monetization of underused public land²⁸. This will require functioning institutions in a transparent manner with inclusive, documented property rights using standardized and objective methods of land valuation. Good land governance and administration where corruption does not have a place will make trusted institutions and will encourage landowners to register their properties considering the high returns for them and for their community.

Due to limited revenues of the city of Dakar, it is high time to tap to the potential capital of land through the regularization of land tenure. In Dakar, it is not only the poor that lack title deed but also an important number of middle class and upper class families or settlements. In his book, de Soto advocates for the secure property rights to the poor. But in the case of Senegal lack of property rights affects the poor as well as the rich. While there is argument against de Soto theory, in Dakar regularization of land tenure will work for many middle and upper income households that have not been able to use their property as collateral due to lack of legal ownership document.

Another important group land regularization will benefit is the Senegalese from the diaspora who usually send money to their family and build houses in Senegal. Most of these houses are built in irregular settlements. Among the Senegalese of the diaspora, certain have a high desire to return home, but they have not save enough to do so, and they cannot use their houses as collateral and start a business in Senegal. No choice, even those they are here cannot get a title dead, what about those that just come to visit their family for a month or less. These are not the poor as described in the de Soto book, they have already the value of savings as underlined by the money they sent to their family in a monthly basis. The money received from the diaspora is estimated at \$1.9 billion (FCFA 971.4) by the Senegalese Ministry of Finances, much higher than the foreign aid Senegal received during the same year. It represented 12.1% of the national GDP. The Ministry of Finances considered that the diaspora are the first donors of Senegal²⁹. However, the money of the diaspora is not invested in the market, it is invested in residential houses and household subsistence. Without legal recognition, these houses cannot be transformed neither



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into capital nor transacted through the economies of scale and agglomeration that the city of Dakar potentially offers.

These Senegalese from the diaspora as most Senegalese have houses but not titles; crops but not deeds. They also face multiple difficulties to incorporate businesses if they wish to return. Even the poor are not poor as we can imagine, but their problems are more complex than the category of the middle and upper income families. Senegalese possess wealth beyond our imagination. They are not poor, but their wealth is not legally recognized by their government, which finally turns to the Western nation seeking for aid. What a paradox! Why have the government of Senegal failed to tap into the potential wealth of its people³⁰?

Following the same illustration of de Soto (2000), “A country, where nobody can identify who owns what, addresses cannot easily be verified, people cannot be made to pay their debts, resources cannot immediately be turned into money, ownership cannot be divided into shares, descriptions of assets are not standardized and cannot easily be compared, and the rules that govern property vary from neighborhood to neighborhood or even from street to street, cannot sufficiently create prosperity³¹. The majority of the residents of Dakar belong to that category. Finally the informal becomes the de-facto formal. Institutions and laws are fundamental to create trusted communities and ease transactions and attract investors”. This is the key difference between Senegal, and in general African countries, and developed countries. With the ICT revolution, we have all access to the same technology and high tech goods, the only difference lies on the enforcement of the rule of laws to make all actors accountable. When the diaspora return to Senegal, they are not missing the comfort they left in Europe or America, they have all in Senegal and even more, with large houses, high tech TV, cars, etc., “What they are really leaving behind is the world of legally enforceable transactions on property rights³²”.

Economic return lag in poor settlements

Though having a title deed does not necessarily lead to secure a bank loan; it may not be sufficient in itself to animate the dead capital interred in land and property, particularly in countries where banks lend only to workers with high wages and a stable job, as it seems happen in some countries covered in de Soto study. However, families with title deed may be likely to invest either to improve the quality of their homes or to increase their size. It is also important to note that land tenure goes hand and hand with urban planning (Toulmin 2005). Without an accurate mapping, legal title deed cannot prevent land disputes as it



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often occurred in African cities. In Dakar, it may take several years before regularization, particularly when it is bought informally.

The conditions of the houses in poor settlements which are the face of slums lacking most basic infrastructures such as connection to water, sanitation, sewerage system and solid waste management. In addition to that they are not built with durable materials, they do not respect building code and they are likely to locate in hazardous locations. Lack of secure tenure is only one of the pieces of puzzle. In such a condition, providing title deed will not directly lead to the bankability of the property before the formal private financial market, and the public financial market may not guarantee a scheme of loans for houses with high liability costs. Here providing title deed without creating adequate framework may lead to speculation where wealthier households may convince poor household to sold their property as it happened elsewhere such as Cambodia.

Experience of Dakar in resettlement - example of the PROGEP

The project area of the PROGEP which will house the work of the priority blocks of the neighborhood of Mbeubeus, was located in the municipalities of Keur Massar and Malika. It is a peri-urban area, which has the characteristic of being densely populated with an irregular occupation of the land. To implement the project, people must be relocated in other areas. During the resettlement, people were compensated based on the nature and the magnitude of losses ranging from building and houses to private non-built residential land. Losses will be in terms of land acquisition resulting in the physical or economic displacement of people, and or loss of housing, sources of income or restrictions on temporary access to property. These negative impacts will thus require the application of certain measures and the initiation of operational procedures for the protection of individuals. To minimize these impacts and potential negative effects and to optimize the impacts and positive effects, the project required the preparation of a Resettlement Action Plan (RAP). This plan aimed at managing in an equitable way the possible implications that could arise from the implementation of the project and to be in conformity with the Senegalese legislation and the requirements of the World Bank, partner of Senegal for the PROGEP³³

The methodological approach adopted in the PROGEP was based on two complementary approaches. The first one is based on a participatory approach which combines, on the one hand, the collection and analysis of strategic and planning documents, interviews and, on the other hand, focus groups with the actors and partners involved in the project Preparation and implementation of the PROGEP. The second



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approach is based on a quantitative information, based on the administration of questionnaires that target the different categories of actors likely to be affected by the project for the construction of basins and storm drainage works³⁴.

About 332 people were affected and compensated. About 175 houses were affected, and they were compensated for an amount of 1.5 billion CFA (equivalent to US\$3 million), an average per person of US\$17,000. About 80 people with non-built residential land were also compensated for a total amount of 213 million FCFA (equivalent of US\$ 425,600), an average per person of US\$5320. This also seems to indicate that residential built up areas value over three times residential non-built areas. This illustrates the experience of Senegal in re-settlements of people in regular as well as in irregular lands.

Another example is in the resettlement plan phase1 of the PROGEP, the project made the distinction between land with title dead and land without title dead. Non-built up land area with title dead was compensated at 65,000 FCFA per square meter (US\$130 per square km) against 20,000 FCFA per square meter (US\$ 40 per square meter) for non-built up land area without title dead. In other terms, the land with title dead was valued by the PROGEP three times higher than those without a title dead. This shows clearly the financial and economic value attached to formal land tenure as expressed by the government of Senegal itself in its resettlement plan (ADM, 2013 Plan succinct de reinstallation Rapport final PSR PROGEP).

The way forward

Learning from the experience in other countries, Senegal can develop a good framework for land regularization in all neighborhoods, starting first with mapping the neighborhood. This process adds value to the land itself as title dead does. This is not just mapping for demarcation of plot but for also assessing the conditions on which houses are built, particularly the exposure to disaster, for them and their neighborhood. This survey may be followed with carefully identification of owners of plot, as it is already done in the PROGEP. At the end of this exercise Dakar will have an organized property right system in rich neighborhood as well as in poor neighborhood. The latter will enjoy secure tenure without being exposed to fear against eviction while the former will directly enjoy secure tenure with all social and financial advantages attached to. The economic return may take longer, but at least we have created a property right system transferable from generation to generation.



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Reference and notes

¹ Diop A., 1995. La communauté lebu face aux développement de la politique coloniale : la question des terrains de Dakar (1887-1958), These de Doctorat, Université Cheikh Anta Diop, Dakar. Chenal J., 2009. Op. Cit

² Dumez R., and Kâ M., 2000, Op cit

³ Chenal J., 2009. Harris, 2011. Harris, D.A. (2008) *Constructing Dakar*, Cultural Theory and Colonial power Relations in French African Urban Development Cities of Tomorrow.

⁴ ENDA Graf Sahel, 2009. Pikine:aujourd'hui et demain, Diagnostic participatif de la ville de Pikine

⁵ The method had been implemented in 25 cities around the world through Urban Inequities Surveys. People or households are considered to have secure tenure when there is *evidence of documentation* that can be used as proof of secure tenure status or when there is either *de facto* or *perceived protection against forced evictions*. For owners, documents that are adequate for proof of security of tenure are: land registration certificate, title deed to dwelling, purchase agreement for land, lease agreement for land and certificate of occupation. For tenants, documents that are adequate for proof of security of tenure are: registered or not registered lease agreement and informal agreement (written).

⁶ ADM, 2001. Urban audit of Dakar

⁷ Mboup G., 2015. Op. Cit.

⁸ GLTN, 2008

⁹ Once the land is acquired, another element that depends to legal institutional framework is the acquisition of a building permit, which is at the authority of the local governing body on land use and planning for construction or renovation of a property. Another element that lies to the authority is the cadaster system, which is a parcel based and up-to-date land information system containing a record of interests in land (i.e. rights, restrictions and responsibilities). Indeed, security of tenure depends heavily to the land governance that establishes the rules, processes and structures through which decisions are made regarding access to and the use of land, the manner in which those decisions are implemented and the way that conflicting interests in land are managed. In many cities of the developing regions, poor land governance is surrounded by poor land administration or registration characterized by a poor determination, recording and dissemination of information about tenure, value and use of land during the implementation of land management policies.

¹⁰ <http://www.dakar-info.com/les-inondations-urbaines-au-senegal-sont-de-plus-en-plus-dangereuses-et-de-moins-en-moins-gerables/>, Djigo M. (2009). Les inondations urbaines au Sénégal sont de plus en plus dangereuses et de moins en moins gérables. <http://www.africadt.com>

¹¹ <http://iopscience.iop.org/article/10.1088/1755-1307/6/33/332025/pdf> Flood risk and land occupation in Dakar outskirts. Does climate variability reveal inconsistent urban management? Cheikh Mbow, A Diop, AT Diaw University Cheikh Anta Diop, Institute of Environmental Sciences, Laboratoire d'Enseignement, Dakar, Senegal. An integrated analysis has been made using land use maps, local topography using DTM (SRTM) and field surveys to show factors and implications of flooding in the outskirts of Dakar called Yeumbeul. Physical and human driving factors are integrated in the analysis. The impacts on environment and health are analysed against policy for flood aftermath and beyond with the so-called "Diaxaay" State plan for flood prevention.

¹² https://www.gfdrr.org/sites/gfdrr/files/Senegal_English_August%202014.pdf. "Assessment report on post-disaster needs, urban floods in Dakar 2009", Government of the Republic of Senegal, World Bank, the United Nations System and the European Commission, June 2010.). The PNDA assessment is funded through the Global Facility for Disaster Reduction and Recovery (GFDRR),

¹³ Republic Senegal, 2010: 44-53, quoted by IAGU, 2011, Op.Cit.

¹⁴ Republic of Senegal, AWF, EAA, Donor Roundtable aimed at financing the emergency phase of the Ten-Year Flood Program , Programs for Integrated Water Resources Management and Access to Drinking Water and Sanitation, December 2012.

¹⁵ The World Conference on Disaster Reduction, held in Kobe, in Japan's Hyogo Prefecture, from 18 to 22 January, 2005

¹⁶ The project hosted by the Ministry of Architectural Heritage, Housing and Construction, following the dissolution of the National Agency against Floods and Slums (ANLIB)

¹⁷ https://www.gfdrr.org/sites/gfdrr/files/Senegal_English_August%202014.pdf



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¹⁸ This project was supported by the World Bank

¹⁹ https://www.gfdrr.org/sites/gfdrr/files/Senegal_English_August%202014.pdf. The PROGEP is being implemented together with priority measures such as: The Government designated the Municipal Development Agency (ADM) with PROGEP preparation and implementation, PROGEP was officially launched in November 2012, but preparation of the master plan for storm water drainage in the outlying areas of Dakar and the preparation of technical drainage studies began in 2011. The budget of PROGEP is USD 72.9 million of which USD 55.6 million through the World Bank; USD 10.6 million from the Senegalese government, USD 4.1 million from the Nordic Development Fund and USD 2.6 million by ADM. Additional funding was being negotiated with the World Bank, IDB and AfDB.

²⁰ Lall, Somik Vinay, J. Vernon Henderson, and Anthony J. Venables. 2017. "Africa's Cities: Opening Doors to the World." World Bank, Washington, DC. License: Creative Commons Attribution CC BY 3.0

²¹ ADM, 2001. Dakar Urban Audit

²² Hyoung Gun Wang Economist, Spatial team FEU, SDN Marisela Montoliu-Munoz Head, Spatial team FEU, SDN The Geoville Group Ndèye Fatou D. Gueye Consultant, FUE, SDN, 2009. Preparing to Manage Natural Hazards and Climate Change Risks in Dakar, Senegal. A Spatial and Institutional Approach. Pilot Study Report. See also World Bank & Republic of Senegal, 2013. Economic and Spatial Study of the Vulnerability and Adaptation to Climate Change of Coastal Areas in Senegal.

²³ Republic of Senegal, AWF, EAA, Donor Roundtable aimed at financing the emergency phase of the Ten-Year Flood Program, Programs for Integrated Water Resources Management and Access to Drinking Water and Sanitation, December 2012.

²⁴ The World Conference on Disaster Reduction, held in Kobe, in Japan's Hyogo Prefecture, from 18 to 22 January, 2005

²⁵ Senegal, Project document "Sustainable Cities Initiative", GEF-6 Sustainable Cities Programme

²⁶ CDS, IAGU, 2008

²⁷ CDS, IAGU, 2008

²⁸ Lall et Al., 2017. Op. Cit.

²⁹ Ministry of Finance, 2017. Press Conference, Dakar, Senegal

³⁰ As noted by de Soto (2000) "houses without documents are "dead capital" and lack the process to represent their property and create capital.

³¹ de Soto, 2000

³² see also de Soto, 2000. The author goes on to explain briefly that the USA had similar problems early in its history but overcame them.

³³ ADM, 2015. Plan d'Action de Reinstallation de Mbeumbeuss, Janvier 2015

³⁴ In the Keur Massar-Malika pole, this sector comprises large land reserves, thanks to the use of which major urban planning operations are initiated in Dakar, Pikine and Guédiawaye, in particular in the field of urban restructuring, The implementation of the Jaxaay Plan, the resettlement of the toll roads, and the restructuring of the districts crossed by the motorway in the town of Pikine. Moreover, this cluster naturally constitutes a land reserve for the communes of Dakar and Guédiawaye which no longer have any extension zones. Planned housing zones of the real estate company type will extend to these available reserves.