

*Full Length Research Paper*

# Processes and challenges of urban development in Côte d'Ivoire (Africa) with case study of Abidjan City

Konate Djibril<sup>1,2</sup>, Qian Yun<sup>1</sup>, Dembele Ousmane<sup>2</sup> and Wang Xiangrong<sup>1\*</sup>

<sup>1</sup>School of Landscape Architecture, Beijing Forestry University, 100083 Beijing, China.

<sup>2</sup>Institut de Geographie Topical, Universite de Cocody- Abidjan, 22 B.P.744 Abidjan 22, Cote d'Ivoire.

Accepted 11 January, 2019

Underdeveloped countries are faced with serious urban issues such as social disorder, environmental pollution, flood, traffic jam and accidents. Most of these problems evolves and affects urban life by causing morbidity and mortality or creating unpleasant landscape. Otherwise when the process of urban creation is poorly managed, the upsurge of urban challenges will be observed. Urban planners and other construction actors in Abidjan do not have the same understanding of urban development due to the inadequate system established at national level. The study based on scrutiny of urban creation process in Abidjan, economic capital city of Cote d'Ivoire, evaluates the urban space development strategy focusing on urban policies and regulatory documents, construction and management actors, and the different related challenges.

**Key words:** Urban planning and management, urban construction, process, actors, stakeholders, funding, challenges.

## INTRODUCTION

Process is a set of activities of planning and monitoring, and needs to be managed. To succeed, knowledge, skills, tools, techniques and systems are required. A process also requires space and time during transformation of input into output ([http://en.wikipedia.org/wiki/Process\\_architecture](http://en.wikipedia.org/wiki/Process_architecture)). In case of urban creation, these are activities of urban planners, legal authorities, and construction actors. Their actions in case of Abidjan city urbanization have been differently appreciated.

Since 1980s, the central government has adopted the decentralization system to allow local people and their local government to plan and coordinate their own development. At that time, the government has abandoned his prerogative to design and implement local development because of the insufficiency of the policy, so that many public and private actors have been involved to,

design, monitoring and manage the urbanization After 30 years of decentralization, the cities landscape remained highly contrasted, particularly in Abidjan where the city image is still degrading. Additionally, "there is a real defiance of our authority from the people as procedural violations of subdivision and zonal regulations are common" said the minister of construction and urban planning during the seminar of new policy validation in September 2011.

According to the strategic document for poverty reduction published in 2009 (Document Stratégique pour la Réduction de la Pauvreté, DSPR), the cities are characterized by deficit of infrastructures, equipments and basic social services (republic of Cote d'Ivoire, 2009). In relation to the foregoing, various questions arise. Among them are: Why the decentralization in Cote d'Ivoire cannot bring development to local people? Are the national laws or authorities the main cause of this failure? Or the skills and knowledge of the stakeholders are the problems? The main objective in this paper is to assess the urban development process in Abidjan. We focus on the role played by each actor and the result of

\*Corresponding author. E-mail: [konatedjibson@yahoo.fr](mailto:konatedjibson@yahoo.fr), [wxr@dylansdcape.com](mailto:wxr@dylansdcape.com).

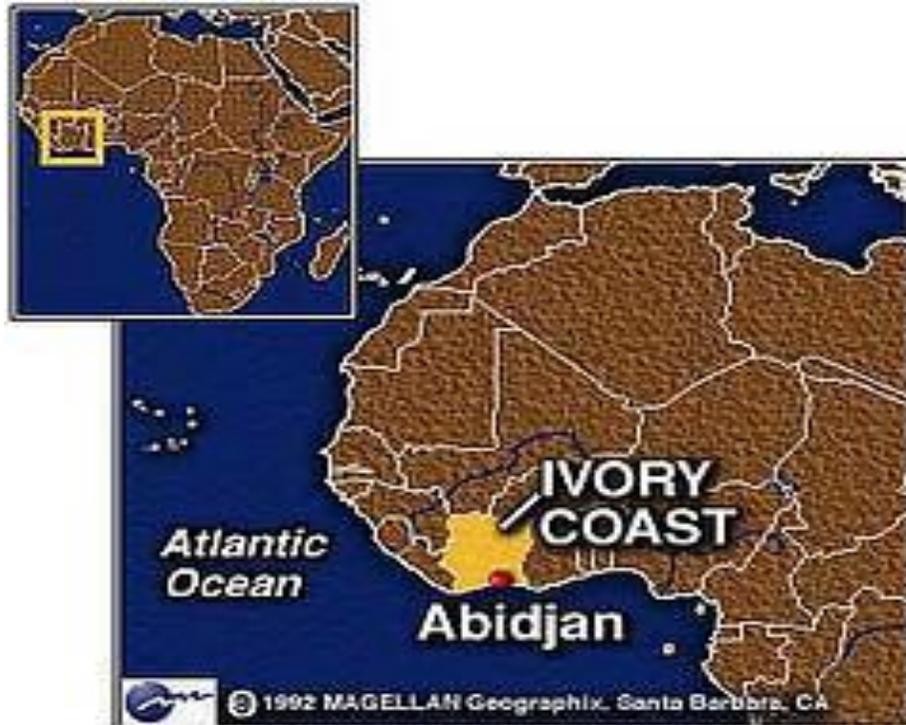


Figure 1. Abidjan in Cote d'Ivoire (Ivory Coast).

their involvement in the city creation

## MATERIALS AND METHODS

The materials used in this study consist of bibliographic and photographic. In terms of documentation, we have exploited national and international literature reviews on urban planning, construction and management. We also have made reviews on some journals on African economics like "JeuneAfrique Economie" and collected some data from the internet.

We have organized interviews with the director of urban planning and the director of land development of ministry of construction and urban planning. We have also met the director of parks and gardens and the director of urban planning of the governorate of Abidjan district to discuss about their point of view on urban planning, gardening and management of the district land.

We have interviewed Professor Dembelé Ousmane, Professor of Urban Planning at Tropical Geography Institute, Cocody University-Abidjan, on planning process. We have made a survey on the importance of gardening in urban planning programme.

In this study, the analysis of planning and construction process of Abidjan city is made from what has been planned and implemented by government and local authorities from the colonial period to the present. It means comparing the result of each stakeholder in order to appreciate the change of/in space, and examine policies from different period of our urban history.

## Study area and justification

Abidjan, the capital city of Cote d'Ivoire, with an area of 2119 km<sup>2</sup> and 13 communes, is the most modernized city with western architectural style. Its population estimated at 5,878,609 in 2009 (<http://fr.wikipedia.org/wiki/Abidjan>, 2010) represents ¼ of the whole

population of the country estimated at 21,075,010 people (<http://perspective.usherbrooke.ca/bilan/servlet/BMTendanceStatPays?langue=fr&codePays=CIV&codeTheme=1&codeStat=SP.POP.TOTL>, 2009).

The city is the site for 70% of the industries and employing some 60% of the country's workforce. It is considered as an important place in West Africa based on economic, diplomatic and social roles, and stands as the second most populated city after Lagos (7,937,932 inhabitants) in West Africa and the 4<sup>th</sup> big city in Africa after Cairo (Egypt), Lagos (Nigeria), Kinshasa (RDC) (Villemonde, 2007) (<http://villesdumonde.centerblog.net/1536707-La-4eme-plus-grande-ville-d-Afrique>). International bodies such as United Nations Children's Fund (UNICEF), United Nations Development Programme (UNDP), World Health Organization (WHO), World Food Programme (WFP), United Nations Office for Project Services (UNOPS), African Bank of Development and International Monetary Fund have their regional headquarters located in Abidjan.

Furthermore, some worldwide companies like Bolloré, Colasse, Delmas, Veljan, Schneider, Bull, Microsoft, Alcatel, A.B.B, IPS, and Rhone-Poulenc have also established their headquarters there to cover West Africa. With a score of banks and financial institution, Abidjan is the main financial center of West Africa French speaking countries (Haeringer, 2000).

After the 1998 population data census, 174 different nationalities have been registered in Abidjan (N. I. S., 2000). For being capital city since 1934, Abidjan have benefited from good planning, housing policy and infrastructures achieved by French colonialists and later on by Ivorian first government after independence.

Beyond this importance, Abidjan is facing a serious urban development issues that are urban environment degradation due to the overpopulation, social disorders, mismanagement and unplanned areas development. From 1960 to 1980, Abidjan city was growing at a rate of 400 ha/year. From then on, it grew at 290 ha/year, of which 200 ha produced officially, and 90 ha produced informally (Atta, 2004) (Figure 1).

## Urban policy and regulations in Côte d'Ivoire

### *Policies from 1928*

The urban policy of the state officers was based on construction of Abidjan city in modern style with a western architecture and technology. The first master plan called "Plan d'Aménagement de la ville d'Abidjan" (Abidjan City Development Plan) was set up in 1928 under colonization period. The second plan established in 1952 called "Plan Badani"<sup>1</sup> change the nature of the city and some new activities appeared. Port, industrial and commercial activities were developed in this plan in addition to administrative and residential functions contained in the 1928 plan (Alloko et al., 2010). Then, the first two plans were followed by "SETAP"<sup>2</sup> plan in 1960, the 1969 plan, 1974 plan, 1985 plan and the last one, those of 2000 called "Grand Abidjan". All of these plans have developed specific schemes for pursuing modernization through urban project focusing on housing, infrastructures and prestigious building (Chenal, 2010).

The concept of these planning was the construction of a beautiful, great and world-known city. But these plans have not experienced real success. That explains the mixed landscape in Abidjan; in one side a well-off district, well planned with modern infrastructures (Plateau, Cocody, Biétry, Yopougon-Millionnaire) and in other side the landscape of shanty town without paved road, drainage and sanitation system, electricity and telephone network (Abobo, Adjame Macaci, Adjame Boribana, Port-Bouet derriere wharf, Cocody Gobelet, Koumassi Campement, Marcory sans fil).

In late 1980s, the government has encountered some difficulties in the country development process due to the serious economic crisis. The funding of housing and urban development was abandoned by the state. New policy and reform were adopted to promote urban social and economic development. Land and housing production have been entrusted to privates, and planning confided to local authorities. Thereby many real estate companies and funding structures were created to boost urban development and mitigate housing shortage and sanitation issues. Among them SICOGL, SOGEFHIA, SIDECL, SIPIM, Batim-ci were the well-known.

Concerning the planning of urban construction and development, the government has promoted the decentralization through the law N°78-07 of 9 January 1978<sup>3</sup> applied in 1980 in order to promote the local development. "Increasingly, current management policy advocates a decentralization of responsibilities from central to local government and a redistribution of responsibilities is emerging with evolving new role for many actors and the creation of partnership between the different actors in urban development" (Kuchelmeister, 1999). In addition, the communes were created with the power to conceive their own development. The decentralized structures (Municipalities) should modernize and improve the living environment, manage the land and the environment.

These policies were reinforced in 2000 by the setting up of new decentralized entities called "Conseil General" (General Council) through Act No.2001-447 of August 9, 2001 to promote local development in department scale. The number of commune was increased from 195 to 720 and the number of the "Conseil General" was established at 58 with 2 governorates (Abidjan and Yamoussoukro). The 2 capital cities (economic and politic) become "district" and acquired legal personality with financial autonomy and competency to initiate and realize the district master plan, housing project, zonal planning program and urban restructuring plan, and

<sup>1</sup> Badani was french colonizer and governor of Abidjan city at that time. He had been an urban planner before.

<sup>2</sup> SETAP (Société pour l'Etude Technique d'Aménagement Planifié): Office for the Study of Technical Development Planned. This office has initiated and set up the 3<sup>rd</sup> plan, these of 1960.

<sup>3</sup> Law No.78-07 of January 9<sup>th</sup> 1978 on the establishment of full-function joint in the Ivory Coast, Official Journal, No.9 of February 23<sup>rd</sup> 1978, p.348 (Wikipedia)

creation and management of green space (Law No 2003-208 of 7 July 2003).

Today, the new policy of the government in matters of urban development consists to elaborate and promote urban planning documents unknown or ignored by people when realizing construction (Ministry, 2011). This policy can be summarized in the mastery of extension zones, creation of land reserves through the *Service de promotion de l'accession à la propriété foncière* (SPAPF, service to promote home ownership tenure), support stakeholders in land development; clarify the legal and regulatory framework of competency transferred to decentralized entities (Ministry, 2011).

Different interpretations of these laws are one of the causes of urban disorder observed in Abidjan. The ministry of construction also wants to develop a master plan for sewerage and drainage and set up a national policy in matters of sanitation.

### **Planning documents in Côte d'Ivoire**

#### *Forecast planning documents*

These are prospective planning documents in which the expansion plan of the city, the building areas and unsuitable areas for construction, and the layout of infrastructures are set. These are urban master plans (PUD), planning and development programme, and structure diagram (schéma de structure).

The final urban master plan of Abidjan city called "Grand Abidjan" was approved in 2000 that forecast a highway called "la voie Y4" (The way Y4) surrounding the city like in Beijing where the city is organized through 6 circulation belts. "La Voie Y4" will start at Yopougon (south-east), pass behind the industrial area of Yopougon, around Abobo, reaches Riviera Palmeraie and Bingerville. The 3<sup>rd</sup> bridge called "Bridge HKB" that will link Riviera Golf to Marcory will join the "Y4" by a way passing by "Riviera 2" crossroads. The construction of the "Bridge HKB" has already begun and will last 27 months and cost 190 million euro said Olivier Bonin, chairman of SOCOPRIM<sup>4</sup>.

#### *Operational planning documents*

These are documents needed to implement or achieve the forecast plan in order to better monitoring city development. These documents are master plan details which complete the city master plan and establish patterns of land use according to the quarter or parcel. There is also land subdivision which is an operation to subdivide a land for different use (housing, infrastructure, garden and greening space, business areas and offices). The restructuring plan aims to modernize and equip the existing sectors or quarters. The operation of land development consists to develop the urban space and rural land belonging to the state or the communes for urbanization. It includes the physical servicing operation and land marketing.

#### *Regulatory documents*

These documents are used to support the former documents in city construction. These are planning permission (Certificat d'Urbanisme, C.U), prior to planning (Accord Préalable d'Urbanisme, A.P.U), building permit (Permis de Construire, P.C) and special planning regulation (Règlement Particulier d'Urbanisme, R.P.U). The planning permission is delivered by the ministry of construction and includes information concerning the possibility of use and construction on a land under applicable planning regulation. The building permit is the main control instrument of the administration.

<sup>4</sup> SOCOPRIM is the company constructing the 3<sup>rd</sup> bridge called "HKB"

When delivered, it authorizes that the land operation conforms to construction patterns and master plan details. The certificate of conformity (Certificat de Conformité, C.C) is a document delivered to approve the conformity of construction regarding the regulatory and norms of urban planning.

## Urban construction and management actors

### *The public actors*

**Ministry of construction, sanitation and urban planning:** This department designs the general policy of urban planning, development and construction. It approves the subdivision plan carried out by geometers according to the current regulation. It delivers the planning documents (APU, CU, PC, CC and RPU). The ministry has 725 agents' workers; among them 11 urban planners, 3 architects, 13 experts and 119 civil engineers have been registered (Direction of Administrative and Financial Affairs, 2010). The ministry has 13 decentralized offices in Abidjan (antennas of construction) and 68 regional, departmental offices and sectors throughout the country.

In China, the administration staff is about 30,000 and the number of organization that are responsible for the formulation and scientific study of urban planning reaches 2000, and working staff more than 60,000; all are qualified at diverse level (Tang, 2004).

**Ministry of housing promotion:** This is a new ministry and shows how the housing issue is important for the new authorities. The minister is responsible to define a policy, search funding for housing development in order to lodge social case and economical class for 8000 euro/house (Allassane, 2010). For the minister, Kaba Gnale, "the needs of housing have accumulated over time to reach about 400.000 homes. These needs are increasing at a rate of 40.000 housing a year which is equally divided between Abidjan and the rest of the country" (André, 2011).

**The governorate of Abidjan district:** In accordance with the law No 2003-208 of July 7<sup>th</sup> 2003, chapter 3, art 13, about the transfer and distribution of competence from the state to local governments, the governorate is responsible to land use and development planning. In matters of urban planning and housing development, the district initiates and achieves the master plan, the land use subdivision projects, the housing projects, the master plan details and the restructuring master plan. As the minister, the governor also delivers planning documents through his department of urban planning and construction.

Users, who cannot get the regulatory documents (LA and PC) from the ministry because of incompatibility with planning document, ask the district governorate to provide them. So, there are 2 entities in Abidjan city which deliver regulatory documents for housing construction. Consequently, the city master plan is not respected due to the multiple sources of regulatory document issuance and brings us face to anarchic urbanization. This situation emanate from the different interpretations of decentralized laws.

**The communes:** Abidjan district is constituted of 13 municipalities or communes ([http://fr.wikipedia.org/wiki/Commune\\_ivoirienne](http://fr.wikipedia.org/wiki/Commune_ivoirienne)). Each commune according to the law No 2003-208 of July 7<sup>th</sup> 2003, chapter 5, art15, has the same competence as the governorate in term of land use planning and development, urban planning and housing development, and communal road network development.

Mayors are the first managers of the commune, they dispose of financial resources, initiate and implement land use development locally. They control as the ministry and the governorate the master plan details. Nevertheless, some lands in certain communes reserved for garden, school, recreational spaces or for other public use were declassified, subdivided and sold by mayors for housing

or commercial patterns.

**National bureau for technical studies and development (BNETD):** The national bureau for technical studies and development (BNETD), former management and control of major work (DCGTx) established since 1978 is a state company (SODE), but managed as private structure. It is responsible for the study, design and development planning at national and international level. It has 6 representations in others African countries. It also supervises major work and provides expertise as technical advices for a major decision in the context of investment. In Abidjan, BNETD has developed "Grand Abidjan" project, and the institution is under direct responsibility of the president of republic.

## Private actors of urban construction

### *Village communities*

They are landowners. The governmental structure for land equipment created in 1967 (SETU) was responsible for discussing with landowners. It provided compensation to landowners for their land and crops, equipped it in road network and utilities, and concede to real estate companies (SICOGI, SOGHEFIA, SIECI), or other individuals for the development.

With the disappearance of SETU and the liberalization of land development due to the weakness of the state, landowners manage themselves and their land without any development and amenities. They initiate subdivision of their land, commercialize it without the permission of the ministry. Or, when the land subdivision plan is sometimes approved by the ministry, they redesign the subdivision scheme in order to make maximum profit. For instance, in the subdivision plan "Yopougou Kouté 2<sup>nd</sup> Extension" approved by the ministry, we cannot find the parcel No 2451 belonging to a teacher and most of urban buildable land commercialized lack infrastructures, roads and other utilities (Figure 2).

### *Private real estate companies*

Like SICOGI and ex SOGHEFIA (state companies), many real estates companies were created from 1980 up today. Their mission was to bridge the housing deficit in Abidjan and in major cities. In 1997, forty private real estate companies were listed producing 3000 houses per year (Haeringer, 2000).

These companies have played a significance role supplying affordable houses to population in Abidjan and also in others major cities, but some have not met their specification. Moreover, they have not fulfilled their commitment vis-à-vis their subscribers to their proposed estate transaction. The most important companies nowadays are SICOGI, SIPIM, Batim-ci, Les Lauriers, SOPIM, Groupe Figuiér, Promogim.

### *Individuals*

Individuals have s trong desire to own their property, even in areas unsuitable for development sold by some dishonest people. For them, renting house is meaning downgrading (Muriel, 2011). Here, land is less expensive and the control of administration is passive. It is due to the fact that housing is relatively expensive in Abidjan.

According to Professor Atta Koffi<sup>5</sup> in 2005, the deficit of house in Abidjan is estimated at 12.000 houses per year.

<sup>5</sup> Atta Koffi is a professor of Urban Planning at Tropical Institute of Geography in Cocody-University (Abidjan-C.I)



**Figure 2.** A. Yopougon Gesco: Unbuildable areas. B. Abobo Samanke: Poorly maintained roads.

### **Financial institutions**

Financial institutions fund urban development projects. However, it is too difficult to get loans from banks because of the conditions. The banks agreed to lend or extend loans if certain conditions are met, like having a stable job, high wages, and subscribe to health insurance and disability. The repayment rate is very high, about 17% of gross loans at all banks of the UEMOA<sup>6</sup>, whereas the standard is set at 5% (Soungalo, 2011). In China and other developed countries (France, England and USA), the interest rate on mortgage is standing between 0 and 5%.

There are some local banks like Bank for Housing development of Cote d'Ivoire (*Banque de l'Habitat de Cote d'Ivoire*, BHCI), Atlantic Bank and other international commercial and industrial banks like BICICI, CITIBANK, ECOBANK, and Bank of Africa which fund urban projects. Atlantic Bank Cote d'Ivoire has funded SICOGL for a housing construction project (150 villas) between Abidjan city and Bingerville. Then we can notice as financial institutions engaged in city construction, the sub-regional banks like African Development Bank (ADB), West African Development Bank (*Banque Ousest Africaine de Developpement*, BOAD) which will pay for the supervision of construction of Bridge HKB, and also for the construction of the highway Abidjan-Grand Bassam. Other international banks like Central Bank of the States of West Africa (*Banque Centrale des Etats de l'Afrique de l'Ouest*, BCEAO), Islamic Bank for Development (*Banque Islamique de Developpement*, BID) and the World Bank are involved in city construction and development.

Arab Bank for Economic Development of Africa (*Banque Arabe pour le Developpement Economique de l'Afrique*, BADEA) has provided funding for the construction of a bridge linking Abidjan to Jacquerville whereas the World Bank has funded 140 millions USD through the project "PUIUR" in Cote d'Ivoire for urban roads construction, drinking water supply, urban sanitation and solid waste treatment.

### **Bilateral and multilateral cooperation**

In term of cooperation, the country have profited of many funding from diverse origins in order to organize and develop the cities. In Abidjan, the Norwegian capital was used to build Port-bouet, the Israelian have funded the construction of Cocody and Vridy and

<sup>6</sup> Union Monétaire Ouest Africaine (UEMOA) West African Monetary Union is composed of 8 countries having the same currency (Franc cfa) and monetary policy.

the American and Lebanese capital were used to finance the development of new areas in Abobo, Williansville and Yopougon. This achievement period was from 1960 to 1975.

China also has funded some urban project in Abidjan and Yamoussoukro. The construction of "Palais de la Culture d'Abidjan" was funded by Chinese government at 5,343,511 euro and built by a Chinese company, Ganzu Overseas Engineering Corporation. Also, the Chinese government is funding the rehabilitation of "Bloc Ministeriel" in Plateau at 1, 7 billion Francs Cfa (2,595,420 euro), and realized by a Chinese enterprise, Jiangsu Engineering Construction Group. Moreover "La Maison des Depute" in Yamoussokro is funded and realized by Chinese government.

Furthermore, the "Caisse Centrale de Cooperation Economique Française" (Central Body of French Economic Cooperation) was the main provider of funds to SICOGL. China Exim Bank has funded the state through SICOGL for the construction of 400 houses in North Abidjan for 41 million euro (André, 2011). (Figure 3).

## **RESULTS AND DISCUSSION**

As result we can resume the urban construction process by the scheme presented in Figure 4. At the institutional level, there is a serious issue of texts interpretation. The governorate of Abidjan district through his urban planning and construction office has held a meeting to determine the difficulties related to the application of competencies transferred from government to local authorities by the law No 2003-208 of July 07th 2003 to them.

According to the governor, the consequences of this diverse interpretation of law are the high probability of fraud linked to the confusion, disarray of people not knowing who have real responsibility to deliver documents. The police who are responsible of controlling land occupation have proven real difficulties in their task because of multiple sources of regulatory documents establishment.

For the African Development Bank group (ADB) and African Development Fund (ADF), 1992 "in term of urban land, the legal and regulatory framework is inadequate in some cases, making it difficult to transfer ownership, limited access to mortgage.... And discourage real estate

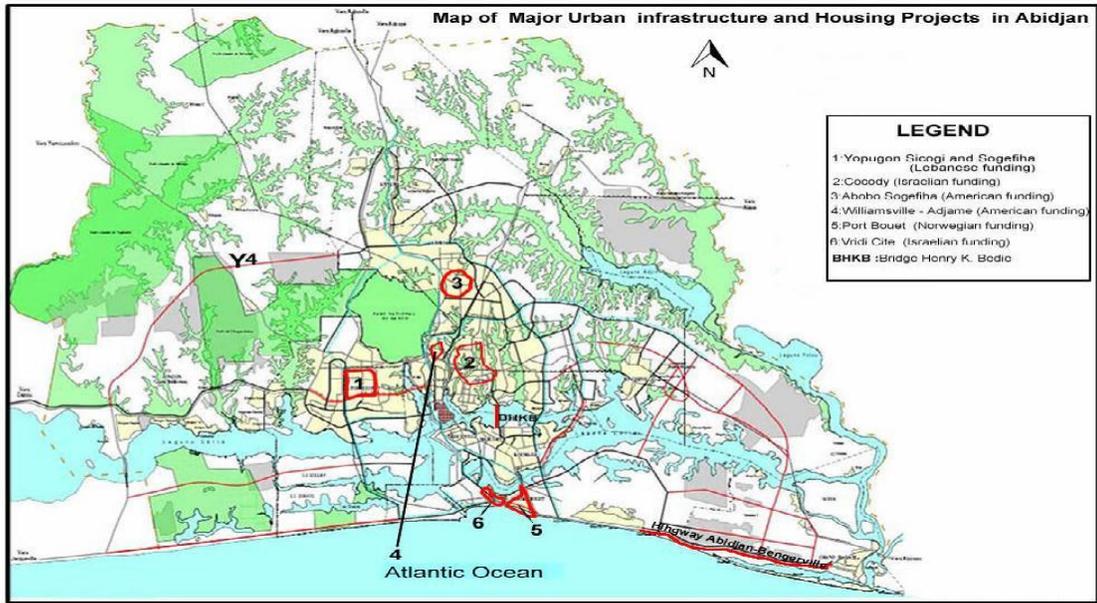


Figure 3. Map of major urban infrastructure and housing projects in Abidjan.

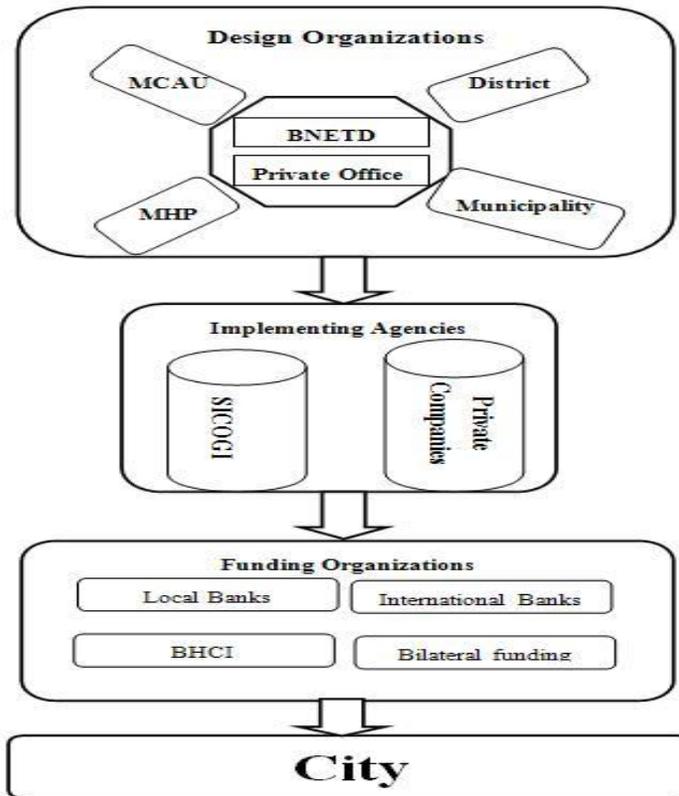


Figure 4. Urban construction process in Ivory Coast.

investors. In others cases, the procedures for transfer of ownership are not well known to the public and are often

long, difficult and too expensive". The direct consequences of this fact are anarchic construction and illegal



**Figure 5.** A. Plateau; "Cité administrative" Abidjan. B. Yopougon Chu: Residential area.

occupation of urban land. The different texts must be clear to avoid interpretations.

The ministry denies to the governorate the right to deliver some documents like PC, ACP, CU, and CC and then refuse the district initiate and realize land subdivision project. According to him, the state only has monopoly on urban planning, land control and urban space occupation. The communes' administration furthermore manages the territory without regarding the master plan details, and in most cases, the planners in the municipalities are without qualification and they know few about urban planning and management.

In Nigeria, the problems of most of the urban cities like Lagos, Ibadan, Kano Enugu and Benin City are resulted from the fact that they were never planned by experts (Ahianba et al., 2008; Gbadegesin and Aluko, 2010). Like Nigeria, in Abidjan, planning process and management are conducted by non professional.

Certain law governing towns planning in Cote d'Ivoire are from colonial period or are older than 30 years and did not experience any reform. For instance, a ministerial decree of 13 December 1939 concerning the establishment of the general plans of extension and improvement in urbanism with 3 chapters and 32 articles is still serving as planning documents. Moreover, the ministry has a brigade of control lacking any means of surveillance (vehicle, fuel, trained personnel etc).

At landscape level, 2 contrasted landscapes are visible. There are the consequences of urban mismanagement. On one hand, we have the well-off districts, well directed, equipped and installed at a well height ventilated area. It is the administrative, commercial and residential area (Plateau, Cocody, Bietry, Millionnaire). Example of administrative and residential areas in Abidjan is shown in Figure 5.

On the other side, there are mixed landscape built up by the individuals and real estate companies. Here, there is lack of amenities with total insanitary. It seems to be a

city in crisis with landscape and structure unfinished, anarchic area subdivision, anarchic occupation of public domain, streets and sidewalks by traders, mechanics, carpenters, restaurants and snack bars (Ministry, 2011). Many building land remains unbuildable for long time because of non effectiveness of the site servicing. There are proliferation of the precarious dwelling, slums and insufficiency of green and open spaces (Figure 6).

The former gardens and parks built fell into decay or are declassified by mayors and used as markets. Many vacant spaces are used as a dump, places to defecate. In sum, Abidjan gives the image of a city in crisis with dual structure. Comparatively, the process in China is little different to those in Cote d'Ivoire.

The government regards urban planning as an important base and method in guiding the rational development, construction and administration, and asks local governments at various levels to make urban planning, construction and administration as their main responsibility (Tang, 2004). The city expansion has to be planned and designed by the local government and implemented by them according to basic national regulations. In local development in China, after farmland expropriation from peasants, local government needs to invest in basic infrastructure, including roads, water, drainage system and power (Douty and Jiangfeng, 2008).

At drainage and sanitary level, the lack of major drainage network causes flooding and landslides each year causing death. According to prefect of Abidjan, the June 14<sup>th</sup> 2010, 8 people have died as result of flooding and 58 families without shelters. In 2009, we have registered 21 deaths in Abidjan mainly in Mossikro, Banco, Gobelet. In 2011, we have registered 9 deaths said General Kili Fiacre Adam, director of ONPC, national office for civil protection (Figure 7).

Wastewaters flowing on the surface on land due to the low level of connection to the sewage line are source of environmental diseases like malaria and typhoid fever.



**Figure 6.** A. Yopougon Lem; Precarious dwelling, B. Port-Bouet; Unsuitable area, 15 m from the Sea.



**Figure 7.** A. Flooding in Yopougon. B. Landslide in Cocody residential area.

We have conducted a survey in Abidjan with a sampling of 300 people between 1st and 15th October on the usefulness of green space and leisure space, we found that 60% of respondents had suffered from malaria and 7% from typhoid which are environmental diseases.

According to Guillaume K, Chairman of the Board of the national Association of Architects, the withdrawal of the state in urban planning is one of the causes of uncontrolled development of our cities ((Guillaume and Airault, 2011).

## Conclusion

The urbanization process was based on western model and continued to be so. At the beginning, the states has assumed the right of monopoly of subdivision, monopoly of organization and equipment of urban space, monopoly of urban space occupation, and they gave up everything

when the 1980's crises appeared.

In terms of urban construction, it is highly depending to external funding which, in case of world economic crises, affect negatively the internal process. The fact explaining the use of external funds is that the national savings is low because of a relative low standard of living, and the tax on land is not sufficiently paid.

The scrutiny of the legal framework highlights the dysfunction of urban planning and construction system. The text organizers are often vague and unenforceable and the direct consequences are urban disorder and mismanagement. People ignore or do not respect the rules and standards regulating urban space, because there are many difficulties from the ministry when starting a construction project. The concept of urban planning ignore also gardening, greening, open space and recreational space to meet people needs.

The ministry must initiate a reform on urban planning laws, structures and system, make a large diffusion of the

regulations and norms and sensitize people for their respect. Introduce digital urban planning which is a new kind of urban planning based on information infrastructure, spatial data infrastructure, and planning and managing system of city in order to determine the development goals, urban land use, urban spatial pattern, information infrastructure, spatial data infrastructure and other integrated construction projects of both realistic city and digital city (Anrong et al., 2005).

## REFERENCES

- African Development Bank (ABD) and African Development Fund (ABF) (1992). Urban Development Policy. Document approved during the 291<sup>st</sup> and 219<sup>th</sup> boards of directors meeting of ABD and ADF, April 1992, p. 31.
- Allassane DO (2010). Programme for Governance (Programme de gouvernement "Vivre Ensemble"), p. 89.
- Alloko JG, Amadou D, Kokou HM (2010). *Villes et Organisation de l'espace en Afrique (Cities and Space Organization in Africa)*, Karthala, collection; Maitrise de l'espace et développement, p. 226.
- André SK (2011). Cote d'Ivoire: Akissi-Delta, cité de la joie. in "Jeune Afrique", Economic Issue (dossier Economie), Dec 8<sup>th</sup> 2011.
- Anrong D, Huizhen S, Haoying H, Lei W (2005). Study on the System of Technical Methods for Digital Urban Planning. Proceeding of International Society for Photogrammetry and Remote Sensing (ISPRS) Workshop on Service and Application of Spatial Data Infrastructure. Hangzhou, China, October 14-16, 2005: 1967-1970.
- Atta K (2004). Study of an African megacity: Abidjan (Etude d'une mégapole Africaine: Abidjan). Handout.
- Chenal J (2010). Planifier la ville versus planifier l'idée d'une ville (Planning the city versus planning the idea of a city). Laboratoire de sociologie urbaine, Ecole Polytechnique Fédérale de Lausanne. Conference paper. p. 12.
- Direction of Administrative and Financial Affairs (2010). File of Staff by Service and registration number. Ministry of construction, sanitation and urban planning of Cote d'Ivoire.
- Douty C, Jiangfeng (2008). A Study of Urban Expansion in the Urban Administrative District of Wuhan City, 1987-2005: A Remote Sensing and GIS Perspective. *Environ. Res. J.* pp. 290-298.
- Gbadegesin JT, Aluko BT (2010). The Programme of Urban Renewal for Sustainable Urban Development in Nigeria: Issues and Challenges. *Pakistan J. Sci. Soc.* 7(3):244-253.
- Guillaume K, Airault P (2011). Interview. in "Jeune Afrique". Economic issue. 9 Dec., 2011.
- Haeringer P (2000). Repères comparatifs pour les 19 métropoles: Abidjan (Comparative references for the 19 cities: Abidjan). *Economica*. pp. 419-432.
- [http://en.wikipedia.org/wiki/Process\\_architecture](http://en.wikipedia.org/wiki/Process_architecture).
- [http://fr.wikipedia.org/wiki/Commune\\_ivoirienne](http://fr.wikipedia.org/wiki/Commune_ivoirienne).
- <http://perspective.usherbrooke.ca/bilan/servlet/BMTendanceStatPays?langue=fr&codePays=CIV&codeTheme=1&codeStat=SP.POP.TOTL>
- <http://villesdumonde.centerblog.net/1536707-La-4eme-plus-grande-ville-d-Afrique>.
- Kuchelmeister G (1999). Urbanization in Developing Countries- Time for Action for National Forest Programs and International Development Cooperation for the Urban Millennium. Forest Policy Forum. June 1999, Joensuu, Finland.
- Ministry of construction, sanitation and urban planning (2011). Background paper. Seminar for validation of the new policy of the ministry. Commission 3, Drainage and Sanitation. p. 7.
- Ministry of Construction, Sanitation and Urban Planning (2011). Introduction Paper (Document de Présentation). Validation Seminar of New Policy of the ministry, (Séminaire de validation de la nouvelle politique du Ministère). 21-23 Sept 2011, p. 9.
- Muriel D (2011). Urbanisme: des racines et des villes (Planning: The Roots and Cities), "Jeune Afrique". Economic Issue. 09 Dec. 2011.
- National Institute of Statistics (2000). Data census of population (Recensement Général de la Population et de l'Habitat en Cote d'Ivoire).
- Republic of Cote d'Ivoire (2009). Strategic Document for Poverty Reduction (*Document Stratégique pour la Réduction de la Pauvreté*, DSRP), p. 180.
- Soungalo T (2011). Les secrets du credit bancaire en Afrique: Techniques pour la gestion efficace du risqué (Secrets of bank credit in Africa: Techniques for effective risk management), Edition Secom Médias.
- Tang K (2004). Urban Planning System in China. International Conference on China's Planning System Reform, March 24 and 25, 2004 Beijing.