

FINDINGS AND DIAGNOSES ON URBANIZING ANTANANARIVO CITY

RAMBININTSOA Tahina, RAKOTO DAVID Séraphin, RAMBININTSOA Franco, RAVELOALISON Hajanirina, ANDRIANAIVO Lala

University of Antananarivo, Ecole Supérieure Polytechnique d'Antananarivo, BP 1500 Antananarivo 101
Madagascar - tahinamrambinintsoa@yahoo.fr

Abstract

The current problem for Antananarivo city is due to the choice made relating to the occupation of the land of its ancestors, who chose to move on the main riverbed of an area prone to flooding.

The change of vision on the development of the city worsens such situation, deteriorates such city. The monarchy period developed the city on the hills, the colonial era brought its innovations and the current neo-liberalism has its way of developing the world in globalization. Antananarivo city and its populations are only experiencing these changing views to which they do not necessarily adhere.

Carelessness and disorder in the city that lacks infrastructure is currently noticed in the city of one thousand warriors.

Keywords: Antananarivo, commuting urban, land occupation, sprawl.

1- INTRODUCTION

Antananarivo is the economic and political capital of Madagascar .It occupies the slopes of a rocky ridge peaking at about 1435 meters.

The city is the economic, cultural and administrative center of the country. It is also home to a growing region and local industries.

Antananarivo has an altitude temperate climate. Although it is located in an area between the tropics , the average temperature over the year is moderated by the effects of altitude. The climate is characterized by mild and very dry winters and mild, very rainy summers. The average winter temperature rarely drops below 10 ° C. In summer, it rarely exceeds 25 ° C.

2- METHODS

3.1- Descriptions and findings

3.1.1- The urban sprawl policy

a. Description of Antananarivo urban sprawl

Urban sprawl has increased the neighborhoods and anonymous suburbs having lost their character. Any architectural value has disappeared: the landscape is ultimately degraded final. Now, the architecture of a city is of quite an exceptional importance because it determines the sense of belonging to a territory.

It is noted that the expansion of the city of Antananarivo follows an urban sprawl that is difficult to control. It is evident that urban sprawl is very much space consuming. Urban sprawl shows that urban space is under-utilized, and even wasted.

In the conurbation of Antananarivo, urban sprawl which is pervading and continuing, through the use of the automobile, the development of transport and household preferences in terms of quality of life. There is a strong correlation between decentralization of population (population percentage in the area compared with the conurbation) and that of employment (employment percentage in the area in relation to the conurbation). The areas differ widely in terms of job density. In the case of Antananarivo, outside of the city center, job centers are less dense.

The main factors of urban sprawl are:

- Commuting costs:
- Lower commuting costs promote urban sprawl ,
- There is a correlation between the cost of using private cars and urban sprawl. This correlation is determined by a logarithmic function. regression
- Growing demand for space: Growing income entails growing demand in housing and can largely explain the periurbanization of Antananarivo (IvatoAndoharanofotsy ...). Thus, income growth and car possession are also explanations of the sprawl.
- Escape from social issues in town centers: as sprawl is very significant regardless of the poverty level downtown, escape from social issues encourages sprawl but is not the primary cause thereof.

b- Urban Sprawl uncontrolled

Compared to the value of agricultural production, using or selling land for building is more interesting in Antananarivo conurbation. This fact is evident in the proliferation of back filling of Antananarivo plains. During the last ten years, urban development has been characterized primarily by urban sprawl of the city to the outlying areas of the city. Indeed, owing to the extension of roads networks, where road axes extend and create, the population, in relation to that, no longer focuses but move to peripheral communes, with a sparsely populated living area, as well as a vast area available, which lies untapped, and outside of the areas from now on accessible.

Demographic factor and rural exodus

The population explosion is currently the main factor in the expansion of the CUA to Antananarivo conurbation. Two kinds of migration are observed within the region:

- The immigration of rural populations to the city is the main cause of the alarming population growth

- The migratory movements of seasonal or permanent workers, street vendors and workers in odd jobs, and migration, which is akin to a rural exodus, resulting from physical insecurity in some areas.

Spatial Factor

Such growing urbanization rate towards the city will lead to the swelling number of population, which increases density: the number of inhabitants compared to the total surface area. Thus, there will be an increase over time built surface, a relative reduction of spaces available for construction of habitats. Therefore, the city is forced to expand to the periphery to develop, taking into account the factors related to the demands of the population, namely: road access, access to electricity, and finally ease of access to drinking water.

The trend of urban development according to INSTAT estimates is then presented in the table 1 below.

Table 1 – Estimation of the number of population in Antananarivo [1]

District	Ambohidratrimo		Antananarivo Atsimondrano		Antananarivo Avaradrano		Antananarivo Renivohitra	
Population in 1999	184 709		229 052		163 083		708 549	
Time	Growth rates	Population	Growth rates	Population	Growth rates	Population	Growth rates	Population
1999 - 2003	6.13	334 860	5.55	393 112	8.71	375 926	4.32	1 081 548
2003 - 2005	5.33	371 507	5.09	434 149	5.96	422 072	4.00	1 169 802
2005 - 2010	4.92	470 344	4.89	551 200	5.57	553 464	3.92	1 417 777
2010 - 2015	4.50	588 627	3.80	664 195	5.46	721 985	1.40	1 519 840
2015 - 2020	3.64	703 845	3.53	790 000	4.56	906 634	1.20	1 613 245

c- The impacts of urban sprawl

1space consumption

Urban expansion is at the expense of natural areas or agricultural land. It entails artificial territory, often irreversible, jeopardizing "the maintenance of biodiversity, the quality of suburban landscapes, the conservation of fragile areas and wetlands."

Increase in daily commuting time

The distance between residence and work places increases with the expansion of cities causing congestion in transport; and increase in greenhouse gas emissions that damage the environment. Moreover, urban sprawl increases transport costs, as well as waste of time during commuting time that is lengthened by congestion.

3.1.2- Undeveloped intercommunality

Intercommunity is not yet very developed for the communes in Antananarivo conurbation. The problem originates from a conflict of interest and unbalanced power relations among the municipalities that make up the OPCI-FIFTAMA. Furthermore, partnerships among relevant decentralized authorities are not yet well developed. However, efforts and cooperation are under way to administratively set up projects involving municipality intercommunity in Antananarivo conurbation.

3.1.3- Social Function of the city and social studies

Individuals in trouble are accustomed to poverty. They don't know their rights and generally do not care about the administrative process.

- The choice by the government in 1960 to occupy the northern and western plains entails backfilling (causing flow and flooding issues). This reflects the import of Western models, without thinking about the method of space occupation. The cost and effects of this error do not stop from increasing.
- Most people want to escape from the government requirements in terms of urban planning. The "lowland neighborhood", from a coincidence between modern conception of space and traditional representation of space is the result of the desire for modernity with a lack of means.
- Management plans, unenforceable, too ambitious, do not take into account the local reality. The administration does not understand the imagination of people in terms of space occupation: the administration does not know what the space really is for the occupants.
- The low purchasing power among the lowland neighborhoods leads the occupation of paddy fields, canals. Then they become used to unsanitary conditions, with the slogan: "Better a precarious shelter than no shelter at all." Such occupation is illegal but functional (because close to activities). And such good feature is part of what people live through in their imagination!

3.1.4 - Development in the occupation of disadvantaged neighborhoods

- Disadvantaged neighborhoods are not a priority in urban programs. They have no urban infrastructure installed (schools, new cities, university, ...). And it is also obvious that there is no servicing. The poor build in such neglected, undeveloped areas, which are not open to urbanization.
- The first investment works in urban networks date back to the forties (with the postwar policy change). Since the early years of independence, African states, newly independent, cannot pay for new buildings, and even maintain existing infrastructure. In addition, production has considerably decreased at independence (problem of self-discipline), and the cost of bureaucratic modernization is very expensive. [6]

3.2 - Architecture and influences

Antananarivo is located in the heart of a collinear city in symbiosis with the traditional method of spatial planning. Part of the housing is built on hills and another part is on the rice fields in the lowlands.

Degradation of the environment can be noticed. If we look at the ancient villages, they have been urbanized. Let's talk more specifically about Isotry and Andohatapenaka: stamped by rural features in time and kingdoms and under colonization, such villages on the one hand, enjoyed connecting infrastructure, and, on the other hand, housed a low income population from natural increase and rural exodus, resulting from the discharge of population from other neighborhoods, neo-urbanites from the country or other regions

3.2.1 The old tradition

During the royal era, the habitat is characterized mainly by "brick-made houses" with quasi-lack of sanitation and standard in their way of living. Servicing was not in the spirit of Antananarivo dwellers and was not a need. That's life in the Malagasy style. The Antananarivo dwellers settled on the hills. [1]

3.2.2. Colonial Period

Standards were imposed and luxury was introduced in Antananarivo. Change and implementation of standards were fairly brutal and not understood by the Malagasy. Grid of urban mesh roads is a case in point in Tsaralalana, Avenue of independence ... Private vehicles were not within the reach of the Malagasy, so thoroughfare rights of way was neglected, ignored. Buildings were made regardless of ways. Such problem was intensified by carelessness.

Constructions among western people influenced Antananarivo inhabitants, hence the beginning of change in style of architecture.

During the colonial era, the city is defined as a par excellence symbol of the civilizing action. Hence, the implementation of the program plan assuming the filling of paddy fields and wetlands, the development of the city. the subdivision of some neighborhoods (Tsaralalana, Antsahavola) remodeling hillside sites like Ankadifotsy. The colony (indigenous people) needed a number of institutions and various facilities that are necessary. The population unceasingly increases and given the demands of modern life, the extension of the city is imperative for the colonial administration.

In 1950, the hills are saturated. The plain counted 50,000 people with houses built on backfill, dikes, drainage dredging canals, buildings without permission, overcrowded anarchic neighborhoods with defective housing. Such type of spontaneous extension has serious consequences: the city extends beyond measure, and developing land that is already occupied will be a crushing, if not impossible to bear, burden for the municipality. Such situation is an opportunity to convey political ideologies of Malagasy people, like "Malgachization of municipal services."

3.2.3 Post-colonial period

Urban planning, especially when it is rapid, has a significant impact on the architecture of cities. Under the pressure of population growth, the city grew: extending over an increasingly large area or limbing into ever higher buildings.

The city has contrasting landscapes: areas of 67ha, Ampefiloha, high and medium city. After the floods of 1959 and the eviction of the victims, the earned areas in the plain surfaces are arranged near the populous neighborhoods.

The sixties saw the construction of the 67ha area and the neighborhood of Ampefiloha. The new face of the capital, combining residential buildings, hotel trade, administrative, school buildings, gives a modern look, despite the poverty of Antananarivo city.

The upper and middle city, now a protected site, combines traditional houses in I or in L and modern dwellings built according to traditional architecture with a gabled roof, brick walls and preferably an opening to the west.

Urban expansion in its fingered aspect is gradually chipping away the Betsimitatatra and plains. Settling in hazardous areas increases the number of victims during high water.

The Western lifestyle influences the way of living of Antananarivo inhabitants. They started having private cars. Failure to be concerned about thoroughfare rights of way is very expensive. Widening roads has become very difficult: high financial and social costs.

Same for sanitation: quasi-inexistence of thoroughfare rights of way for sanitation, hence difficulty of storm water, and even wastewater drainage.

Wild imitation of Western modes and constructions, which are not yet mastered: hence hybrid between the two styles. In addition, the buildings do not follow any standard or best practice (because of lack of resources), hence illegal constructions without observance of the regulations of the urban plan in force.

As regards the setting of minimum buildable surfaces, Antananarivo is increasingly saturated. The land for sale is very small, except if we carry out demolitions, that is to say, rebuilding the city over the city. Land costs more and more expensive, and Antananarivo dwellers want to maximize the return. Possible consequences are either the government adapts regulations (COS, CES, Buildable min) with the needs of the population without complying with the rules of art. The other possibility is that the government imposes non-applicable regulations.

3.2.4 - Globalization

Globalization is defined by standardization of everything, even culture (of the strongest), through modernity: "The world is urbanizing, the city is globalizing and architecture is modernizing."

Globalization is the result of a circumstance already undertaken during colonization (interest, operation, ...). Urban space still feels such trauma of colonization: globalization evokes a sense of manipulation, domination of certain countries. The transformation of the city is supposed to be an urban revolution in the sense that globalization brings change and disruption in the urban system (between dynamic and static) in the city. [2]

Space is the projection on the ground of social relations.

Globalization increases inequalities and deepens exclusions: Exclusion through poverty and misery associated with income inequality; exclusion by the difficulty of access to housing; cultural exclusion of social reproduction of "elite". Income level, depending on work and production, is the key factor of urban development on all aspects of the city: architectural, economic, social, cultural. The city is defined as a group of people characterized by a population number and a form of economic and social organization. The town has several functions; and such functions as a whole form urban activities. Now, architecture (which is static) and the interactions between individuals (which are dynamic) are the instruments for achieving such urban activities. [3]

This is a fundamental reality because each society is constantly in contact with other cultures. Here are the different levels at which intercultural issues are arising nowadays:

- in relations between the various social environments within the same society;
- at the level of "living together" in the same local setting when such setting itself is very multicultural; for example, school, enterprise, the city ...

The colonial history of Madagascar is a step crossed of interculturalism. There are domination relationships between the highbrow culture and popular culture, the dominant or colonial culture and the minority culture. Indeed, debate on interculturalism and globalization and intercultural highlights the issue of destiny of local cultures that become threatened with dissolution in a globalizing universality. The logical approach to interculturalism follows three steps:

- decentration: becoming aware of one's own framework of references;
- penetrating the other's system: to stand at the other's point of view and to understand it;
- negotiating: identifying hard cores and space of possible negotiation in order to find solutions that each party will admit consciously, often involving minimal compromise. Thus, Madagascar is in the intercultural of cultural globalization; this has been noticed since colonization up to the present. [3]

3- FINDINGS

It is about the Operation of Antananarivo conurbation

Antananarivo conurbation is a unipolar city. The flow of population displacement converges towards the city center that is becoming increasingly saturated.

Spatial extension coupled with a moderate population cross compared to other Malagasy cities and to the urban outskirts of the capital imposed taking over the control of urban development after more than 20 years of carelessness. Antananarivo, a one million years old since 2003 required restructuring in land occupation, putting major utilities back to standards, permanent awareness raising among stakeholders and users for civic education. Among the visible and functional achievements, we distinguish first the large intra-urban breakthroughs. Among the latter, there is the road of the "Great Leap" of Ampefiloha at the crossroads of Itaosy. Administrative buildings from the roundabout from Anosy to that of Ampefiloha have received appropriate 4-way service while ensuring the banks of the lake Anosy.

But the development of the Ampefiloha area was unfinished: the road of great leap and the 4-way breakthrough from the HO Chi Minh square to the junction with the road to Itaosy and the Route digue. Squatters who had encroached on the road had to step back or clear off leaving the area to legal owners.

The great leap road is currently lined with posh buildings, which are enlarged, raised for commercial and / or residential purposes. The vicinity of the legal and illegal occupations was dimmed.

4.1- The city center

It is the center of economic and administrative dynamism. Antananarivo inhabitants commute towards the city center for their professional, academic, commercial activities.

The service sector, which is the engine of the economy is developing in the city center.

There are changes in agricultural areas becoming residential areas. Such houses are generally individual and illicit given that such areas are generally unsuitable for construction and at risk.

4.2- The outskirts - Agriculture and brickworks

These are overall residential and processing areas. The role of local businesses and supermarkets in the outskirts role is to meet the needs of residents in the outskirts. Note that such businesses and economic micro-areas do not create economic dynamism.

Industrial processing areas that need space, are implanted in the outskirts as is the case of Tanjombato.

The upper and middle families live usually live in the outskirts. These are the households that do not want or cannot want to live in narrow lanes between houses downtown. These are also households who want tranquility and who can pay for commuting expenses that usually live in the suburbs. [1]

4.3- Location of households and businesses

This part deals with the intra-urban location of Antananarivo households, with a focus on the impact of income level.

Antananarivo conurbation is a monocentric city: a large part of the activities (including shops, services ...) are located in the city center. Industries (free zones, secondary sector, ...) processing activities are located towards the suburbs (Tanjombato, Andranomena ...) close to their workforce.

Regarding residential areas, wealthy households group together in residential neighborhoods that are accessible, well equipped and fairly close to their activities. The middle-income households live quite far from their places of business or close, but in places inaccessible by car and with inadequate VRD equipment. The low-income households live quite far from the city: they work in industries and practice at the same time suburban Poor households live in slums, they live and squat areas at risk (floodable, on dykes, ...) near markets and some areas with high densities (Isotry, Manjakaray, 67ha, ...) that host immigrants.

Several explanations can be advanced to explain such differences, including the amenities provided respectively by the center and the outskirts of cities. The formalized urban economy allows providing some explanatory elements of such different city profiles. It does of course not explain all situations, including the impact of amenities or polycentric urban development, but it has the advantage of describing in a simple way the trade-offs of households in their choice of location.

4- SOLUTION: THE HIGH DENSITY LIVING

High density living is defined as 30 or more dwelling per hectare and embraces units, flats, terraces, townhouses and villas. Additionally, high density living also refers to apartment units in residential blocks of four or more storey. Majority of high density units do not have their own playing ground and share common facilities such as entrance foyers and stairwells. Urban High density living has been considered as one of the core strategies in managing urban growth. In Antananarivo, high density is considered as a vital strategy in managing the urban growth and reducing the negative impact of urban sprawl. In recent times, neighbourhood such as Ivandry, Ankorondrano have been epitomized by growth in the construction of high rise apartments. Many young people prefer these kinds of dwelling since they offer advantages of location with proximity to education, jobs and other services. Various researchers points out that high density living has positive impacts such as efficient usage of land, enhanced social interaction and reduced reliance on automobiles. However, this form of living has also drawn criticism due to noise, overcrowding and limited space. The draft Metropolitan Strategy for Antananarivo 2025 (PUDi Antananarivo) points out that the populations will reach 4 million by the year 2025. Therefore, this discussion provides a focused analysis of Antananarivo as a model city for high density living, a solution to urban sprawl.

5- DISCUSSIONS

With a 2,8% growth rate (INSTAT 2015), the urban population has doubled in twenty years. This duplication will be borne by the city. The space consumption per capita increases as GDP / capita. For example, if one takes a consumption growth of 2% per year, space consumption will be multiplied by 1.7 in 20 years. Applied to a population that doubles, the required future urban area will be 3.4 times the current surface.

With respect to the VRD services, a dealer network service created, public or conceded, which is not made to serve unmanned neighborhoods, without client capable of getting a subscription. The problem is not the investment financing but the recurrent cost cover: operating, maintenance, major repairs, renewal and financial amortization. A soundly managed service will find the money to invest in an extension or renewal. Finance an extension of a poorly managed service will exacerbate the deficit that sooner or later leads to the suspension of the service.

6- CONCLUSION

The poverty experienced in Antananarivo city is largely due to its land use and lack of vision. The successive political crises, as well as carelessness, deteriorated the operation of Antananarivo city. The various ideologies that succeeded have brought their successes, but also left gaps in terms of development and urbanization. They confused the Antananarivo inhabitants in terms of urban planning. History and heritage decrease of importance in this capital of Madagascar.

Thus the following question arises: "Is hope for sustainable development of Antananarivo still possible, or does it have to go through a demolition and a reconstruction of this city, as well as considerable change in the mindset of Antananarivo inhabitants? "

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