

# The phenomenon of urban sprawl, understand aiming to control it.

## Example of the series of the urban centres which skirts the road Hanoi - Lang - Hoa Lac

Nguyen Thai Huyen

Hanoi Architectural University, Hanoi, Vietnam

### ABSTRACT:

The future of our planet is defined by the future of the cities because, already in the year 2000, 50% of the world population is urban. Traditionally, the town planners divide space between rural areas and an urban space, without consideration of the dysfunctions which result from it. The differences between cities and country sides, between small and large cities, grow blurred. The growth of the cities would be now made according to a world urban model city "with American", with use of the car, Mac Donald, Internet, internationalization of the marks. Urban sprawl is a very widespread phenomenon in the world. It is generally accompanied by congestion and vehicle ownership raised in the zones suburbs on the access roads to the downtown areas. At the beginning of the 90s years, considerable countries have simultaneously become aware of the economic, social and ecological costs of a periurbanisation in strong acceleration for two decades: unceasingly increased consumption of space and energy, difficulty of making profitable the public equipment, deterioration of the quality of life. This phenomenon particularly touches countries or areas in the process of development such as Vietnam.

By consequence, in the context of Vietnam, the study on the question of urban sprawl is very vital and urgent to render comprehensible this phenomenon, to aim at limiting the negative effects caused by urban sprawl and also to open new orientations which can help the authorities to control urban sprawl. In a more general way, the study falls under the prospect for the search for actions to carry out a durable urban development.

Keywords: Urban sprawl, Urban development, Urban planning, Hanoi, Ha Tay

### 1. Introduction

Urban sprawl is a very widespread phenomenon in the world. "Urban sprawl could put in danger the survival of humanity, beyond even of what the militants who oppose it can imagine." [1]

In the context of Vietnam, the study on the question of urban sprawl is very new and thus, it is very necessary and urgent to render comprehensible this phenomenon, aiming to limit the negative effects caused by urban sprawl and also opening new orientations which can help the authorities to control urban sprawl.

### 2. The concept of urban sprawl

Urban sprawl is only the current denomination, with negative connotation, as the "urban spot" which accompanies it, of what one formerly called the urban development.

**Urban sprawl** is the spreading out of a city and its suburbs over rural land at the periphery of an urban area. Residents of sprawling neighbourhoods tend to live in single-family homes and commute by automobile to work.

Low population density is an indicator of sprawl. Urban planners emphasize the qualitative aspects of sprawl such as the lack of transportation options and pedestrian friendly neighbourhoods. Conservationists tend to focus on the actual amount of land that has been urbanized by sprawl. [2]

### 3. Characteristics of urban sprawl

#### 3.1 Characteristics of urban sprawl in the developed countries

In the developed countries, we observe a modest quantitative urban development, but a real and significant qualitative development urban because the growth of the number of people settling downtown is null. A situation which comes from the drying up of the two sources of increase in the urban population: general growth of the population on the one hand; and migrations of the campaigns towards the cities in addition. Eighty percent of the population already living downtown, the campaigns are not any more one tank of population.

The cities however experience a significant qualitative development according to three main tendencies. First of

all one observes an increase in the number of square meters necessary to each inhabitant, worker or reside. Then there is a renewal of the infrastructures imposed by their obsolescence. The simple observation of stocks is not thus enough to give a good interpretation of flows. Finally one observes more and more displacements between agglomerations, or inside each agglomeration.

### 3.2 Characteristics of urban sprawl in the developing countries

In the developing countries, the situation is quite different with the developed countries. One notes a very clear reduction in the incomes of the centers, and then it has true crises of the urban centres. Especially, the population of the cities increases quickly. Today, the demographic analyses carried out by the majority of the international organizations, indicate that the number of new urban is per annum 70 million, including a very strong proportion in the developing countries.

## 4. Impacts of urban sprawl

Urban sprawl exists in all the countries. Its causes are numerous and very often, one jointly evokes urban growth and remote constructions in the cities to explain the phenomenon. The process of urban sprawl is consequence on the cities and their operation.

### 4.1 On the environment and rurality:

Urban sprawl has many harmful effects on the environment. It disturbs natural and environmental balances, by the mitage of the zones suburban and pollution which results from this. It also implies social modifications which lead to the homogenisation of space and possible segregations between the center and the peripheries of the cities.

### 4.2 On transport:

It involves the constitution of "dormitory towns" and strong pendular migrations, which can involve the congestion of certain road axes.

### 4.3 An obstacle with the durable development

While using more and more of grounds (roads, vaster dwellings individual...), we are unceasingly more agricultural, forest, pastoral spaces or natural spaces which disappear with their fauna and their flora.

## 5. Urban sprawl skirted the road Hanoi Lang - Hoa Lac

May 13, 2003, in the decision 60/2002/QĐ-TTg concerning the general planning of the socio-economic development of Hanoi during the time of 2001 to 2010, the Prime Minister affirmed: "Planning the urban development of Hanoi agrees with the position of capital of the socialist republic of Vietnam. Developing Hanoi space towards

North and the North-West, the South and South-east. The lasted long orientation of the city is the West and South-west (the series of the urban centres Mieu Mon, Xuan Mai, Hoa Lac, and Son Tay of Ha Tay).



(Fig 1).

According to the directing plan of the development of space, skirted road, there will be 4 principal zones of function (Fig 1):

Zone A is in the ray of Hanoi includes the operations Trung Yen - Trung Hoa - Nhan Chinh, the new operation in the South-west of Hanoi, the national Center of Congress, the south-western gymnastic cultural park of Hanoi, the operation "60 provinces" and the south-western university of Hanoi.

The surface of zone A is 2.080 hectares, the population envisaged is about 135.000 inhabitants.

Zone B includes the new operation An Khanh which is border between Hanoi and Ha Tay to left bank of the river Day. It is an operation of extension of population of Hanoi and one of the four new contiguous operations to the capital. Here, there will be center of a commercial and gymnastic service, ecological tourism and tourism of the lake Day on a provincial scale. On the original ground of 2000 hectares, the surface of zone B will be 670 ha, for 70.000 inhabitants. The average of the urban ground is about 150m<sup>2</sup> per person.

The C1 zone is the operation Quoc Oai which is at the urban centre of Quoc Oai, Ha Tay. It is also the moral ecological tourist center capital, the political administrative center of the capital in the future. The population at the 2020 will be 60.000 people. The surface of original ground is 1500 hectares whose urban constructive surface is 600 hectares, surface to build the farms is 100 hectares. The means of the urban ground is of 150m<sup>2</sup> per person.

Zone C2 is the ecological operation Ngoc Liep, is in the urban centre of Thach That, province of Ha Tay. Urban constructive surface is approximately 370 hectares, surface to build the farms is approximately 1900 hectares. The population envisaged is of 30.000 people.

Zone D is the urban centre Hoa Lac, is at 30km of Hanoi and the insertion point of the road Lang - Hoa Lac and the trunk road 21A. This operation includes the concentrated industrial park Phu Cat, the zone of high technology Hoa Lac, the zone of habitat Dong Xuan, the national university, the zone of the cultural villages of the ethnic groups of Vietnam and the public center. The surface is approximately 8350 hectares, the population envisaged is approximately 730.000 inhabitants.

The town of Hoa Lac will be managed on the level of the province of Ha Tay and the town of Quoc Oai, An Khanh on the level of district.

In the part of the Road Lang - Hoa Lac which is under the management of the town of Hanoi, the point mark is the bridge Trung Kinh until km8 of the road (while passing by the districts Yen Hoa, Trung Hoa of the district Cau Giay, communes Me Tri Ha, Me Tri Thuong, Tay Mo, Dai Mo of the district Tu Liem), the management of construction is in general quite assured.

The part which remains makes 22,4 km, is in the surface of Ha Tay, since the year 1998 until now, it does not have yet a detailed town-planning, however, because of the need to develop industry aiming to the transformation of the socio-economic structure, the popular committee of Ha Tay and some qualified publicly-owned establishments allotted ground to the building owners of the industrial which carries out to the disturbed situation of the development and the influence on the extension of the road and the environment.

For the urban centre Hoa Lac, with the part which is in the project of the series of the urban centres Mieu Mon - Xuan Mai - Hoa Lac - Son Tay skirted the road 21A, the management of town planning and construction is belong to the popular committee of Ha Tay. The part in the surface of the Luong Son district(province of Hoa Binh) is belonging to the management of the popular committee of Hoa Binh. In addition to, a large land in this zone is belonging to the use of the Ministry for Defence and some other Ministries.

This situation of management of town planning and construction encourages a heterogeneous investment of the development of the zone Lang - Hoa Lac. The development of infrastructure inside the barriers of the projects is realizing according to the town-planning. However, nobody occupies of the network of infrastructure apart from the barriers. Consequently, the realization of the project town planning approved is still slow and difficult.

## **6. Stakes of the control of the urban sprawl of the road Hanoi Lang - Hoa Lac - Ha Tay**

### **6.1 Wasting in town planning and in the construction industry**

Currently in Hanoi, the process of urbanization is done very fast, the density goes up more and more which implies problems of residences, daily activities... However, urban development is not only the development of residences. Therefore, the question of the control of the total cost is very important and it is necessary that the forecast of the budget is quite precise and realistic.

### **6.2 The loss of the agricultural land, the concern of loss of the work of the farmers**

In the process of the urban development, Hanoi must face the difficulties and its challenges. Because of the

speed of the development, the city is overloaded, there are problems of urban infrastructure and environment... In particular, it is necessary to solve the needs for the work of the population, people live directly by agriculture and who must yield the ground for the urban development. The majority of the local communities, after having finished the compensation and the release of surfaces, they do not have any more a responsibility, they entrust entirely to people to be arranged. Previously, when people still have grounds and gardens, their income is based primarily on the rice growing and the plantation of vegetables. After the contribution of ground, the farmers live in the operations of relocalization, few farmers have conditions to find new work.

Without ground, without trade, stable work is a great challenge with the farmers. This real situation is the consequence of the urbanization of which the authorities and the workers do not make provisions carefully. However, in the majority of the buildings in Vietnam, until here, the refixation arranges only the problem of housing, but the employment, the life, in general, the people have to occupy themselves.

### **6.3 Threats vis-à-vis with the historic cultural monuments**

All along the Road Lang - Hoa Lac gathers many pagodas and old communal houses unique of the species to Vietnam. With the history, Buddhism became a spiritual share and spirit of the Vietnameses bases. Like the tradition, each year, to the first and the fifteenth day of the lunar month, Vietnamese in general and the Buddhists in particular come to pray at these pagodas. The cultural monuments, the historic buildings and religious recognized by the government like Thay pagoda, Tay Phuong pagoda, Tram Gian pagoda, Tram pagoda... are attracted a great number of national and foreign tourists. Very fast speed with a great number of monuments with its various functions will promote tourism but in parallel there will be the threats and the risks of pollution.

### **6.4 The problem of the environment**

Recently, the urban embellishment included the plantation is invested but because of the reasons objectify like: the funds land is limiting thus surface for the greenery is low; town planning change often implies the change of the plantation of greenery; the choice of tree to be planted is in a significant way, consequently, the urban greenery does not answer the standard of covering as does not create a clean impression for the urban landscape... When one speaks about the urban greenery, many people think of any type of plant, provided that... it is the plant! Or there is the opinion that the plantation of greenery to protect the environment is simply to avoid the sun or for the beauty thus if there are empty places, we plant without taking care that the urban plantations must have special rules according to the intension of town planning, it is necessary to avoid planting the same types of plants, or in a street, there are very high or very low plants whose foliages are

very large or very small, so it does not create the characteristic of impressive greenery of the urban.

In the future of the development of the series of the urban centres Lang - Hoa Lac, there will be many average and small industrial groups laid out with length of the road. It is necessary that the plantation of greenery along the road and in the industrial parks be calculated in the town-planning detailed of the road Lang - Hoa Lac as well as the town planning of series of the urban centres of Ha Tay. Creation of a green belt is touched upon but in more detailed work, this question is not really paid attention.

A new risk had just been born in the process of construction and development of Hanoi, it is dust. Recent years, the urbanization with Hanoi is done very quickly, the city is like a large building site. According to the data, on the surface of the city, there is always more than 1000 large or small work which cause pollution on a great zone. The pollution of environment because of dust in the surface of Hanoi is on the level of alarm. The observatory result of the concentration of dust in the surface of the city shows that the concentration of dust in the intramural districts exceeded three or four times of the authorized level.

In front of this situation, in the process of construction of the road Lang - Hoa Lac and of the projects of series of the urban centres Lang - Hoa Lac, the question of protection of environment to avoid the consequences long durations is very important and urgent.

## **7. Some solutions for rational management and controls urban sprawl which are able to apply to the case of the series of the urban centres skirted the road Hanoi Lang - Hoa Lac**

Compared to the developed countries where the urbanization is done almost completely with a good quality and uniform, Hanoi is still during the time of construction and of urban development, the rate and the quality of urbanization are still low, therefore, it is necessary to draw in time from the lesson to have right orientations and solutions in the construction and the development of Hanoi, avoids "the rut" of the developed countries.

7.1 The natural and agricultural system is a response of the design of urban spaces and the control of urban sprawl

The search for a "green screen" to limit urban sprawl

Create a natural green belt in order to protect the landscape environment, the ecology and to ensure a sustainable development for the whole of the territory of Hanoi. This natural framing which protect nature and keep balance the landscape environment of the west of Hanoi will be formed on the basis of the forests, natural mountains of Suoi Hai, Ba Vi, Ao Vua, Chau Son, ect, of the rivers Nhue, Day, Tich and of the places of outfall of water of rising, of the greenery, the agricultural zones, the

breeding in suburban and the sight seeing, the famous pagodas, the classified zones cultural-histories. It is an organic part of the general planning of the capital sector aims to the protection of environment and the insurance for the sustainable development of this sector. To let the creation of this green screen be ensured and put forward its capacity and its effects, it will be necessary to have a co-operation and dialogue between the establishments concerning and especially popular committee of Hanoi and those of Ha Tay. In parallel, we can hold the ground by using very effective manners like the reservation of the ground along two board of the road or by creating family gardens (to allot to each family of the hundreds m<sup>2</sup> of ground to develop the plantation or vegetables, but the government can recover any time it wants).

7.2 The legal framing and the planning of urban management and the construction of the road Hanoi Lang - Hoa Lac - Ha Tay

Orientation of the management of town planning of the sector Lang - Hoa Lac

In order to develop durably and long duration, the government must help the buildings to have a common strategy of the conservation and development. The planning concretely and clearly can improve the conscience of the inhabitants. Moreover, in the process of the development of the whole capital of Hanoi, the inhabitants must have the possibility of taking part in the development process of the town-planning

The management of land use

- Reform the administrative procedures in the step of attribution ground and hiring ground.
- Limit maximum the land arable and cultivated with another goal of use.
- Form a system of cadastral recording and delivery the certificate of right of land use and property of housing.
- Create development funds of infrastructure, have the policy of compensation and release for ground, the policy to market the real estate.

Urban and architectural management

- Form and submit the town-planning detailed while binding with the regional town-planning in regulations of management of construction close to the need for development of the area.
- Proclaim the detailed town-planning of the zone to the population by indicating the terminal and the limit, have the opened and clear administrative formalities, carry out the regulations to deliver the permit of constructions in the sector, guide the rehabilitation according to the approved project.
- Promulgate the regulations of architectural management for the zone of conservation.
- Create an office that has the direct responsibility in management for the development of the sector.

The management of use and development of infrastructure

- Form a program of the development of infrastructure in each step of development.
- Proclaim public the places prohibited to build so that the population can recognize and respect. Look for a penalty of the illegalities in these proclaimed places.
- Create a green, clean environment around the vestiges.
- Have good combinations, distributions of responsibility between the cultural establishments, establishments of construction, establishments of communication, establishments cadastral.

The management and the development of the zones in the neighbourhoods

- Delimit clearly zones to develop of agglomeration, zones commercial and public services.
- Form an office especially charged on the level of the local community who occupies permanent development of the sector.

The management of finances and administration

- The conservation of inheritance needs a great budget thus it is necessary to allow inhabitants to decide and take part.
- Create policies to attract the investment, create funds of investment for the conservation, the development of the socio-economic services and infrastructure by mobilizing all the funds of the local economic components, and in all the country.
- Form the policy of use the public ground in order to create a financial source for the conservation.
- Study and improve the classification of the functional zones and the levels of management.
- Study the distribution to clear up the limit between the establishments in order to help the popular committee to manage in their own field.
- Promote the reform of the administrative procedures to make businesses, the attribution of the ground, the delivery of the permit of construction, the management of infrastructure, the order of social security.

Conservation of the inheritance

It is necessary to analyze and evaluate in a detailed way for each sector where there is patrimonial monuments. Define the limit of the sector which has the value, create places special and representative for the zone in the west of Hanoi by having a good effect for the development of tourism.

- Create the office especially charged of conservation and exploitation of the sectors which have the patrimonial value.
- Ha Tay needs help from the government in the execution of the detailed projects of town planning of the centers boroughs, of the communes and villages in the sectors tourist.

- Ha Tay needs to invest for the roadway systems in the sector which have the potentiality of tourist development.

The management of the social problems

- Create a program to solve the problem of work and income of the population in the sector.
- Study a policy of the restoration of the monuments and the landscape embellishment.

7.3 Control, supervise, inspect to regulate of the illegalities of town planning

The city is like an alive being, therefore we must supervise it all the time. But which will be the supervisor? There are not only the government but also the citizens. In fact, we must clearly proclaim information such as the steps of the completion of the work, how much square meter housing, plantation, ect. All must be digitized.

Concretely:

- The popular committee of the city promulgates regulations and directs the popular committees lower to inspect, monitor and regulate the illegalities in town planning and in construction.
- The popular committees of the communes carry out the function of control and monitor the activities of associations and individual on their sector.
- The popular committees of the districts and the communes have the responsibility to control, inspect and direct the popular committees lower monitor and regulate the illegalities of town planning and urban construction.

## 8. Conclusion

Urban development more quickly to promote industry and modernization is a very important mission. In the neighbourhoods of the large cities of Vietnam, chaotic constructions especially at the borders of the main roads towards the doors of the city, the invasion of the agricultural land, the regularized lake of water, the cultural inheritances, the destruction of the natural landscape and the balance of ecology especially become popular while urban and constructive management is very weak even unverifiable.

Urban and constructive management in order to control urban sprawl in the large cities in Vietnam is a complex scientific question. The experiment of Vietnam in this field is still limited. Within the framework of the report, the author would like to contribute a small part in the field of management and urban development of Vietnam aiming at concretizing the orientations of general planning of the urban development of Vietnam for 2020 approved by the Prime Minister.

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