The Role of Urban Morphology in Modeling the Urban Land Use Change

Renilda Hyseni
Polytechnic University of Tirana, Albania
Faculty of Architecture and Urbanism
Doctorate School
renildahyseni@gmail.com

ABSTRACT

This paper aims to explore in terms of land using in urban morphology in the Albanian reality. The distinct lifestyle of an urbanized society create a wide range of market demands to be taken for the developments of transportation, infrastructure, residential and recreational uses. There is a lack of study of the target group and its impacts on housing, in the Albanian reality.

Appraising methods, techniques and practices of housing in post-socialist countries, is more difficult than it appears. Because of a socialist system for more than 50 years have been a few experts in urban design. In that periods had been no participation in the decision making. After the '90, spontaneous development, uncontrolled by the urban policies, has started in the studied area. The problem is that increasing density of urban growth in that area is not matched with appropriate understanding of how urban policies affect the formation of social and spatial patterns. This area cannot be understood as an integrated unit with a singular driving dynamic, nor a defined spatial boundary. This is instead a complex construction created by interaction of actors in a multiple network who invest in the materialization of space and who give meaning to places. Creating a new urban pattern is the process of shaping a new life in a city.

What is going to happen with this new spatial pattern? This is a question that gives us the obligation of finding the key how we are transforming the city, are we going to be proud of this transformation? Using the urban network of a selected urban space, describe the spatial pattern of the city. Is it possible to considerably affect the metabolic performance of urban space by urban development policies and planning, and how much? As an important background for the scenario building the following leading questions are formulated. Which types and spatial ranges of urban developments can be considered as a reasonable potential of sustainable urban development policies and planning, to be applied in order to improve existing urban forms?

KEYWORDS: urban morphology, spatial pattern, land use pattern, layered-phenomena, urban planning policies

1   INTRODUCTION

The Case Study is Tirana Central Area, Albania. Tirana became the Albania's capital city in 1920 and today has a population of about 800,000 inhabitants with a surface of 763,634 metre squares. The

area that has been studied is near the city centre. Mainly is a residential area, but small economic activities are developed. Self-built, mostly illegal housing construction, and illegal use of public spaces for informal trade activities are the most frequently changes made in the area. They are part of investments in social relations, which supplement or substitute for the lack of financial capital. Building materials used in the development of houses are mostly bricks and cement materials with corrugated iron roofing sheets, but due to low level of technology. Today houses often are developed capsular toward itself, offering protection, safety and security. The two main categories which can be part of the built heritage are: traditional building (with old technologies) and traditional houses. As shown, low economy is often relegated to bad living conditions.

The housing context reveals an evolution of land-use planning towards different processes on mainly private lands from 1950 to 2013. The buildings built during 1950-90 are mostly social housing, which are also called the communist heritage. The buildings after 1990 are characterized by one familiar houses and collective dwelling houses.

2   CONTEXT ANALYZE

The context analyse includes a research in the physical expression of the urban design and distribution of land use. Below there is a descriptive context analyse divided in two main points.

The first is the physical expression of the urban morphology, approaching the relationship between shape and size of buildings, structures and spaces, which are very clear in the area. In the research the urban morphology is one of the important variables as a determinant of the urban pattern, urban form and urban space components. These three components of the context of the urban morphology can be divided into three groups. The first group of context is at city scale. Tirana is a mixture of a contemporary and traditional city. The second group of context is at neighbourhood scale and it is a traditional one. The third group is at street square and open space scale either contemporary or traditional.

3   RESEARCH PROBLEMATICS

Creating a new urban pattern is the process of shaping a better new life in a city. It is a process that involves politicians; a wide range of people with a stake in area; and many different kinds of professionals. A successful outcome depends on these people working effectively together. This is the weak point of the area. Every day countless decisions are made that have the potential to make a piece of a city, town or village a little more lively, welcoming and pleasant, or a little more hostile, unpleasant or unsafe. Some of these decisions concern major developments. But even the overall effect of many small developments, such as house extensions, shop front sand infill schemes, can change a place dramatically for the better or worse over only a few years. By focusing on quality in urban design and architecture, the planning system can make a difference. Good urban design is a powerful tool for achieving a higher quality of life, greater economic vitality and a more efficient use of resources. It is key to making places where talented people will want to live, and which will nurture economic.

Through this study it became clear that the social group is often marginalized and thus prohibited from engaging in dialogue and discussions within their own communities as well as with government representatives and other stakeholders. In the table below there is a short presentation of the actors that indicate the urban development.

Table 1 Actors and institutions that indicate the urban development

Name/term	Type of actor	Stakeholders	Anticipated relevance for urban development	To be included in Scenarios	Rationale
Political decision Makers	Regulators	Local politicians	High	as group of actors -urban development policies	Political decision makers can influence directly urban development
Planning Institutions	Regulators	Municipality, Planning agencies, Architects	High	as group of actors -urban development policies	influence only indirectly development of cities by consulting politicians, decision realization of planning does not depend upon them
Political decision makers	Lobbyists	Chambers of Commerce	Medium	as group of actors -urban development policies	'discursive/communicative' power
Transport Operators	Producers	Public transport agencies/companies	Medium	as group of actors -urban development policies	metabolism relevant
Landowners	Producers	Public landowners (city, state, military) private landowners (companies)	High	not considered	Influence directly urban development by deciding if and in which form buildings are realized on their land – based on urban policies
Financial institutions	Producers	Developers like bank or insurances	High	not considered	Influence directly as developers, indirectly by accrediting loans based on urban policies
Construction companies	Producers	Developers like different companies	Low	not considered	Executive organs, no decision makers, do not have relevant influence on decisions in which form urban development takes place
Households	User	inhabitants	Medium	As potential user of urban development policies outcomes	Important for urban development, SUME model (WP2, agent based model) is based on households (inhabitants)

3   OBJECTIVES OF THE RESEARCH

The paper is a research into the changes of the land use and urban morphology in Albania. It is structured in four stages: understanding the existing urban morphology situation, understanding policies and urban management institutions, understanding the urban morphological zone and spatial patterns, understanding the formation and transformations of land use patterns of housing areas. The co-existence of formal and informal settlements in these areas provides ways to check the impact of policies not only from within but also from outside the official line. Related to the transitory period in Albania, and the power of the government on one side and the informal development on the other side, governance is not just about government, it is also about the struggles and conflicts between formal institutions and organizations and informal practices.

Another objective of the research is the need for land-use zoning prior to urban development.

The common cause on the restructuring of urban society and its related social patterns is the re-evaluation of the theoretical framework of social area analysis, becoming absolute in a postmodern urban society and eventually being replaced by either polarization or social fragmentation of urban spaces. The theoretical concepts on the transformation of socio-spatial structures do not only provide the cause for an

analysis of the dynamics of socio spatial patterns itself, but also are building the theoretical framework of the questions of research guiding the analysis:

What effects on the socio-spatial patterns in Tirana can be determined? How and to what extent has postmodern restructuring affected the social structure of Tirana and what indicators are relevant to identify these changes? Have features of polarization and fragmentation have already affected the socio-spatial patterns in the area? How far development plans were being implemented? Examine the effects of spatial policies (land and housing) in the formation and transformation of urban patterns and the composition of socio-economic groups in a framework of government ownership of land.

4   BACKGROUND

4.1   Different Models in Developing the Town Structure

There are two types of "zone model", known in the history as descriptive explanation of the formation of the city. The first is of Ernest Burgess in 1920, a sociologist at the University of Chicago. Invasion and succession drove formation of concentric rings, an ecological model, with ethnic groups as the species. Burgess' model is obsolete now, partly because of changes in theoretical approach and partly because of changes in the city. Still, zones appear because accessibility drives land rent and land in the CBD remains more valuable than in the periphery. As we will see there are now multiple nuclei, different land uses benefit different amounts from accessibility.

The second is Homer Hoyt who developed his model after the introduction of public transport. He claimed that land uses developed in sectors along main transport routes. Hoyt model was created in 1939 based on 142 American cities. Proposed his model after the development of public transport. Suggested that urban areas developed in sectors or wedges, alongside transport routes in and out of the city.

In the paper, housing policy changes are observed within a theoretical background that relies on social structure analysis. Consequently, determining factors of housing, policy principles and outcomes are analyzed as relevant for housing policy transformation in post-socialist countries. Some housing policy belonged to the housing model under socialism, which has now collapsed, although important elements have been retained and no new strategy formulated. Tirana, as the capital of Albania, is chosen for analysis, as more data are available at the city level, particularly on illegal construction, a phenomenon inherited from the socialist era that has acquired new characteristics in the post-socialist period, and on the second-hand housing market that has been developing since housing privatization.

Institutions are seen as rules defining the games between actors in different arenas. In urban and housing policy, they mainly refer to the political and market arenas. In this context, historical development has been perceived as an ongoing chain of institutional design, while its possibilities or options of innovation are limited by the institutional legacies of the past. This approach has been particularly fruitful in researching differences between capitalist welfare states and respective urban policies.

Analyses of the formation of socio-spatial patterns in urban areas are guided by concepts developed and applied by social area analysis. The social area analysis is based on the assumption of socially homogeneous neighborhoods in the city. The formation, shaping and the related socio-spatial patterns of these neighborhoods in an urban area can be reduced to and explained by three dimensions: A socio-economic dimension, a demographic dimension and an ethnic dimension, each of them corresponding to specific shapes. Sectorial structures are considered as typical of the socio-economic dimension, zonal structures of the demographic dimension and clustered patterns of the ethnic dimension.

4.2   The Socio-Economic Dimension

With the restructuring processes in economy, the concept of social area analysis became more and more criticized. Based on the tradition of how urban societies developed in the welfare states of the 1970s and 1980s, concepts called for an increasing fragmentation of social space. Theories and concepts referring to the restructuring of urban society due to globalized economies, focus on an increasing

polarization within the city, marked by highly skilled employees working for international companies on the one hand and a growing proportion of unskilled workers in the service industries providing the services for the highly skilled work force on the other hand.

4.3   The Demographic Dimension

Development of ethnic dimension in Albania is described as a process of the construction of identity over time due to a combination of experience and actions. This includes gaining knowledge about the past and understanding the group. The area is populated by an authentic target group. This includes Tirana fanatics; they have the same lifestyle, identity, tradition, way they live. But at the same time it can be taken in consideration as a fanatic co-existence for a long period of time and not able to integrate with the rest part of the city. The ethnic dimension has its value as part of the Albanian mentality. The presence of a compact and almost homogenous community is the main reason for a calm and social environment. On the other hand, the social group (social pattern), has its interactions. Albania has a total population of 3.3 million, more than half a million live in Tirana. In total the city of Tirana makes up about one thirds of the population. Immigration and urbanization processes kept the largest city growing up very fast. In the last twenty years this new high density led to a new dimension in the formation of the social pattern. The level of education, sanitation, water and electricity supply is higher than that of medium and high-income earners.

The variables forming the demographic dimension indicate that families with children have different requirements and expectations, like an abundance of green space, from the elderly residents who rather prefer aspects associated with urbanity. Young couples deciding to cohabitate and have children, usually look for a new apartment where they can live together. Due to the low mobility of households, the availability of empty apartments is considerably low and young families have to look for newly built apartments as indicated by the respective variable. It is hardly surprising that in those neighbourhoods the labor participation rate is high, compared to the neighbourhoods of senior residents. According to the model developed by social area analysis, the demographic dimension shows a concentric pattern, but the pattern is highly dynamic, as residents that settle in a neighbourhood at a given time, stay until they are getting older and never move away.

5   RESEARCH HYPOTHESIS AND DEVELOPMENT SCENARIOS

It is generally believed that urbanization has both direct and indirect impacts on land use transformation. Particular attention is paid to informal practices existing in post-socialist cities, which have been inherited from socialism. During the post-socialist period these practices become strategies aimed at reducing risks from unleashed market forces. These problems in the city of Tirana are quite evident.

On the other hand, the form of a city cannot be developed in the morphological characteristics, this because there are external factories that indicate the development, such as the market pressure, social target group, urban policies, etc. Typo morphology of the urban square can be classified into several groups according to their physical, functional, and cultural characteristics, but the urban morphology criteria cannot be a definite principle that can be applied everywhere. Urban morphological pattern cannot be measured with typological and other measurements methods.

The hypothesis raised will always be associated with urban morphology and land use. Land using means the functional zoning and land consumption. Development of hypotheses will have two dimensions of the proposed scenarios. The first is spatial development explain the spatial dimension and the second is the policy-making dimension.

5.1   Spatial Dimension

1. The area has a specific target group, they have their lifestyle, mentality, tradition. Considering that migration is minor and there is no increase as the result of arrival population, but we only have a

natural growth of population. Because of this, there is a demand for increasing new spaces for housing. According to the target group and lack of desire to move, they prefer authenticity due to economic conditions. Because it is near the center and the tranquility it provides, they preference not leave this area. But their houses do not only have new spaces, but also require continuous reconstructions and extensions in horizontal or in vertical plan. Adding these new spaces, the characteristics of typology lose its identity but land use pattern does not change.

With the first scenario, intervention in the area can be done by increasing the intensity and store the density area. The consumption of land is very high. Interventions should preserve the typology by identifying characteristic values. The stakeholders should be involved in all levels of decision making and the implementation of their interests should be supported by the local government.

2. The land use is a function of urban morphology. Urban Morphology with all its elements including the urban fabrics, arteries and urban structure, public and semi-public space is a structure that has already taken her character under study. This means that in conditions when morphology is structured, interventions or changes in land use, predicted by the urban planning policies, should be consistent with the already established morphology. Due to interference from various interest groups, where the cost of construction of this area is very high, interventions in land use are even in spatial character for creating new spaces, but also in adding different functions area.

5.2   Policy - Making Dimension

If a consistent set of policies is being applied, they have a great potential to impact over the time in urban morphology. The problematics of Albanian context is that we do not have any strategy in the urban development after the '90. We really do changes very often, and these are indicated by the political forces.

The first scenario is that if the actual general plan will start to be implemented, the parametres of urban development are so high. So this provokes the change in the urban grid, makes it bigger, and it loses the identity.

The second scenario is that if we are going to be more responsible for our changes of our built environment, we have to preserve the typologies. But the market pressure affects a lot, because of the economic condition of its inhabitants, and the lack of partnership of the stakeholders. There is also great space for improvements, if the past spatial development has been not so consistently sustainable.

The government ownership of land by itself did not have any good management of the land and does not improve the performance of planning and implementation agencies. There is also a lack of coherence of policies, limited capacity and lack of integrity of urban managers and inappropriateness of institutional frameworks. Also, property problematics is a factor that provide the urban development, because the properties are not very small, but most of the times in neighborhood conflicts.

6   EXPECTED RESULTS

Studying the urban morphology, analyzing the actual urban development in Albania in order to explain the urban processes, to permit comparison between urban development in different cities in Albania and to help predict urban changes in the next decades. This knowledge will provide better basis for understanding the urban development – land delivery and housing policies in different periods of time and by different governments. This may again give better foundation for discussion on future urban policies.

Conclusions based on the current and the future shape of the city and the spatial distribution of functions, how much potential does it have to make evident change, what values does it carry? Findings from this research is expected to contribute to the link between spatial policies at different levels, the implementation process and actual results in the form of social and spatial organizations.

Although the lack of relationship between urban morphology and urban land use in Albania, and the national strategies of urban development, fortunately linkage between these two fields has been developing more fruitfully in several other countries, notably over recent decades. This has been helped

by the stronger presence in these countries of urban morphology within architecture. In the English-speaking world the bridge between architecture and geography, and, related to it, that between urban morphology and urban design, has with only a few exceptions been too weak to withstand more than very minor traffic. Yet both the logical and empirical bases for the link are evident. This interest must surely lead, sooner or later, to strengthening the bridge between urban morphology and urban design. Let it be sooner.

7   WORK PLAN AND METHODOLOGY

Studying other case areas in other cities of Albania, will use quantitative and qualitative methods. These cities will be selected with the criteria based on the type of land use, historic evolution in the urban morphology, and the mode of housing development that has been applied. All the datas will be divided into three main periods, before 1990, 1990-2000 government ownership of land, and post 2000 government ownership of land.

Urban development policies, institutional arrangements for planning and implementing policies and outcomes will be investigated. This will be grouped under two broad themes: Policy environment for urban land management, like coordination of development of residences for all social groups and a variety of tenure forms. These will be too detailed to go into at this occasion; however the study reveals great potential of improvement. Directions for socio-spatial aspects of urban research will also be proposed.

Knowing that other institutes, departments, faculties and universities also have been and are doing studies of similar kind concerning Albania, it would have been a good idea to make some kind of network or pool of these works, and persons involved.

Conceptually, tasks in plan-making consist of the following three aspects: "analysis of current and future urban conditions", "spatial conception and composition", and "consensus building and decision making", each supported by distinctive methods (Figure 1). Methods that support "analysis of current and future urban conditions" are scientific methods to analyze and describe the current and future population, economy, society and physical environment. Methods that support "spatial conception and composition" are creative methods to generate spatial solutions based on various demands. Methods that support "consensus building and decision making" are political methods to lead consensus building and decision making.
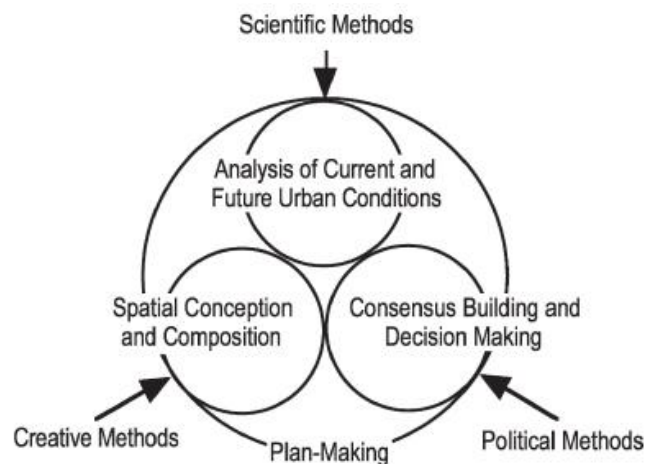

Figure 1: Scheme of aspects and supporting methodology of plan-making

The scenario calculation will comprise several working steps, which will be handled for all analyzed urban areas in different cities in a similar way.

Therefore the working steps are to be seen as a mean of making the scenario building operational, but they do not depict different points in time (between 1990 and 2050). The purpose of the scenarios calculations is to show the potential differences between the starting situation of the analysed urban cities and the future structures in 2050, which are the result of different development strategies, both considered as realistic options. Therefore, the comparisons between scenarios and/or between different cities can be performed for two points in time: the starting year (around 1990, depending on available data) and 2050. The time horizon for the three scenarios in each of the urban areas. Detailed and accurate qualitative and quantitative information regarding the housing conditions and socio-economic dynamics is necessary. All information should be gender disaggregated and rights based and, where possible, comparisons with high-income populations should be made.

It is expedient to investigate the leadership structures and communication systems in the low income housing areas of indigenous cities like Tirana. This will form a good basis for developing the strategies for incorporating the positive attributes of the low income housing, into new programmes of housing improvement and development of housing estates by private partnerships and private commercial housing developers.

REFERENCES

Abasyn Journal of Social Sciences; Vo. 4 No.1

Begg I. 2002. Urban competitiveness, Policies for dynamic cities

Blewitt, J. 2008. Understanding Sustainable Development. Earthscan, London

Corburn J. 2009. Toward the healthy city "People, places, and the politics of urban planning"

Policy and strategy for Tirana, part of Urban Regulatory plan, Tirana 2008

Healey P. 1997. Collaborative planning "Shaping places in fragmented societies"

Healey P. 2007. Urban complexity and spatial strategies "Toward a relational planning for our times"

Healey P. 2003. "Collaborative planning in perspective"

James A. LaGro Jr. 2007. Site analysis, "A contextual approach to sustainable land planning and site design"

Kearns A. and Paddison P. 2009. Urban Studies, "New Challenges for Urban Governance"

M. Horita and H. Koizumi (eds.). 2009. Innovations in Collaborative Urban Regeneration, pp.15

Urban Design Compendium 2007

Web-1. www.springer.com

Web-2. www.sciwebserver.sience.mcmaster.ca/cspa/papers.htlm