

## Land Uses in Greek Cities

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### 1 INTRODUCTION

The city has a history of existence of thousands of years. Its initial form was simple and constituted mainly of the palaces of the local ruler and the public buildings. Its size was small, since the capability of transportation was limited. The citizens moved in best cases with the help of animals. During the last centuries the city changes its form and grows in size. Poverty and unemployment in the countryside aided by the simultaneous appearance of industry, which is mainly located within or in the boundaries of cities, pushed the rural population to come to the cities, where existed promise of work and better survival possibilities. This phenomenon, combined with the development of transportation technology lead to an increase in the city's size and population.

The phenomenon of mass inflow was not handled properly in the Greek cities. The increase of population led at the same time to the increase of need for housing, in a short time and in a lower cost. The result of this was anarchic and cheap building out of the limits of cities under the tolerance of the state. As years passed by the without terms and out of limits building of cities, created serious problems in a lot of Greek cities and mainly in the big urban centres. [1]

In our days, the continuing accumulation of population leads to still bigger enlargement of cities. This is not followed by the simultaneous creation of infrastructures and urban services, so in a lot of cases, the quality of life of citizens is degraded. Therefore, the subject of sustainable urban planning and the right uses of land in the city is very important.

In the present paper the current prevailing situation of uses of land in the Greek city is investigated. Concretely, the categories of uses of land are analysed concisely, the relation of uses of land with Central Road Network (CRN) is illustrated. The causes that are related with the land uses and led the city to its current problems are investigated. In relation to the development of Greek space, some criteria placed by the European Union for the development of cities are presented. A thesis that is elevated in the paper and that concerns the exploitation of land, is the important role of the mechanisms of free market. Finally, the exported conclusions are recorded, with emphasis on the main points and proposals and thesis for the more effective organisation of land uses in the modern Greek city.

The final objective of the paper is firstly to provide information on the uses of land and the functionality of their applications in the Greek cities and secondly to investigate the methods which will improve and upgrade of quality of life for the citizens.

### 2 LAND USES

By the term "Uses of Land" is described the way with which the human activities are related with each other and are located territorial in the cities so as to serve the needs of functionality, aesthetics and protection of the environment. Generally, the current segregation of uses of land includes the following categories: [2]

- Regions of Residence: It includes unmixed and general residences with characteristics that differ depending on the density, the legality, the use, the quality, the income and profession of persons who live there
- Regions and places of central Operations: It contains Public Administrative Services, offices, retail trade, cultural, tourist and recreational activities
- Mixed regions: It is constituted of residences, manufactures, wholesale trade social activities
- Regions or places of educational installations: They involve pre-school, primary, secondary, higher, technical, public and private education as well as in tuition centres of foreigner languages
- Regions or places for installations of Medical Care: They include hospitals, clinics, doctor's offices, Organisations of Social Security, Medical laboratories, pharmacies
- Regions or places for installations of Providence: In this category exist babyhomes, day nurseries, asylum, homes for the elderly
- Religious installations: There are churches, monasteries, cemeteries
- Industrial and craft-based areas - technological parks and cities: The industrial and craft-based installations divided in noisy or not, unhealthy or not, as while in the cities exist also technological parks
- Installations of wholesale trade deposits, slaughterhouses: There are further subdivisions depending on the types of products (eg. meats, fruits).
- Places of green, free spaces and water places: They include forests, areas of green, lakes, rivers
- Athletic regions: Swimming pools, gyms, children's charms, football courts are included
- Areas of tourist installations: It is constituted of hotels, camps, camping areas
- Archaeological areas, traditional, protected areas. There are archaeological parks, museums, architectural monuments.
- Agricultural uses and installations of the primary sector: There are floriculture and cattle installation, breeding installation of pray
- Places of deposition of earth and excavation: Quarries of marbles, mines, tips, filled with rubble regions are included

- Military areas: Military camps, airforce bases and military education centres
- Special and limited use functions: In this category are contained distinguished institutes or research centres, spaces of international or other commercial exhibitions and remaining use of land
- Places of traffic: It is constituted of pavements, parking stations, railways, land, air and marine road networks
- Networks and installations of infrastructure: They are the networks of water supply, sewerage, telecommunications networks
- Not used spaces: They are surfaces that remain unused or their use has been interrupted.

In a lot of cases, there are combination of categories of uses of land in the urban environment. Thus, there are residences in the centre of the city, industries in and out of urban centres, houses with green spaces etc. Already, the above uses demonstrate their anarchic existence. During the ancient times in Greece, Ippodamos divided the space of the city in three categories. The “holy”, the “public” and the “private”. That means that the city had a "hierarchy" led by the “holy spaces”. Secondary were “public” and the last ones were the “private”. [3] In our days, the holy space has been downgraded so much, that entire buildings such the Ministry of National Education and Religions or the long distance station of buses are built over ancient Holy Temples. Similarly, downgrading is characteristic of the public spaces. In those spaces the sovereignty of "private" spaces increases. [4]

In the final configuration of uses of land in the city a very important role is played by the mechanisms of market and mainly by the secondary and tertiary sector of production, provided that these are primarily developed in the urban environment. Relative to the industry which usually occupies part of the residents in the city, the decision on whether it will be founded in the centre of city or in regions of low density depends on the size of the corporations (sector heavy or light industry), the market at which it aims (local, regional, national, international), the type and the size of the workforce, the requirements in infrastructures and the degree of harmful effects that it will cause. [5]

Of course, there also exist the techno-cities (group of industrial activities of high technology and research), that are usually found in the central area of a city. These can be centres of innovation or scientific parks and include offices, laboratories, units of production of new products. This departments usually collaborate with University laboratories. They can also be parks of transactions and trade, industrial areas of superior category. The services, are activities that belong to the tertiary sector of production and are developed in the city at high rates. They are public or private and their location depends on the director – directed relation and the centre point relation. The public services are usually located in the centres of cities and their arrangement does not depend on whether a region is rich or poor. On the contrary, the private services relate with the customers at which they are aimed. Finally, the location of tourist units in the cities depends highly on the control of uses of land and the limitation of building.

### 3 LAND USES IN GREECE - EXISTING SITUATION

In the beginning of the 20th century, with the appearance of Modern transportation, the urban planners who came from the architectural branch as Le Corbusier and later K. Doxiadis, glorified the linear development and Zoning. That means, the strict segregation of uses in zones. The eminent Chart of Athens, as a result of the famous Congress at CIAM is characteristic for its concentration in the Zoning.

The social revisions of many views on Modern intellect and the criticism about inhuman new cities and groups of residence during the decades of '60-'70 [7] led to the idea of mixture of uses and to the more flexible urban planning in the city. Today, in the spirit of sustainable development of cities, particular importance is given to the environmental dimensions of the problem concerning the combinations of special physiognomy of each city. [8]

The building and generally the current form of cities is a result of development that took place via the various historical situations and their social, demographic and financial effects. The form of urban tissues of Greek cities and the final configuration of land uses, are mainly a product of spontaneous urban development and non-existent of planning.

The post-war period in Greece was a turning point in the development of urban centres. The financial development and the industrial revolution that followed led a big part of the rural population to the big cities. Thus, a big part of the population moved to the urban centres and mainly to Athens. Thessalonica was the second in importance urban centre of the country. [9]

In addition, the refugee wave of 1922 from the Asia Minor contributed to the urbanisation phenomenon. This, combined with the continuous waves of internal immigration, led to the enlargement of Greek urban centres during the last decades. The urbanisation in the Greek cities was characterised by self-housing and arbitrary building. The increase in the use of private car, contributed also to the extension of cities out of their limits and the system of trading an old condemned house in exchange for a new apartment in a new building that was in effect mainly in decades the '60 and the '70 intensified the rapid construction and the increase of cities not only in both dimensions. All these, in combination with the progressive transformation of regions of holiday to regions of permanent residence, which were mainly built without planning, led to the current situation of Greek cities. [10]

In our days, regardless of the differences that exist between the various cities, the Greek cities do not always have distinguished land uses in their environment. Some common characteristics that we often meet are:

- The anarchic, without urban planning extensions of cities in the suburban and regional space, the big linear and along the street or even coastal increases, and the continuous incorporation of smaller settlements in wider urban or metropolitan units.
- The development of secondary residences that progressively led to the transformation of their character to urban.
- The improvement of accessibility of many regions, via the wide spreading and modernisation of the transportation and communication systems.

- The progressive reduction of rural land as a result of extension of uses of land against cultivated or other rural regions because of their low productive faculty or because of the decreased value in relation to the new uses.
- The permanent creation of infrastructures of the state sector (eg hospitals, universities, institutions, infrastructure of cultural work etc.) or of the private sector (eg groups of retail trade, big productive units etc.) in the urban environment. [11]

The lack of evident policy in Greece for the control of land uses, determined greatly the configuration of urban space, suburban areas and countryside. Thus, today one can observe very little enacted drawings of uses of ground, lack of functional control mechanisms of arrangement of activities and operations and sovereignty - in most cases of the mechanisms of the free market.

The result of all of the above was that regions with multiple uses of land were created. This has of course negative, but also in some cases positive effects. Examples of positive effects are the liveliness of the urban environment that elevates from the mixture of different uses, contrary to the unilateral development to which a lot of regions - in Europe mostly - were led, because of the strict zones that were applied.

The negative effects are more. The mixture of incompatible uses of land in the same region, such as industry and residence, bothersome recreation and residence etc. resulted in many problems. Another negative effect is the inability of organised decentralisation of central businesses and offices. In addition, the phenomenon of development along main road axes led to pollution, splitting up built-up structures, traffic congestion and also the hindrance of the comfortable services.

The road axes that connect the cities with other regions, the recreation areas, the agricultural areas, the industrial areas, present also problems. Because of the particular importance of these roads for the financial development of these regions and the lack of strict control by the Greek state, in a lot of cases intense construction along these arteries with anarchy and no control way appeared. [12] For example, the construction of buildings without planning along the CRN has resulted in frequent circulatory chaos and environmental problems. Intense construction is also observed at both sides of the central roads in the entrances of cities and concretely in the streets that connect the city with recreation are on summer resorts and, in the streets that connect the city with agricultural, industrial and other areas.

The result of the above is that the buildings prevent anyone going through the CRN to distinguish the limits on the urban areas. The intense construction, in combination with the advertising signs and the lack of undeveloped landscape and green, create an aesthetically ugly image. On the contrary, the social installations do not overload the Road Network.

Another phenomenon that we often meet in the Greek city is that of regions of general residence being crossed by streets of the CRN, resulting in circulatory and environmental problems.

Also, in many cases the linear development of centres of Greek cities along a road axis, or even linear growth of manufactures and industrial regions is observed. The life of the city residents can be facilitated to a large extent with the equitable urban planning of zones of Urban Use, relative to the CRN.

In this point, we must discuss the subject of "form of use", which has a particular importance, especially in the protection and elevation of the physiognomy of a city. [13] Thus, while a use is maintained, its form can change radically, with result the alteration or the downgrading of its physiognomy. A characteristic example is the old market of Karditsa. After its restoration, the historical building continues accommodating the uses of the local market, however the form of these uses has changed completely. The old traditional cafe, which accommodated all the meetings and transactions of farmers from one of the most productive regions of the country, changed to a modern cafeteria which changed finally its clientele, smell, acoustic, etc. landscape. Therefore, its role in the configuration of the physiognomy of Karditsa, a city which was a known Rural Centre has changed. [14]

The same problem confronted the researchers during the Research of Urban Planning of Hermoupolis of Siros. [15] Thus, in the old traditional market on Chios Street, phenomena of alteration of physiognomy because of the changed of the form of use have begun to present themselves. The shops of tourist attraction, feminine underwear's, jewelleryes, have begun to replace and apply pressure on the fish-shops, groceries, butcher's-shops etc., which characterised the place of the historical market. The proposal of research team Decree of Urban Planning of city, taking into consideration these problems, suggests the protection of traditional forms of use of this market.

The lack of communal spaces and green areas which will insulated bothersome activities, is an additional disadvantage. Also, the extension of urban activities in the areas outside the cities has as a result the alteration and destruction of many natural spaces, rural and ecologically sensitive areas perametrically to the cities.

Phenomena like the above, which are obvious in the Greek space and especially in the city of Athens, are the productive activities in Western Athens and Piraeus, the circulatory saturation of the centre of Athens, the distribution of central functions along of Sigrou, Kifisias and Vouliagmenis avenues, the dissemination of functions in unserved district centres and the intervention of bothersome commercial activities. At the same time, in the suburban space there are dissemination of house uses, which contributed in the expansion of the limits of city of Athens.

At the same time, the demographic pressure that led to urban extensions without control and planning had as consequence the lack of technical and social infrastructure and environmental protection. These conditions are recycled and the problems are perpetuated.

It would be an omission if we did not refer to the relation of uses of land with the environment. The right urban planning of a city ought to include the concern for environmental policy. The various human activities and the high and dense building in the Greek urban centres, caused in a lot of cases downgrading of the natural environment. The urbanisation changes the local and sometimes even the regional climate. The temperature goes up, the rainfalls, the fog and the clouds are increased and cars, factories, light, residents create enormous amounts of heat.

In addition, high buildings and the streets are not always constructed so as to allow the airing of urban environment. Thus are presented the so called "urban thermic islands" that influence the climate and retain pollutant air. Today, the efforts are intensified for

the confrontation of this phenomenon by planting trees, with use of light colour dyes for the reflection of solar energy and structural materials that contribute to the increase of reflection. At the same time, strict specifications for vehicles, buildings and the output of domestic appliances are established.

However, except for the environmental problems, the unconditional urban planning creates also a lot of problems of functionality and accessibility. The anarchic extensions of cities create many problems even for the near provincial regions. The narrow provincial streets, that often serve urban needs and the small streets of cities become unusable because of the traffic problem. The social services are impeded, while an increase of the pollution of air, water and the noise and the traffic congestion are inevitable.

The problems that elevated from the lack of organisation of uses of land in the Greek city are many and in a lot of cases it is difficult to confront and solve them. They led the city's disfunction, downgrading and in a lot of cases to the disappearance of natural environment and the daily discomfort of the residents.

#### **4 THE EFFORTS FOR IMPROVEMENT - INSTITUTIONAL FRAME AND EUROPEAN UNION**

The legislative regulations that concern the uses of land in Greece began with the legislative regulation of 1923 where the urban legislation is reported in the organisation of space based on the refugee and urban co-operatives of that time. As years passed, the problems appeared and in the last years it became comprehensible that it would be suggested for measures to be taken for their confrontation. The initial reflection and irritation stimulus which caused the activation, were the environmental and functional consequences that elevated.

Already, since 1972 [16], the differentiation between uses of base and uses of covering was proposed. Basic uses are those that occupy concrete space permanently in the land eg. industry, trade, wholesale or commercial shops of retail trade, athletic installations, school installations, tourist installations, forests, cultivation etc. The uses of covering that refer to occasional operations which do not require permanent installations, for example wandering trade, public markets, etc that are occasional in some street of neighbourhood, tourism in historical centres of city, in forests, in coasts, sports of countryside etc.

However, up to 1974, essential changes at a legislative level were not observed. With the revision of the Constitution in 1974, the quality of building environment became a priority and since then a first effort of implementing environmental policy begins more dynamically. Thus, laws that aim in the functional urban planning and uses of land are established, while at the same time programs that aim in the environmental upgrade of cities are applied.

After the Greek and European collaboration is established Presidential Decree 1180/81 is established and the Studies on Environmental Effects are legislated and include:

- the description of work and its space of installation, the planning and its size,
- the determination and the evaluation of the effects of activities in the environment,
- the description of measures for the prevention, reduction or restoration of the negative effects in the environment,
- the study of alternative solutions and argued support of proposed solution, and
- simple summary of total study.

With law 1337/83 an effort to control land uses is made. Some of the programs that were developed and that aim at the wider and Pan-Hellenic management of this subject are the Areas of Built-up Control, General Urban Planning and the Areas of Social Factor.

Law 1650/86 places environmental terms for the planning of cities with its environmental effects. Mutual Ministerial Decision is created 69269/5387/90 and the works that requires Study of Environmental Effects are determined.

After the Summit Meeting of the United Nations in Rio D' Janeiro in 1992 for the statement of need of protection of the environment and control of Development, Greece complied and applies a complete policy for the protection of the environment. Regulation 1973/92 (LIFE), the Community Frames of Support (CFS) and the Operational Program of Environment, which is included in them are applied. In a lot of cases, the European Programs, include forecasts on the improvement of uses of land in the cities in which they are applied.

In our days, Greece has complied with the European policies of development and has accepted significant aid from the EU via the financing programs. The aim of sustainable development as is promoted by the Union, in a lot of cases includes the right and harmonious regulation of uses of land in the city. Because, in no case can we speak at sustainability in one place, functional development of one place and protection of natural resources does not exist.

Some of the criteria that are placed by the European Committee for the sustainable development of cities are:

- the control of natural extension of cities
- the mixture of operations and social teams
- the careful management and regulation of the ecosystem of the city aiming mainly at saving resources
- the right organisation of urban transport for the improvement of communications of transports and for the protection of environment
- the protection and development of natural and cultural heritage

For the control of the extension of cities in the suburbs and the coastal areas, is proposed the idea of a "compact city" (city of short corridors) with the installation of corporations and other functions which will be motivations of withholding populations. Moreover, the effort of reconstruction of abandoned and industrial areas and the balanced offer of cheap shelter and high quality in the neighbourhoods is promoted. The mixture of uses and functions is necessary for the better access of all residents to basic services and installations of education, spaces of sanitary care and free spaces of recreation. These applications should be combined with the

protection and development of urban green that plays as much an ecological as a social role. All the above, in combination with the right planning of transport and the organisation of means of mass transport, aim to release the citizen from his dependence on the car and to reduce the environmental aggravate. [17] Of course, presupposition for all these, is the right urban planning of functions of the city. With the right use of these policies of the Union, which are transformed into actions, in our days, Greece attempts to improve the planning of uses of land in the cities.

Already, by the law 2508/97 for the "Sustainable Development of Cities and Settlements of Country", Greece is aligned with the aim of the EU for the sustainable development of cities and important restrictions in the subjects of uses of land are set. At the same time, the "Complete Urban Intervention Plans aim in the best possible planning of the city and the functional rearrangement of uses of land, in relation always to its environment.

It is realised that these efforts are being intensified in the last years are necessary in order to face the problems that were created by the accumulation of population in the cities, the anarchic building, the building along the main road network, the lack of urban planning and generally the erroneous exploitation of urban land in the Greek space. The modern Greek urban legislative framework in combination with the European policy supports this effort. Of course, the laws and the actions are so many that it is difficult to include them all in the extent of this paper. However, the last regulations on the "Land Planning and the Sustainable Development" are very promising in the subjects of planning of Greek cities and uses of land in terms of an environmental, functional and aesthetic upgrade.

## 5 CONCLUSIONS

The Greek cities and mainly the big urban centres were led to a lot of problems that resulted from the ineffective planning and the lack of control of uses of land. The problems are related with the functionality of the city (for example the traffic problems), aesthetics (lack of tastefulness and harmony), but also with the environmental downgrading, which is a danger for the public health, from an organic and psychological view related to stress, etc.).

The enactment of uses of land via corresponding planing in both the Urban Planning and in the Urban Study of Extension of Revision was applied late in Greece (1989) despite the continuous incentives of urban planners. [18] Nevertheless and despite their enactment, their strict application has not been ensured until now. The effort that is being made over the last years in all sectors aiming at the upgrade of environment, the improvement of quality of life and the creation of "human" conditions of existence, is obvious. In spite of the efforts, problems such as the following continue to exist:

- the continuing arbitrary building
- continuing pressures for extensions of urban planning
- scattered out of urban planning building, etc.

Relative to the restoring - upgrading of urban space problems are determined in the following areas:

- improvement of social equipment
- maintenance at the communal and beneficial to the public green areas
- Quality of building environment
- Confrontation of traffic problem, parking station areas etc.

Apart from the European and other solutions that are given for the smooth internal operation and development of a city, it is also important to examine the application of a modern model of functions in the city. This will finally be necessary, because Greek cities were not built based on a specific urban planning.

The acidity of environmental problems in the current urban way of life, in a lot of cases flows from the wrong uses of land. The unfavourable effects impose a right urban planning for the improvement of the current situation. An ecological urban planning can resolve a lot of problems. It can lead to the efficient use of natural resources, to a healthy economy and the upgrading of the quality of life to the Greek cities.

## 6 BIBLIOGRAPHY

1. HATZOPOULOU – TZIKA AL.: Urban Planning Legislative Frame, ed. N.T.U.A., Athens 1997
2. ARAVANTINOS ATH.: Urban Planning for a Sustainable Development of urban space, ed. SIMMETRIA, Athens 1997
3. LAVEDAN P.: Histoire d'Urbanisme, Paris 1956
4. STEFANOPOULOU JOUL., STEFANOPOULOU JOS.: Description of the image of the city, University editions of N.T.U.A., Athens 1999
5. LABRIANIDIS L.: Elements of Financial Geography, ed. PAPTIRITIS, Thessaloniki 1992
6. CIAM: The Chart of Athens, ed. Technical Chamber, Athens 1981
7. MICHELIS A.: The unforgiveness of the citizen, ed. KASTANIOTI, Athens 1970
8. STEFANOPOULOU JOS. and Collaborators: The Physiognomy of Greek city, ed. MEDEON and Laboratory of Urban Design of N.T.U.A., Athens 2000
9. MITOULA R.: The Historical-Social-Financial and Legislative Frame as a factor of shaping of Physiognomy of Athens, mag. REVIEW OF DECENTRALIZATION LOCAL GOVERNMENT AND REGIONAL DEVELOPMENT, issues 20, 22, Athens 2000
10. See 8, chapter of Hatzopoulou A.I. and Mitoula R., "The Legislative Frame"
11. AGELIDIS M.: Spatial Planning and Sustainable Development, ed. SIMMETRIA, Athens 2000
12. MARATOU TH., "Uses of Land on the length of Road Axons", Doctorat Thesis of N.T.U.A., Athens 1999
13. Laboratory of Urban Design of N.T.U.A., "The physiognomy of Greek places", Athens 2001
14. VOUGAZI K.: The form of use, After Doctorat Research of Architectural School of N.T.U.A., Athens 2001
15. Laboratory of Urban Design, "The Urban Planning of Hermoupolis", ed. N.T.U.A., Athens 2003
16. KEPE, Prospective Planning of Country Development. Chapt of Nationals Space Planning, Athens 1973
17. European Commission, "Development Planning of Community Space, Official Editions of European Union, Brucells 2001
18. See 2
19. Lows: L. of 1923 Government's Newspaper 228A/16.8.1923, P.D.1180/81, L.1650/86, Regulation 1973/92, L.2508/97