

# Development and environmental protection in the coastal urban area of the municipality of Glyfada (Greece)

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## 1 ABSTRACT

Nowadays, the urban environment faces several management problems such as planning and sustainability. The various policies that are implemented to solve the above problems must be consistent not only with the EU directives but also to take account of existing urban and spatial plans for the area. Reconstruction of man-made environment and the construction of infrastructure such as roads, schools, gymnasiums, is one of the directions of European policy on urban environment. These interventions should have the least possible effects on the natural environment of the city in which they take place.

This paper studied the effects of the construction of a gymnasium in the coastal urban area of the Municipality of Glyfada in Attica, on the natural as well as on the human environment.

Initially the physiognomy of the area, is studied. Then, via an estimation of the environmental repercussions on the natural as well as the human environment, and after interviewing all the organizations involved, the evaluation of the repercussions on the natural environment is assessed. The research showed that the specific work contributes to strengthening the infrastructure of the urban environment, the enhancement of education and generally the enhancement of its development.

## 2 INTRODUCTION

The area of Glyfada is situated geographically in the southern part of the coastal area of Athens. It is surrounded by the mountains of Hymettus to the east and by the Saronic Gulf to the western (Fig.1).It is an urban area that was developed due to good environmental conditions and proximity to the previous airport of Greece.

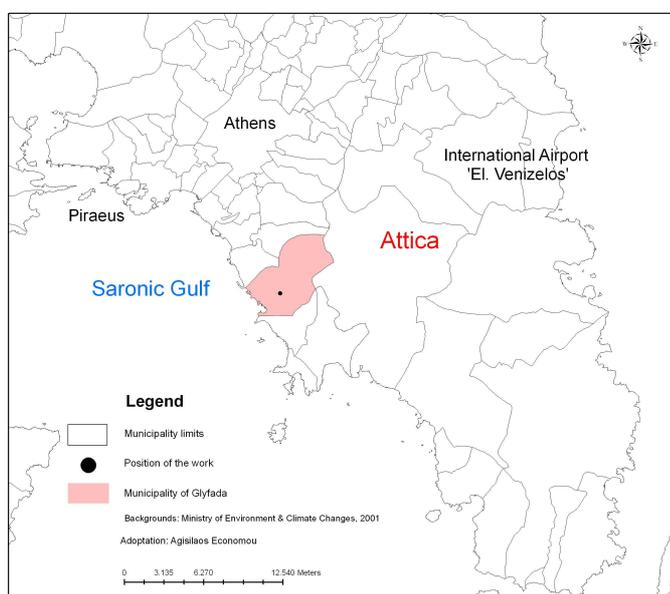


Fig.1. Research area

Regarding the development physiognomy of the municipality, the area of Glyfada has significant social, commercial, and sports facilities, modern school buildings and others.

The area of Glyfada is one of the best cases of permanent residence due to good weather conditions and the shopping centres which have been developed in the area. The area is a place for residents with high incomes.

In the Municipality of Glyfada a number of infrastructure works such as road works in order to improve the public transport and development of the area and to serve the 2004 Olympic Games have been constructed.

This work refers to the construction of a gym and a building for cultural events near the 6th high school of Glyfada. These are designed to provide students with the opportunity for sports activities, entertainment and education in the form of cultural events that will take place during the year.

### 3 REGENERATION WORK

The regeneration works in the area of Glyfada are works which increase the standard quality of life. Such works are the road works, schools units, sports facilities - Gym, open space works, pedestrian roads, and others. Specifically in the area of Glyfada the regeneration works are (fig.2):

- Road works - Transport: The tram lines connect the coastal area of Glyfada with the northern border area of Glyfada as well as with the urban centre of Athens. The two major roads Poseidon and Vouliagmenis Avenues have connected the area with the rest of Attica area, as well as with the Piraeus Port and the Airport of Spata. The existing port mainly serves private tourist and fishing boats.
- School Infrastructure: In Glyfada there are 48 schools (17 nursery school, 17 primary schools and 14 high schools) in which there are 14 other co-housed schools. Totally, the school units have a potential of 8322 students. (ERC, 2007).
- Sporting facilities - Gym: In the area there are 5 Gyms and 25 athletic organizations which cover a large number of sporting activities (Sports Agency Municipality of Glyfada, 2008). In addition, 12 projects of the Sports Organization of the Municipality of Glyfada as tennis, volleyball, wrestling, athletics, basketball and others are taking place in this area with 2130 participants.
- Green (open areas) – pedestrian streets: In the area of the Municipality there are green zones and open area.

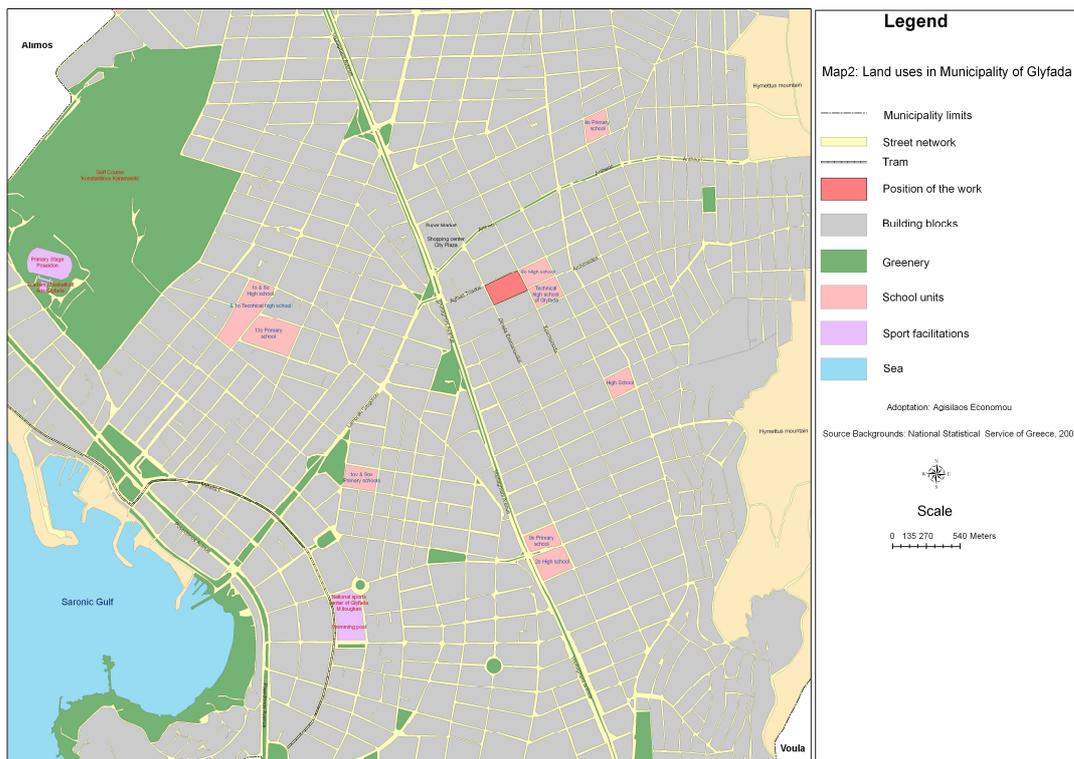


Fig. 2. Land uses in the Municipality of Glyfada

### 4 FACTORS THAT INFLUENCE THE REGENERATION AREA

Land uses

Land uses are an important factor for the further upgrading of the area. The main human activities in the area are:

- Commercial companies (Retail and Wholesale, the shopping centre of Glyfada is one of the biggest in south of Attica) and recreation and supra-local radiation
- Consultancy services (banks, business offices)
- A few scattered workshops and craftshops
- Hotels Units

#### Environmental problems

Flooding phenomena in the coastal roads that cause difficulties in traffic. The concentration of large quantities of rainwater is due to many factors such as: the rainwater collection is partial and does not cover the whole area of the Municipality of Glyfada, also there are great differences in height and the ground is rocky resulting in the reduction of soil absorption (Economou, 2008).

- Increased traffic in the centre of Glyfada and lack of parking spaces.
- Degradation of the beach of Glyfada due to the construction of the marina.
- Degradation of the urban environment due to increased building. By 1970, the text law for grating has contributed in the increase of the building area. In the area of Glyfada, the building factor is 0.8.
- Air pollution of carbon dioxide due to car traffic.
- Noise pollution due to vehicle traffic. The areas next to major roads face the biggest problem.

#### Development planning – Growth development – Policies

Other important factors for the development of the area are the development plans as well as spatial and urban plans which determine land use and the level of intervention with regenerations works.

Also, the economic growth gives the local authorities the possibility for more effectively interventions works in area.

Furthermore, various policies affect to a small or to a large degree the development of the area and therefore the regeneration works and upgrades.

The case of the construction of the gym and building for cultural events as a means of regeneration and upgrading of the area.

The gym includes: A gym, a basketball and volleyball court with 300 seats. The total area of the building is: E = 1390 m<sup>2</sup> (724 m<sup>2</sup> sports area, 263 m<sup>2</sup> rows - about 300 spectator seats and 403 m<sup>2</sup> of utility space).

Cultural events area: The space for cultural events including the exhibition hall - library by with PC spaces, exercise room - ballet, rhythmic gymnastics, aerobics room and exercise machines. The total area of the building with main and auxiliary areas is: E. = 1887 m.<sup>2</sup>

Surrounding area: In the surrounding area a basketball and a volleyball fields are to be constructed. Also, a part of the existing trees will be maintained, while new trees will be planted near the construction area.

## 5 RESEARCH

The research showed that:

The choice of the location the closed gym was made on the basis that site chosen shows the following advantages.

- The existence of the 6th high school next to the plot, has reinforced the choice of this location due to the possibility of providing students with an area for sports activities.
- The plot where the work will take place belongs to the SBO.SA, and has been characterised as school area by the No. 18036/360/05 decision of the Prefecture of Athens (Official Journal of the Hellenic Republic, 2006)
- Lastly, the position has access to the existing PPC network for electricity, water supply network

The proposed work is included in the total planning of the School Buildings Organization to strengthen school infrastructure with gyms and cultural events space. Also, the proposed location of the work has a goal

to facilitate the movement of high school students to sports facilities and to give motives for the development of sports activities during the school year independently of weather conditions.

Promote the cultural education of students of the area via cultural events (exhibitions, dances, and others) that will take place in the cultural centre. To act as a magnet for students for cultural education, entertainment and sports activities.

## **6 PROBLEMS DURING THE PERIOD CONSTRUCTION OF WORKS**

According to personal interviews with local authorities and School Building Organization officials, in the area of Glyfada there was a strong reaction from residents who were in direct contact with the area. They have the opinion that these works will degrade the environment via the introduction of sports activities and the reduction of green areas.

This reaction was in contrast to the decisions of local authorities and the School building Organization for the upgrading school buildings, the management and promotion of the area.

Similar reactions existed in the construction of the gym in the school area of the Municipality of Pefki resulting in postponing the works.

According to the School Buildings Organization similar facilities have been constructed in many area of the country with no such reactions. In a country level during the period 2004-2007 7 class of multi-purpose uses and 27 gyms are being built with a total budget of 48,537,050.00 euros. Nowadays 3 multi-purpose halls and 11 gyms are under construction with a total budget of 22,713,730.00 euros (<http://www.osk.gr>).

In the case of the construction of the Indoor Sports Center in Glyfada, the above mentioned reactions were overcome after the adoption of environmental conditions from the Environment Directorate of the Prefecture of Athens. Thus, the construction of the work has started.

In addition, according to the Presidential Decree (Official Journal of the Hellenic Republic, 1987) such operations in urban areas which are in accordance with directive of the European Union for upgrading the standard of living of residents area authorized (Commission of the European Communities, 2006).

### **Studies – Environmental repercussions**

A number of studies such as, architectural design, hydraulic, fire protection design, structural design, environmental study and others took place for the construction of these works.

According to the environmental assessment, the proposed work will not cause negatives effects to the surrounding area. Particularly the repercussion are (Economou, 2008):

During the work's construction period: During the period of construction the repercussion will be minimized at least due to measures. These measures concern: Safety of workers on site, reducing noise and dust production, protection of the residents from work activities and the movement of vehicles and machinery, and finally prevention measures for the collection and disposal of waste in appropriate areas.

Repercussions on the Anthropogenic environment: Taking measures in accordance with workers safety and protection legislation as well as the compliance with environmental procedures minimize the effects on the human environment. Also, with the appropriate configuration of the area (new plantings), there will be a positive influence on the students of neighbouring schools and the residents.

Repercussions on the Natural Environment: Compliance with the environmental conditions both for the management of liquid and solid waste reduces the environmental effects both during work construction and during the operation of the work. Consequently, the limits and measures for the management of solid waste, air emissions from industrial boilers which are used to heat buildings and noise limits during the operation of planting are followed. The liquid waste is disposed in the central waste pipe of the City and the solid waste collected by garbage trucks of Glyfada. Also, the uprooting and replanting of existing trees in another area of the municipality, contributes to the enhancement of vegetation.

## **7 CONCLUSIONS**

According to the above it can be seen that the area of Glyfada is faced with environmental problems from the existing activities. A way to face these problems and to upgraded this area is through regeneration works. As has been shown above, the construction of a gym and a cultural events building as well as the regenerations

of the surrounding area will contribute to the development of sports activities and cultural education of students in the area.

Also, these works will not have negatives effects on the environment, due to the respect of environmental conditions while the regeneration of the environment will enhance the area. Consequently, these works can be considered in total as regeneration works which will enhance and elevate the area.

However, totally, the improvement of the quality of residents can not rely solely on such interventions. As I underlined above, a set of interventions is needed in the area such as high quality services, measures to protect the environment, green areas, and others so that the area may continue to provide high quality environment for the residents.

Finally, we should emphasize that the current practices for the construction of infrastructure works, require the active participation and consent of citizens. This is because in many cases there is apparently a delay or permanent cancellation of works, due to the reaction of the residents. We must move from the model of "authoritarian government" to the model, of "participatory governance" at a local level.

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