Title: The social identity of the Post - Olympic use of the Olympic Village settlement in Athens - Greece

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Abstract

The Olympic Village settlement was constructed under the responsibility of Workers Housing Organization during the preparation of the 2004 Olympic Games. It is a new city with 2,292 housing units which was developed in a very short time period (3.5 years) via the system of organized planning. It is situated in an area outside of the urban fabric of Attica and the post – Olympic settlement has a population of approximately 10,000 inhabitants with different demographic, socioeconomic and cultural characteristics. The inhabitants of the post – Olympic settlement are beneficiaries of the Workers Housing Organization. They have been selected after a lottery and satisfied previously determined social criteria. The methodology of the research was supported by the analysis and statistical process of 2,292 questionnaires supplemented to the beneficiaries by the year 2003, during the Census of Workers Housing Organization for the lottery of housing units of Olympic Village settlement. The results of the study determine the social identity of the post-Olympic Village after re-designing the data base and analyzing main characteristics of the inhabitants such as the synthesis of the households, the age, the labour status, the income and the educational level of the population. The analysis aims to contribute to the identification of the resident’s needs which is an essential factor for the successful post-Olympic use of the settlement.

The development of Olympic Village as a double planning objective project

The organized urban planning as a process of residence development originates in the principles of Modern Movement. It is defined as a system of urbanization according to which large scale residential units are constructed in extensive territorial areas, based on complete planning and equipped with work of infrastructure, public spaces and installations (Aravantinos, 2000).

Advantages of this system such as standardisation, decreased cost, high quality and speed of construction led several industrially developed European Countries to select it at the post-war period for the production of many residential settlements (Mantouvalou and Mavridou, 1993).

The New Cities that were developed in the standards of Modernism had often problems to integrate the inhabitants into their new residence area. The residents confronted difficulties to establish relations and to satisfy their needs (Morris, 1997). Thus, many of the New Cities presented problems of degradation and had to implement specific measures and programmes for the settlements upgrading and regeneration.

In Greece, the organised urban planning as a way of residence production constitutes the exception while the rule is the individual initiative (Christophilopoulos, 2002). The
production of settlements via organized urban planning is implemented almost exclusively by public housing institutions, the core of which is the Workers Housing Organisation. The typology of Workers Housing Organisation settlements is characterized by the size and the locality of placement. More specifically, these settlements are of small scale since they are composed of few housing units. Also, they are located on the periphery of the cities and their inhabitants satisfy their needs from the services of the existing town.

Exception to the above mentioned typology constitutes the Olympic Village settlement, which was constructed during the preparation of the 2004 Olympic Games. It is situated outside the town plan boundaries of Attica in an area of 1,240 acres and consists of 2,292 residential units. The Olympic Village is characterized as the major urban - residential work of Greece because of the large scale, which had to cover the specifications and requirements of two different uses: the Olympic and the post Olympic use. These two phases had different requirements that should however be satisfied even if they would include opposite elements.

The sort-term Olympic use of the village, which had great success, provided housing for the athletes during the Olympic Games period. The long-term post Olympic use, in which the current research is focused, concerns the transformation of the settlement in a residential area of approximately 10,000 inhabitants or 2,292 families that would be accommodated in the residential units. The occupants of the post Olympic village are beneficiaries of the Workers Housing Organization. They were selected after a lottery and satisfied previously determined social criteria.

The Olympic Village was constructed under the responsibility of Workers Housing Organization in the north-west part of Attica Prefecture, in a location called Lekanes Acharnon at the foot of Mountain Parnitha. It is under the jurisdiction of the Municipality of Acharnai. The area was isolated from the centre of Attica, however, the accessibility has improved during the past few years due to the construction of a fast traffic motorway (Attiki Odos) and the Suburban Railway. The greater area of the Olympic Village constitutes the Municipality of Acharnai and the Community of Thrakomakedones, two localities with completely different socioeconomic dynamics.

On the one hand, there is the high density Municipality of Acharnai with a population of approximately 120,000 inhabitants according to the recent estimations of the local authorities (or 61,977 according to the 2001 census of the Hellenic Statistical Authority). The population of Acharnai is characterized by non homogeneity (ROMA, migrants, refugees), high unemployment and low educational level. The land value of the area is low
and, with the exception of the residential zones, it integrates undesirable land uses such as military installations, Police School, telecommunication and electricity stations, water treatment Authorities and the Flower Market. (Delladetsima, 2005)

On the other hand, the formally developed Community of Thrakomakedones is a small housing suburban area with high land value. The population of Thrakomakedones is 3,058 inhabitants according to the census of 2001 of Hellenic Statistical Authority and is characterized by high income and educational level. Thus, the Olympic Village settlement is situated among localities with very low and very high income and land value. How it may affect the surrounding area and the broader urban development is dependent upon the management, the policies and the practices that will be implemented during the long-term post – Olympic use of the settlement.

To summarize the information mentioned above, the Olympic Village is a new city which was developed in a very short time period (3.5 years) via the system of organized planning in an area outside of the urban fabric and has a population of approximately 10,000 inhabitants with different demographic, socioeconomic and cultural characteristics. It is a challenge to examine how this large scale settlement with those characteristics could have a successful post-Olympic use. Theoretical and practical approaches have proven that the division of the spatial and social network is impossible. (Vrihea, 2003). The essential condition of the successful post-Olympic use is to integrate the inhabitants into their new residence area and to satisfy their needs and requirements. In a different case, the residents will abandon the housing units, the settlement will be degraded and phenomena of social and territorial segregation will appear.

The aim of this research is to determine the social identity of the Olympic Village today by recognizing the demographic, socioeconomic and cultural characteristics of the population in order to contribute to the identification of the residents’ needs which is essential factor for the successful post-Olympic use of the settlement.

**The urban plan of Olympic Village**

The Olympic Village settlement is landscaped in four zones: the Green Zone which is extended in the middle of the settlement, the Residential Zone located on either side of the Green Zone, the Urban Centre Zone which is in the west side of the settlement and the Athletic Centre that is located in the north.
The Green Zone is extended in the middle of the settlement with a north-south orientation. It is confined by the main roads of the settlement and is crossed by its central pedestrian street.

The Green Zone covers a surface of 184,025 sq.m. and includes five small squares, open walking spaces, playgrounds and leisure facilities. Approximately 21sq. m. of green space correspond to every inhabitant, which is much higher than the average proportion of the city of Athens (10 sq. m. per person). At the north and south part of the Green Zone, the two elementary schools of the settlement are constructed with an area of 3,007 sq. m. each. During the Olympic Games period, these two buildings were used as the “Resident Centers” of the athletes and the members of the Olympic mission.

The Residential Zone is on either side of the Green Zone and covers an area of 427,490 sq. m. It is composed of 366 apartment complexes with 2,292 housing units. The house buildings are of 2, 3 and 4 floors and of 19 different types of apartments in order to avoid the uniformity in the settlement. The apartment’s area is ranging between 84 and 115 sq. m. and all the complexes are covering a surface of 254,000 sq. m. above the ground and 86,000sq. m. of basements. During the Olympic Games period, these apartments accommodated 17,500 athletes. After the end of the Games, most of the housing units required necessary modifications in order to house the population of the post Olympic use.

Scattered in the residential zone, in neighborhood level, twenty-nine small shops are constructed for the shopping services needs of the inhabitants. Also, the day nursery of the settlement is situated in the residential zone and has already built. In total, three more day nursery and four kindergartens are scheduled to be built in the settlement.

The west part of the residential area is close to the Commercial Centre of the settlements and constitutes the transition area to the Urban Centre Zone. In this region, specific uses are scheduled that could operate in addition to the uses of the Urban Zone Centre. The telecommunication Centre (642 sq. m.), the Olympic Museum (1,052 sq.m.), Cultural Activities buildings (1,030sq.m), the church (500 sq. m) and the Police station (957 sq. m) of the settlement are planned to operate in this region (the Police station is already in operation).

The Urban Centre Zone is on the west side of the settlement and covers a surface of 165,186 sq.m. The three main entrances of the Olympic Village are in this zone. A shopping centre, which will cover an area of 51,777 sq.m. with uses of trade, entertainment and social infrastructure facilities, is planned to be built here in order to serve the inhabitants needs. At the north and at the south part of the Urban Centre Zone, two
buildings of public services are constructed covering an area of 23,547 and 11,795 sq. m and having a capacity of 1,000 and 480 employees respectively. A junior school, a high school and the Medical centre for primary health care and rehabilitation are constructed close to the shopping centre and are currently in operation (4,800sq. m.) During the Olympic Games, the Main Entry, the Press Centre, the Main Dining Hall, the Olympic Museum, the Polyclinic, the Accreditation Centre, the Shopping Centre, the Transport Mall and the International Parking Zone were located in this Zone

The Athletic Centre Zone is on the west side of the settlement and covers a surface of 71,716 sq.m. This area also includes the fire station of the Olympic Village and a parking lot of 540 vehicles. The athletic infrastructure of the settlement consists of an athletic and football stadium, a swimming pool, 2 indoor gymnasiuems and 4 tennis courts. The main goal of the planners was to construct more athletic facilities at the remaining available area of the athletic zone in order to create a complete athletic complex that can accommodate significant athletic events. The income coming from the exploitation of the Athletic Centre would be used for the maintenance and the management of the public areas of the settlement in order to improve the environment and the living conditions of the residents.

Data Sources: Questionnaires of Workers Housing Organization Census and Design of Database

The inhabitants of the post Olympic village, as it has already been mentioned, were beneficiaries of Workers Housing Organization, they were selected after a lottery and satisfied the following previously determined social criteria. According to the Workers Housing Organization requirements, the beneficiaries had to be workers, employees and pensioners, either Greek or financial immigrants, employed in the public sector or in the broader public sector that make contribution into Workers Housing Organization (WHO). Moreover the beneficiaries had to work or live in Attica basin, to protect at least one member of family, to not own a personal estate capable of ensuring a housing unit, and to have completed a minimum number of working days according to their marital and working status. (OEK, 2002).

The 2,292 available housing units were distributed to the beneficiaries of the lottery except 276 residences that were given to a population belonging to a special social group and 229 residences (10% of total) that were distributed with a lottery to inhabitants of the Municipality of Acharnai. Totally 17,859 beneficiaries participated in the process and
among them, 2,292 were finally selected for the habitation of equal number of housing units in the settlement.

The main data source of the following research was the 2,292 questionnaires supplemented to the beneficiaries, entitled “Census of Beneficiaries of Workers Housing Organization for the lottery of housing units of Olympic Village settlement”. The census had one and half (1.5) year duration as it began on 25 November 2002 and finished on 25 May 2003. The questionnaires were designed by the Workers Housing Organization and were divided in two sections. The first section was obligatory and included questions that determined the demographic, professional, insurance and income characteristics of the beneficiaries and their protected members. The second section of the questionnaire was optional and focused on the determination of further social characteristics and needs of the beneficiaries such as their level of study, living conditions, transit needs, shopping services needs and their attitude to participate in collective activities.

All the 2,292 finally selected beneficiaries had supplemented the first section of the questionnaire and from them 1,292 had supplemented the second optional section. After the collection of all the questionnaires, the answers were registered in a data base under the responsibility of the Information Technology Department of Workers Housing Organization. The data base was delivered for the needs of the current research after the official approval of Hellenic Data Protection Authority. The present research work was supported by the analysis and statistical process of the 2,292 obligatory and the 1,292 optional questionnaires which were supplemented by the beneficiaries of the Workers Housing Organization.

The effort of the Workers Housing Organization to set up a census of all the beneficiaries is appreciable and crucial for the research. Nevertheless, some insufficiencies in the structure of the questionnaires and the design of the data base were detected, that would not allow the statistical analysis to produce reliable statistical results. In order to overcome these insufficiencies, the data base was redesigned and new variables were created. The main problems of the questionnaire structure and the data base design that have been detected are:

Optional type of the second questionnaire. Some important socioeconomic and cultural questions were listed only in the second, optional questionnaire. Not all of the applicants answered this questionnaire and most of them answered it only partially. Even if for certain questions the sample size was considerable, additional effort had to be made to ensure that
the results are representative for the total population. Only a few applicants answered to all questions in the second questionnaire.

**Absence of important information.** Some important information of the beneficiaries, which originally were included in the questionnaires, has been excluded from the database used for this research, due to data protection regulations imposed by the Hellenic Data Protection Authority.

**Improper formulation of questions.** For some questions only a limited number of answers were possible but they were not explicitly stated in the questionnaires. Moreover, even if the answers were to be selected from a multiple choice form, they were not always stored in coded form in the database. Therefore, the data had to be manually categorized and related to enumerated values. In several other questions the applicants were asked to answer questions concerning members of their family but it wasn’t clear to which family member they were referring.

**Inappropriate database design.** The original database did not follow basic concepts of relational database design such as primary keys fields and referential integrity. It was not suitable for general-purpose querying and prone to loss of data integrity.

Due to the above problems the following two tasks have been undertaken prior to the statistical analysis of the data:

- Redesign of the database aiming to normalize it and to ensure that its structure is suitable for general-purpose querying and free of certain undesirable characteristics that could lead to a loss of data integrity.
- Pre-processing of the “raw” data in order to comply with the new database design and eliminate errors caused by the lack of proper categorization.

The social identity of Olympic Village, according to the results of the analysis, is presented below.

**The social identity of the Olympic Village in the Post-Olympic use**

In this section are presented the results of the analysis of the 2,292 questionnaires supplemented from the beneficiaries during the year 2003 for the needs of the Census of Workers Housing Organization for the lottery of housing units of Olympic Village settlement.

The initial purpose of the questionnaires, on which this research to great extent is based, was not to perform statistical analysis. They were conducted in order to determine if the
applicant is eligible to take part in the selection process. Many aspects of the social identity of the applicants, that would otherwise be included in such a questionnaire, did not appear or were not completely covered. Moreover, as mentioned in the previous chapter, the released database was censored due to data protection regulations. This made the task of statistical analysis even more difficult. Therefore, in this chapter additional sources have been used and where possible, missing data have been estimated using statistical methods.

An important information that could not be directly derived from the database was the overall population of the Olympic Village, as well as the synthesis of the households. A combination of alternative information had to be used in order to complete the picture:

- The marital status of the beneficiary (married = 2 members, single = 1 member, in separation and widowed = 1 member)
- The number of children aged under 21 years old
- The number of children that are students and aged between 21 and 25 years old
- The number of protected members in the household

Even so, some other household members mainly children over 25 years old, which are still living with their parents although they are financially independent, are not covered by the questionnaire. This small number of persons could be estimated by comparing the data for the Olympic Village with similar data of the 2001 census of the Hellenic Statistical Authority. For this it has been assumed that the original data suffice and give correct results if the beneficiary of the household is under 50 years old and it has been estimated that the number of members per household in the Olympic Village tends to converge to the country’s average with the age of the beneficiary. Chart 1 compares the members per household ratio for residents of the Olympic Village and the Greek average for all age categories of the household head. It should be pointed out that because of the selection criteria, in all these categories the average household in the Olympic Village numbers statistically more members than the comparable average Greek household.

According to the above methodology the total number of residents in the Olympic Village by the year 2003 adds up to 8,662.
Chart 1: Members per household in the Olympic Village compared to the correspondent values for households in Greece (Source: Hellenic Statistical Authority, 2001 census)

The number of household members of the Olympic Village in comparison to the household members of the Attica region (mainly Athens and suburbs) and Greece are presented in Chart 2. As expected, for the same reasons mentioned previously, there are proportionally considerably more households with four members and more in the Olympic Village than in the rest of the country. In the contrary single member households are rare (1.40%) far below the countries average. The majority (74.82%) of the households in the Olympic Village consists of two to four members.

Chart 2: Number of household members in the Olympic Village in comparison to the household members of the Attica region and Greece (Source: Hellenic Statistical Authority, 2001 census).
The analysis of the marital status of the beneficiaries (Table 1) shows that most of them (89.62%) are married.

Table 1: Marital Status of the beneficiaries

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Number of beneficiaries</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>2,054</td>
<td>89.62</td>
</tr>
<tr>
<td>Divorced</td>
<td>92</td>
<td>4.01</td>
</tr>
<tr>
<td>In Separation</td>
<td>61</td>
<td>2.66</td>
</tr>
<tr>
<td>Single</td>
<td>24</td>
<td>1.05</td>
</tr>
<tr>
<td>Widowed</td>
<td>61</td>
<td>2.66</td>
</tr>
<tr>
<td>Total</td>
<td>2,292</td>
<td>100</td>
</tr>
</tbody>
</table>

After examining the age pyramid (Chart 3) of the beneficiaries and their partners, it is observed that the most part of them (70.65%) are belonging to the economic active group of 35-54 years old. Also, it is observed that the eldest, over 65+ years old, represent the small proportion of 5.38%, much lower than the average proportion of Greece which is 16.71% according to the census of 2001 of the Hellenic Statistical Authority.

Chart 3: Age pyramid of the beneficiaries and their partners
The labor status of the Olympic Village inhabitants is an important indicator for the future development of the area and the prospects of their population. Fortunately, the overwhelming majority of the beneficiaries were either employed (82.32%) or pensioners (13.83%). Only a small minority of beneficiaries (3.84%) were unemployed at the time they submitted their application. This is a very low rate compared to the country’s unemployment rate, which for the 4th quarter of 2009 was as high as 10.3%.

Furthermore, the current dataset allowed us to analyze the combined labor status of both the beneficiary and his/her partner. The results in Table 2 show that in only 18 households, representing 0.79% of the total, both partners are unemployed and the beneficiary receives no pension. Unfortunately, the available sources give no indication on how many other pensioners are members of the household apart of the beneficiary himself and how many other persons apart of the beneficiary and his/her partner are employed.

<table>
<thead>
<tr>
<th>Table 2: Labor status of beneficiaries and their partners.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of households</strong></td>
</tr>
<tr>
<td>Both partners have a job</td>
</tr>
<tr>
<td>Only one partner has a job</td>
</tr>
<tr>
<td>Both partners are unemployed</td>
</tr>
<tr>
<td>The beneficiary is pensioner</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

In order to examine the economic status of the beneficiaries, the annual income of the households was categorised in groups. The results in Chart 4 show that the inhabitants come from all income levels but the main part of them belongs to the low and medium categories. Specifically, approximately one third of the households (32.75%) are belonging to the medium income level (15,000 – 30,000 € per year). The high income households (>30,000 € per year) represent a small proportion (7.34%), while households with low annual income (0-15,000 € per year) represent the high proportion of 60%.

At this point it is interesting to note that according the European Union Statistics on Income and Living Conditions (EU – SILK) of EUROSTAT the income limits of poverty is 5,910 € per year per person and 12,411€ per year per households with two children.
The **educational background** of the beneficiaries was asked in the optional part of the questionnaire. As a result, only 386 of total 2,292 applications answered these questions. It was assumed that a simple statistical analysis of just this sample would not be representative for the whole population, since proportionally more applicants with higher educational background would have filled the questionnaires, compared to those with lower educational background. Furthermore, assuming that the educational level correlates with the income, the annual income of those answered to the optional questions was compared to the annual income of all beneficiaries. It was shown, that beneficiaries with higher income were overrepresented in the first sample, which supported the above assumptions. Therefore, based on the income data, a factor has been calculated that corrects the representation of every income category in the optional questionnaire. The results of this analysis, showing the highest educational level of the beneficiaries, are presented in Chart 5. According to this, a significant part of the beneficiaries (37.96%) has high or very high educational background and at least one degree from a University or a Technological Institute, while the main part of them (62.04%) has a low or basic educational level.
Also, the educational level of the beneficiaries was examined in relation to the income level of the households. As it was expected, Chart 6 shows that the beneficiaries with high or very high educational level such as a University degree, or a degree from a Technological Institute or a Private College, have higher income, which ranges on annual average between 17,202 and 20,495 €.

**Chart 5: Educational level of the beneficiaries**

**Chart 6: Mean income of households and the corresponding 95% confidence interval against the educational level of the beneficiaries**
Conclusions
The Olympic Village settlement was constructed under the responsibility of Workers Housing Organization during the preparation of the 2004 Olympic Games. It is a new city with 2,292 housing units, which was developed in a very short time period (3.5 years) via the system of organized planning. It is situated in an area outside of the urban fabric of Attica and the post – Olympic settlement has a population of approximately 10,000 inhabitants, with different demographic, socioeconomic and cultural characteristics. The inhabitants of the post – Olympic settlement are beneficiaries of the Workers Housing Organization. They have been selected after a lottery and satisfied previously determined social criteria. The aim of this research is the determination of the social identity of the post Olympic Village in order to identify the resident’s needs and to contribute to the successful post-Olympic use of the settlement.

The main data source of the research was the 2,292 questionnaires supplemented to the inhabitants by the year 2003, entitled “Census of Beneficiaries of Workers Housing Organization for the lottery of housing units of Olympic Village settlement”. The questionnaires were designed by the Workers Housing Organization and the answers were registered in a data base which was delivered for the needs of the current research after the official approval of Hellenic Data Protection Authority.

In the questionnaire structure and in the data base design were detected insufficiencies that would not allow the statistical analysis to produce reliable statistical results. In order to overcome these insufficiencies the data base was redesigned, the “raw” data were pre-processed, and new variables were created.

According to the results of the analysis, the population of Olympic Village settlement is 8,662 inhabitants. The majority of them are young and economical active persons, since the 70.65% of the beneficiaries is belonging to the age group of 35-54 years old. The eldest, over 65+ years old, represent the small proportion of 5.38%, much lower than the average proportion of Greece which is 16.71% according to the census of 2001 of Hellenic Statistical Authority. The analysis of marital status and household synthesis show that most of the beneficiaries (89.62%) are married and in their majority, the households (74.82%) consist of two to four members. Also the proportion of households with four members and more is higher than that of the country.

The unemployment rate of the population of Olympic Village is 3.84% which is much lower than the unemployment rate of the country (10.3%). The inhabitants of Olympic Village settlement are either employed (82.32%) or pensioners (13.83%). In the majority of
the households (63.87%), both of the partners are employed. The main part of the households belongs to low and medium income levels except a small proportion (7.34%) which represents the higher income households (>30,000 € per year). The results of the analysis of the educational level of the beneficiaries show that a significant part of the beneficiaries (37.96%) has high or very high educational background and at least one degree from a University and a Technological Institute, while the main part of them (62.04%) has a low or basic educational level. Also the examination of the educational level of the beneficiaries in relation to the income level of the households shows that the beneficiaries with high or very high educational level have higher income, which ranges on annual average between 17,202 and 20,495 €.

The results of the current research determine the social identity of the post-Olympic Village after re-designing the data base and analyzing main characteristics of the inhabitants such as the synthesis of the households, the age, the labour status, the income and the educational level of the population. The next step of the research is to complete the picture of the beneficiaries by the further analysis of the optional questionnaire and the field survey in order to determine the satisfaction degree of the inhabitants needs and the integration degree into their new residence area which are essential factors for the successful post-Olympic use.

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