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Transformation in the Wider Industrial Coastal Region of Saint George, Western of Piraeus Port in Athens

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Abstract. The industrialization of Greece began in the cities -ports, and not in the countryside, based on the sea exploitation, since the main means of transportation was the ship, which strengthened the working class and imposed until 1922, the creation of industrial settlements areas near Athens and Piraeus. Moreover, in the late 19th century, the coastal area west of Piraeus, is one of the most important landmarks in the wider industrial zone of the port, where a large number of investors invade the area. The industrial character of the coastal zone of Saint George in Piraeus is significantly strengthened by the installation of Saint George's Power Plant in Keratsini, a colossal project for Greek data. Towards the end of the 20th century, in the 1980s, the factories that constituted the heavy industry in the areas west of the port of Piraeus gradually began to close due to the reactions of the residents to the pollution, which caused, but also to the general need of the wider Athens area, to get rid of polluting factories. The goal of this presentation is to examine in which way this coastal region, which in the past was a major industrial area, is currently inactive industrially and as a result, most industrial buildings have been demolished and have significant environmental degradation problems, will be upgraded with the guarantee of high quality environment and infrastructure, main functions, as well as a recreational ride to the sea front. In the frame of the redevelopment of the degraded area, many studies were carried out by various architectural offices, where the area was considered to be suitable for a maritime center, with the creation of offices, residences, entertainment and cultural centers, commercial shops, hotels, etc. The formerly industrial coastal zone in the west of Piraeus is abolished, changes character and mainly is urbanized. Consequently, the reconstruction of the "Drapetsona-Keratsini" harbour-industrial zone needs special consideration for its future development needs. In addition to upgrading the urban fabric with green areas, it will be combined with cultural, tourist and sports activities with the creation of hotels, conference centers and sports facilities, as well as the development of public transport, so as to gain immediate accessibility but not to be burdened with a nuisance of the house area.

1. Introduction

The first industrial zone of the Athens capital developed around the port of Piraeus, when in the 1910s, it had already been extended along the main road and the railway line leading to Athens. There were not a lot of factories located in the center of Athens, as the industry facilities wanted access to the Piraeus port, the railway stations and the major road arteries. Thus, industrial siting followed the well-known sectorial model, occupying the industrial axis from the western fringes of Athens to the port of Piraeus, where there was plenty of area for expansion, without being conflicts concerning other land uses. [1]

Even though the refugees in 1922, who played an important role in the further development of Athens and Piraeus, as well as in the Greek economy evolution, settled throughout the Athens basin, giving



emphasis on the western industrial districts in the wider region of Piraeus, such as: Kokkinia, Drapetsona, Korydallos, Keratsini, [2].

2. Industry development in the wider area of Saint George in Piraeus

As it is known, the country industrialization began in the cities -ports, and not in the countryside, based on the sea exploitation, since the main means of transport was the ship, which strengthened the working class and imposed until 1922 the industrial settlements areas creation near Athens and Piraeus, Lavrio, Elefsina and Drapetsona. [1]

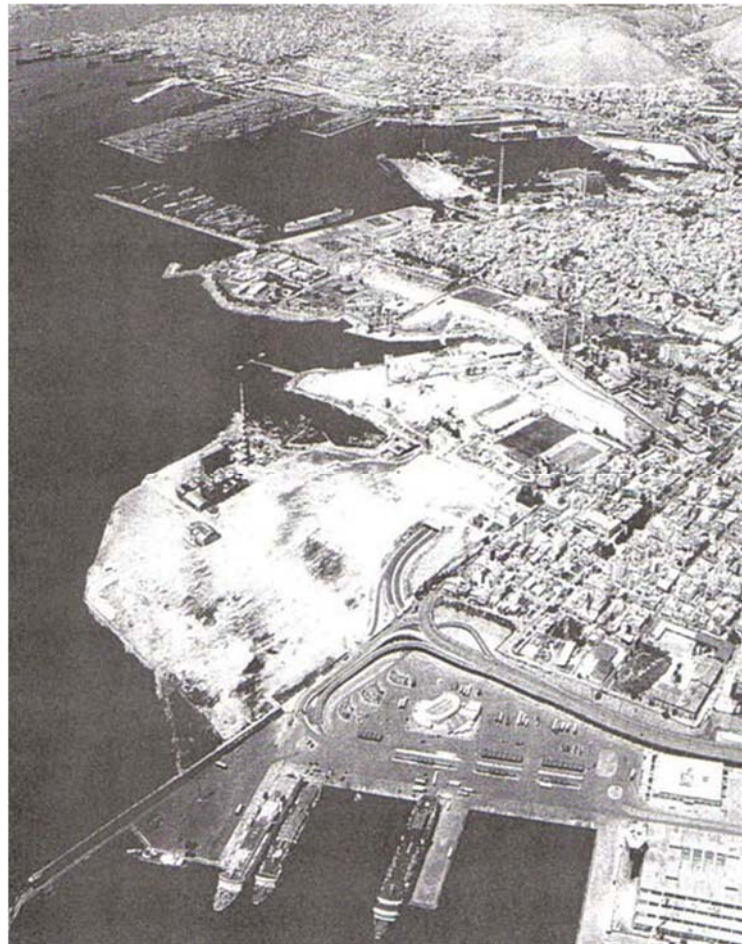


Figure 1. The coastal area west of Piraeus in the late 19th century

Moreover, in the late 19th century, the coastal area west of Piraeus (figure 1), is one of the most important landmarks in the wider industrial zone of the port, where a large number of investors invade the area. The siting of large industrial and port facilities on the coast began in 1898 with the Vasiliades Shipyard, which was the first major port facility and the permanent built tanks of the Port of Piraeus Organization (OLP), [2].

Subsequently, the installation of Fertilizers factory (1904) and HERCULES cements (1911) was the first core of the port- industrial zone's region in the context of the heavy industry tendency in Athens, the Greek capital, against the provincial towns emerging as early as the beginning of the 20th century. Oil and gas facilities, one plaster industry and other smaller units were followed, while the front seaside in the Drapetsona area was completed with the of the Grain Silos construction on the Ietionia's Pier in 1936, [2].

While, in the period between 1828-1923 the first urban city plans of the newly established Greek state were elaborated without general legal rules, in 1923, the first attempt of a strong state intervention in the urban planning through the legislative framework was done, issuing the following statutory instrument: "About state cities and settlements urban planning and their Building" (Official Government Gazette: FEK 228 / 16.8.1923), according to which "almost all Greek areas have been built" and had divided into three categories: urban planning areas with an approved urban plan having their own boundaries, settlements without urban planning, which were existing before 1923 and the so-called outside the boundaries areas of the above, [3].



Figure 2. The industrial coast area in the beginning of the 20th century

More specifically, in article 12 of the afore mentioned statutory instrument N.D.228 / 16-8-1923, for the establishment of industrial buildings, mentioned the following: "It may be necessary for certain parts, outside or within an city plan (industrial sections), erecting the necessary buildings for industrial installations and warehouses, which: a) they must be accompanied each time by the relevant hygiene and safety provisions, but cannot be located within or near inhabited areas; and (b) whenever it is considered necessary in certain places to concentrate industrial units for certain social purposes these will be defined in accordance with the relevant provisions of the city plan.[2]

A new impetus of industrial units' location in the harbor zone was also provided by the Piraeus-Perama tram line, where the installation of the Public Power Corporation (PPC) Power Plant, Saint George's Mills and the plaster industry between 1926 to 1928, (figure 2) as well as Porphyrias factory in 1930, determining the wider area character by the end of the 1990s.[2]

3. The Saint George's Power Plant role in Keratsini

The coastal zone of Saint George industrial character in Piraeus is significantly strengthened by the Saint George's Power Plant installation in Keratsini district, a colossal work on Greek data, as V. Tsokopoulos also mentions, in the description of the major technical works of Greece, [1].

The crisis of the period 1913-1925 and the disruption of the network and electricity production in the capital area, leading the Greek Electricity Company to build the second large Steam Power Plant in 1926, (figure 3) as the existing Steam Power Plant in Faliron area was insufficient for the increased needs for Athens basin area electrification. The bay of Saint George in Keratsini, was an uninhabited area, which could easily be expropriated, as well as accepting the new facility without existing residents

problems, was chosen as a suitable place for the installation of the new monumental thermal power station [1].

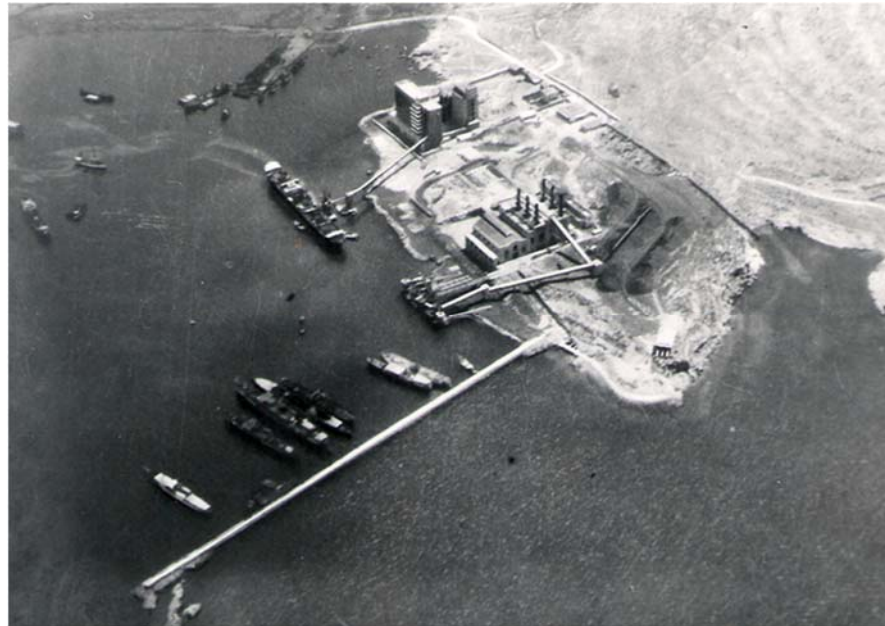


Figure 3. The Saint George's Power Plant in Keratsini (1927), Aerial photo

Probably the establishment of the Saint George's Power Plant (figure 4) in this area was the occasion for the immediate issuance of presidential decrees, accompanied by street plans, which were defining an industrial zone in the bay of Saint George, right next to the electric station building, [1]. Specifically:

From October 1926, a city plan was approved by a presidential decree (Official Government Gazette A372 / 22 October 1926) at the Keratsini bay, according to which it was designated areas a) for port traffic and b) buildable for warehouses and industrial facilities. The harbour, or the Keratsini port area, would serve the supply needs of the region with raw materials and commodities, as well as the supply of Saint George's Power Plant in Keratsini, with coal, as a fuel raw material. [1]

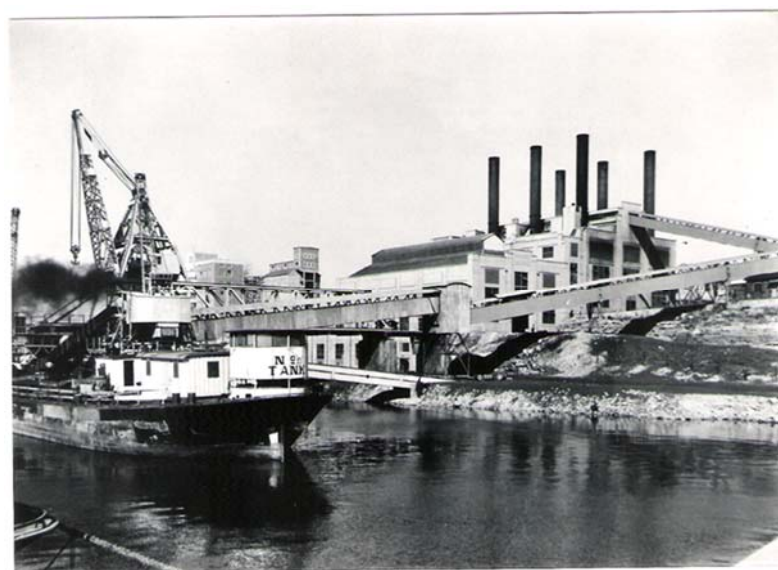


Figure 4. The Saint George's Power Plant in Keratsini (1927)

In March 1927, the urban plan was modified, and in April of that year it was published as an annex to the previous one, (Government Gazette 61/12 April 1927), which was defining a modification of the harbour area and surrounding building blocks. This project included the coastal area of the bay and stopped exactly at the Saint George's Power Plant site boundaries, as it was a reference point for the later industrial development of the coastal area. Thus, in 1928, the Saint George's Mills' factory was founded, also a great project for its time, on a bordering site of Saint George's Power Plant and was completed in 1929, [1].

In August 1935, the existing city plan was revised and expanded, with an extension of the industrial zone around the bay and the Steam Power Plant. In particular, building blocks with element B constituted the area, which was designated as an industrial zone, [1].

4. Residence and urbanization of the area

The fact is that the settlement of Saint George's area was made by the workforce of the surrounding industrial units, with the example of the "houses" that the Fertilizer factory built for the workers' inhabiting there with their families. In addition, the hard-working character of the neighbourhood was the one that strengthened the massive settlement of refugees in 1922, [3].

The first approved urban plans of this area dates back to the early 1930s and the today urban web, in its biggest part, was formed in 1950. In particular, in Official Government Gazette 393 / 5-9-1935, "About amendment and extension of Saint George's area (Keratsini) Piraeus", a city plan extension of Saint George's area in Keratsini, with the residential area boundaries, to the coastal front, to the delimited industrial zone, is approved. That is, the urban web is in direct proximity to the region heavy industry. The peculiar town planning identity of the city was strongly formed in 1935-1938, where the apartment buildings for the refugees in Drapetsona district, were built between the first shelters. At the same time, the port and the industrial facilities had created a dam, which closed the residential areas by their three sides, [4].

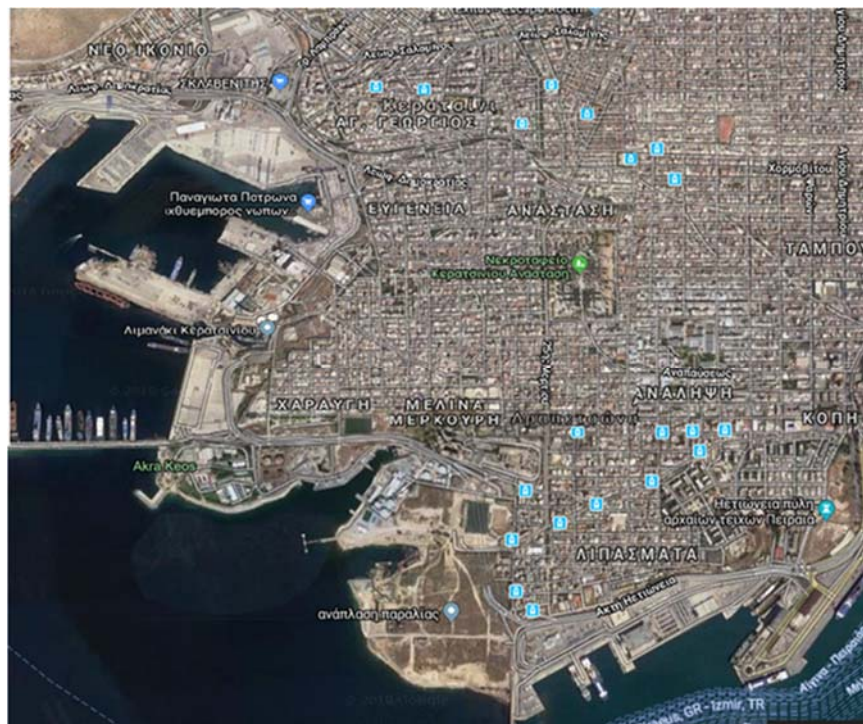


Figure 5. The "Drapetsona-Keratsini" harbour-industrial zone today

A great interference overturning the whole area character took place during the junta with the demolition of the first core of refugee settlements in Saint Dionisios in Drapetsona district and its replacement with multi-storey buildings of the Working class Residence Organization (OEK), while less in scope was the intervention in the 1980s for the second core of social housing in Tampakika area. [4]

It is no coincidence that this area in the west of Piraeus was characterized as an "organized residence" (figure 5), from the first "houses" to the refugee settlements and working houses from 1968 to the 1980s, but also the houses that are still being built are located in sites owing to the Working class Residence Organization (OEK), as has happened in a few cases in Greece [5].

5. De-industrialization of the area

Towards the end of the 20th century, in the 1980s, the factories that constituted the heavy industry located in the areas west of the port of Piraeus gradually began to close due to the resident's reactions for the pollution they caused, but also to the general need of the wider Athens getting rid of the polluting factories and the photochemical cloud, which they basically created in the atmosphere. In 1984, a presidential decree allowing no longer extensions of large and small industries in Attica nor modernization of their facilities. [4]

So, in 1982, AGET cement factory was relocated to Milaki district in Evia Island, nearby Athens and in 1986, the last cement factory in the capital area was stopped. Between 1990-91 the plaster industry was closed and its site was expropriated by the State (Ministry of Environment, Physical Planning and Public Works) for the Municipality of Drapetsona. In 1999, the Fertilizer factory was closed, having undergone gradual reductions in its activity, while the Tampakiko, a Tabaco factory, the Soap factory and other smaller industries had already been closed for a long time [4].

With the advent of the 21st century, all the industries in the area have been past, with the exception of MOBIL, which kept lubricant depots, in the coastal area in Drapetsona and Saint George's Mills, as well as the Public Power Corporation (PPC) plant, Saint George's Power Plant SA, which operated auxiliary with gas, in Keratsini area. Already, in the 1980s, Saint George's Power Plant SA had entered the "cold reserve" regime after the persistent protests of the residents of Keratsini. However, in 1996, the Municipal Authority of Keratsini signed a partial re-function of the power plant with the Public Power Corporation (PPC), dealing the prospect of compensatory benefits for the municipality. However, since 2012, which has been the last time operating for units No8 and No9 with natural gas, the power station remains decommissioned. [4]

6. Development of area

Since 1979, the debate about the redevelopment of the industrial zone due to the relocation of industries from Attica has started and the dynamic neighbourhood movement that prevailed at that time on environmental protection, resulting in the closure of the lime factory at Foron port, the Naphtha factory at Saint George's port and much later, in 1999, Fertilizers factory. It is then decided to redevelop the "out-of-town" industrial area. [6]

The fact is that there have been many proposals for the redevelopment of the industrial zone in the West of Piraeus and the wider region of Saint George bay. In 1997, the Athens Regulatory Plan Organization (ORSA), with the recommendation of its Executive Committee, took two important decisions. In the first decision of the 5th meeting of 9 May 1997, the urban plan of the Drapetsona-Keratsini area was modified in such a way that the Urban Development Center was institutionalized in the area of regeneration by the creation of appropriate infrastructure by the Municipality and the use of free private spaces by its owners. [5]

In the second decision of 1 October 1997, the area is designated as an Active Urban Development Zone (SPA) to facilitate regeneration. The definition of the former industrial area as a redevelopment site compatible with a shipping center - without this being the only option - has also initiated the development of the modification of the General Urban Planning, a condition necessary to make changes in land using and the conversion of industry in a space of green, culture and recreation [5].

In 1999, the year when all activities in the Fertilizer factory ceases, and along with it ends the industry in the whole region. In the same year and after the closure of the Fertilizer factory, the National Technical University of Athens (NTUA) proceeded with the creation of a study on the exploitation of the 250 acres of the industrial complex, which included places of education, research, recreation, tourism and culture. [6]



Figure 6. Thymios Papayiannis and Associates AEM study for Drapetsona area in 2003

In 2003, National Bank, as co-owner of Fertilizers area, was presented another study, which was carried out by the architectural firm “Thymios Papayiannis and Associates AEM”. (figure 6) This study, concerning its 256 acres private Fertilizer field, adjacent to its Main Port and was suitable for the erection of a shipping center, conducting a redevelopment study, meeting the requirements of the Port of Piraeus Organization (OLP), which wished to create offices, residences, entertainment and cultural centres, organized shipping center, shops, hotel, etc. [4, 5].

In 2006, the Municipality of Drapetsona made a town planning study to modify the existing General Urban Planning, which was prepared by Ourania Kloutsinioti and Sergios-Sahin Mesares and coincided in several points with that which was prepared by the National Bank. (figure.7) In 2007, the idea of creating a shipping center generally prevailed, of course, without examining the need to create such a center in the area, or if the conditions were met from the site [4, 5].



Figure 7. Drapetsona town planning by Ourania Kloutsinioti and Sergios-Sahin Mesares

7. Athens Regulatory plan 2014 and its amendment

In Official government Gazette: 4172/144, "Athens-Attica Regulatory Plan", paragraph 4 of Article 14, "Special Metropolitan Intervention Program for Attica", it is stated that the area of the port-industrial zone of Drapetsona-Keratsini is suitable for organized urban development. However, in Article 5 of Annex IV to the "Athens-Attica Regulatory Plan", (figure 8) except for the uses of culture, education, housing, tourism and recreation, also mentions large and small industry uses. [7]

In 2015, with the amendment of the same article of Annex IV of Law 4272/1974 "Plan of Athens-Attica", the possibility of installing in this area industrial, manufacturing and other uses that alter and burden the natural environment, as well as the special beauty of the seaside area. In particular, the coastal front of 640 acres. of the Municipality of Keratsini-Drapetsona, which had industrial use, is shaped according to the following directions: [7]

- a) Creation of a super-local pole for the upgrading of western Piraeus, with uses of culture, education, health, sport, green and recreation.
- b) Emphasis is put on strengthening uses of this character directly related to the operation of the urban fabric and the placement of complementary uses of recreation to the maritime front.
- c) Ensure significant unstructured spaces for shared and recreational uses in the direction of restoring continuity between adjacent hinterland and coastal forests by creating an extensive communal green park.
- d) The maximum building factor that can be determined from the urban planning is set at 0,15 of the total area.
- e) Protection and promotion of the industrial archaeology monuments with their re-use with activities compatible with the above-mentioned activities, which will be related to the history, culture and traditions of the region.
- f) Ensuring efficient access by means urban railway for the service of Piraeus, but also for connecting the area with the municipality of Keratsini – Drapetsona.



Figure 8. Athens-Attica Regulatory plan 2014, Law 4277/2014

7.1. Explanatory statement

The above amendment was based on the following explanatory statement:

The former Keratsini-Drapetsona port-industrial area, the wider coastal area around the old Fertilizer Factory, located between the passenger and commercial port of Piraeus, is a site of vital importance for Piraeus and, in particular, for the municipality Keratsini - Drapetsona. This area, which in the past was a major industrial area for the Piraeus region, is currently inactive industrially and as a result, most industrial buildings have been demolished and have significant environmental degradation problems. [4]

The current provisions significantly downgrade the environmental balance of the wider region of western Piraeus and at the same time from the municipality of Keratsini - Drapetsona. The land uses that have been identified for this area have further degraded with industrial, manufacturing, etc. uses, altering the natural environment, without aiming at improving the confirmed quality of life of the inhabitants [2-4].

This area is now provided as a strategic intervention area for the qualitative upgrading of western Piraeus as well as for the municipality of Keratsini - Drapetsona, with the guarantee of high quality environment and infrastructure, main functions, as well as a recreational ride to the sea front. In particular, recreational uses are proposed, as well as urban green areas, enriched with utilities, which will serve mainly the needs of the municipality and the needs of western Piraeus [4].

8. Conclusion

The formerly industrial coastal zone in the west of Piraeus is abolished, changes character and is mainly urbanized. In view of the development of the port of Piraeus, the entire coastal front, from the passenger port to the perimeter ship repairing area of Perama, is interwoven with the activities of the wider region.

Consequently, the reconstruction of the "Drapetsona-Keratsini" harbour-industrial zone needs special consideration for its future development needs, in order to be combined with other cultural, tourist and sporting activities with the creation of hotels, conference centers and sports facilities, as well

as the development of transport and in particular of urban railway means, so as to obtain immediate accessibility, but without causing a nuisance in the residential area.

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