

# INTEGRATED TERRITORIAL INVESTMENTS AS A TOOL FOR SUSTAINABLE URBAN DEVELOPMENT. THE CASE OF PIRAEUS MUNICIPALITY

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## Abstract

Urban regions are the driving forces of Europe's economic development, they are centres of creativity and innovation and also, they are the factor of the achievement of "Europe 2020" strategy. During 2014 – 2020 programming period, urban dimension was at the centre of Cohesion Policy. New European Union's (E.U.) policy seeks to cultivate complete urban policies that enhance Sustainable Urban Development (S.U.D.) in order to enhance cities' ability of adjustment and ensure investments.

According to Partnership Agreement (P.A.) 2014 – 2020, S.U.D. is a new tool for territorial development which aims to provide a way out of the social, economic and environmental problems of the degraded urban regions and an alternative answer to the consequences of crisis. S.U.D. may be implemented either through Integrated Territorial Investments (I.T.I.) or through local development after initiative of local communities.

I.T.I.s are the tool for planning and implementation of complete territorial strategies and they may be financed from European Social Fund (E.S.F.), European Regional Development Fund (E.R.D.F.) and Cohesion Fund. The competent bodies that take over the preparation and implementation of I.T.I. are the managing authorities, urban authorities, intermediate bodies, and the Strategic Planning and Evaluation Special Service.

This Study analyses the current situation of Piraeus municipality and I.T.I.s' strategy for S.U.D. that will be implemented in the municipality. Piraeus municipality is the greatest industrial centre in Greece and it has the largest port in Europe. However local authorities so far have not managed to highlight and exploit the comparative advantages available to the municipality. I.T.I.s aim to enhance entrepreneurship and social cohesion, improve financial situation and protect the already burdened environment.

The statistical survey was based on the construction of a questionnaire addressed to 116 employees of the municipality of Piraeus. The correlation between the S.U.D. of Piraeus municipality and the socio-demographic factors was investigated through multi-factorial linear regression models, checking for possible confusing factors.

**Keywords:** sustainable development, investments, Greece

## 1. INTRODUCTION

Development is a procedure which aims at the raise of Gross National Product (G.N.P.). This procedure accelerates other individual goals such as improvement of residence, health, education, employment, living, protection of environment and other. (Delitheou & Georgakopoulou 2017).

Urban development is a policy which aims mostly at the best quality of life for citizens who live in urban centres through the creation of better urban transportation, improvement of cultural heritage of cities and the support of development and employment in the environment of civil centres. (European Commission 2018a).

Lately, at international level there is an intense research regarding the quality of life at urban centres. Significant population movements, the international phenomenon of concentration of specific population groups at specific urban areas, creating thus small cities into the city, were the factors that lead to the development of a new research field, which is urban development. (Deng et al. 2018).

At this point it should be reminded that as sustainable development is defined the development which satisfies the needs of the present without reducing the ability of future generations to meet their own needs. (Delitheou 2008). Actually, development is undoubtedly essential for meeting human needs and improving the quality of human life. For that reason, development should be based on the effective, efficient and responsible use of all the insufficient resources of society, either natural or human, or financial (Goniadis, Lampridi 2015: 20).

In order to this necessity become reality, public and local administration play decisive role. Also decisive is the role that citizens themselves and society play. Modern literature emphasizes to the role of social citizens groups and it examines how tools such as new technologies could be exploited by citizens for that reason. (Angelidou, Psaltoglou 2017).

Achieving sustainable urban development (SUD) remains one of the most important goals for many countries. Numerous nations have made attempts to attain sustainable development (SD) by fixing one or more of the problems facing urban development, which has resulted in various approaches to SUD. (Hassan, Lee 2015).

Sustainable development may be implemented to several levels and sectors. The sector that will be examined in this article is the urban environment. The implementation of sustainable development in urban environment is called S.U.D. In a S.U.D. framework, economy, ecology and social justice should be taken into account. These sectors are particularly developed in urban regions (Vlachos 2010: 51).

There is a major effort in order to sustainable development become countable as much as possible. The Commission's European Sustainable Cities Report recognizes the need for sustainability indicators as tools for quantifying sustainability performance. If sustainability is a coherent policy goal, it must be possible to measure whether we are moving towards it. The World Bank defines indicators as performance measures that aggregate information into a usable form, highlighting, however, the unresolved issues of fluctuation, intertemporal variations and uncertainty (Mega, Pedersen 2012).

On the other hand, the creation of specific tools to measure the effectiveness of several social groups to achieve the goals of urban sustainability is a scientific challenge. Urban sustainable assessment tools are at the centre of a scientific discussion although so far there is not a wide and in depth evaluation of these tools. (Nieto, et al. 2018).

## 2. THE URBAN DIMENSION OF COHESION POLICY 2014 – 2020

Cities are considered as resource and outlet of today's economic, social and environmental challenges. In urban regions live more than the two thirds of the population of European Union and they represent approximately the 80% of the energy consume and they produce the 70 – 85% of Europe's G.D.P.. These urban regions are the engines of European economy and they act as catalysts of creativity and innovation everywhere in European Union. But there are also regions that face major problems such as unemployment, isolation, poverty e.t.c. (European Commission 2018a). Planning urban development and applying policies which fall into line with the principals of sustainability, constitutes the main goal of the modern cities. (Kountouris, Generalis, Mylonakis 2005).

Cities are on the focus of policy action in the EU from the '80s. The relevance of the urban issue within the EU has evolved through a complex process that has led to the definition of the urban dimension of the EU policy. The development of this process has given place to the construction of a concept of "sustainable urban development" encoded in the policy tools launched through the years by the European Commission and other relevant stakeholders (Hurtado 2017).

The launch and implementation of the URBAN (1994–1999) and URBAN II Community Initiatives (2000–2007) introduced an innovative way of addressing urban challenges in many Member States, resulting in a relevant advancement in the field of urban regeneration. With the end of the URBAN Community Initiative for the programming period 2007–2013, the urban dimension of EU policy was mainstreamed in the Operational Programmes of the Member States, giving them the chance to implement integrated urban regeneration initiatives in their cities by putting into practice the "URBAN method" (Hurtado 2017).

During the new programme period E.U.'s policy aims at the highlighting of cities' role as centres of economic activities, innovation, employment and cohesion. These goals are accelerated through a series of suggestions, actions and tools, such as I.T.I.s. This tool is used to solve problems that occur in the cities and urban functional areas. The support for these areas within Cohesion Policy is transferred from national level into integrated actions resulting from development strategy of urban areas or other territorial strategies. Therefore, I.T.I.s is an instrument promoting integrated use of funds and has potential to achieve better total results with the same amounts of public investments. In addition, I.T.I.s has always been provided with diverse funds, financing the integrated actions is more certain, which enables to effectively solve problems of particular cities or regions (Wyrwa, Barska et al 2017: 572).

The role of cities as development engines and creativity and innovation centres and also as factor for the achievement of the goals of strategy "Europe 2020" is noticed in the 5th report for the economic, social and territorial cohesion. The same report notes the problems of urban regions. They are related either with environment downgrading or with social exclusion, and they impose a particular confrontation and direct participation of the governmental level with cities' authorities having the most important role in planning and implementing of urban development strategies. (Preza 2012: 4). Additionally it emphasizes in the need of continuous enhancement of the urban dimension of cohesion policy, while there must be a clear determination of competences of local urban authorities, applied urban interventions and provided economic resources in the programming documents. (Ntzaferis 2016: 42).

Cohesion policy<sup>2</sup> 2014 – 2020 aims at the cultivation of complete urban policies which enhance S.U.D. in order to enhance cities' adaptability and ensure collaborations in investments supported by European structural investment funds. European Fund of Regional Development supports S.U.D. through complete strategies which deal with economic, environmental, climate, social and demographic challenges of urban regions. Also, E.U. member states should utilize European social fund for the support of measures related with employment, education, social integration and institutional adequacy, planned and implemented in the framework of completed strategies. (European Commission 2014: 2).

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<sup>1</sup> Strategy "Europe 2020 is E.U.'s agenda for development and employment. This strategy emphasizes in clever, sustainable and without exclusions development as a mean of dealing with the structural weaknesses of European economy, improvement of its competitiveness and productivity and enhancement of a sustainable social market economy. (European Commission. (2018b)-

<sup>2</sup> Cohesion policy is an E.U. Policy which was defined according to the most recent E.U. Treaty, Lisbon Treaty. Lisbon Treaty is a commitment – agreement of European governments, in order to focus their efforts to one and only goal. This goal is E.U. becomes more competitive and more dynamic economy in the world, an economy which will be characterized from development, social cohesion, respect to the environment and employment. This Treaty sets the priorities and the suggested strategies for economy and the structural reforms according to the needs and the particular problems each member state has (Delitheou & Maraki, 2011: 34).

### 3. SUSTAINABLE URBAN DEVELOPMENT IN THE FRAMEWORK OF P.A. 2014 – 2020

P.A. 2014 – 2020 is the basic strategic plan for Greece's development with the contribution of important resources coming from European Structural Investment Funds (E.S.I.F.) (ESPA 2014b) P.A. 2014 - 2020 includes two new important elements which are strategies of research and innovation for smart specialization and the new approach for complete territorial development. New complete approach for territorial development concerns three types of intervention, which are "Local Development with Initiative of Local Communities", (L.D.I.L.C.), "Sustainable Urban Development" (S.U.D.) and "Integrated Territorial Investments" (I.T.I.) These complete interventions aim to confront interregional inequities (Papadaskalopoulos & Christofakis, 2016: 308).

S.U.D. is a tool for the implementation of development strategies of specific urban regions (Special Administration Unit of Eastern Macedonia and Thrace Region, 2016:2). Implementation of S.U.D. tool aims at the confrontation of social, economic and environmental problems in degraded urban regions, and the confrontation of the consequences of crisis (Charalambidou 2014: 28).

Main challenges for S.U.D. are located in complete and targeted developmental intervention in urban centres with aim restoration of their economic web, reverse of social and environmental downgrading of urban regions, direct confrontation of crisis social consequences with revitalization of small and medium enterprises, promotion of the connection between innovation and entrepreneurship in urban environment with spearhead the strategy of smart specialization, reverse of urban diffusion through the promotion of the "compact city" principle<sup>3</sup> and finally the recovery of public space and the development of structures of social economy and housing with the active participation of citizens. (Georgakopoulou 2018).

S.U.D. strategies match with the thematic objectives of P.A. 2014 – 2020 and in priority order the following are set: Improvement of competitiveness of small and medium enterprises, farming sector, fisheries sector and aquaculture (THO3), promotion of social integration and fight against poverty (THO9), promotion of employment and support of job mobility (THO8), promotion of sustainable transportation and removal of problems in basic network infrastructure (THO7), protection of environment and promotion of resources efficiency (THO6) and improvement of access, use and quality

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<sup>3</sup> Compact cities may take several forms. However, their main characteristics are their dense building, their connection with several mass transportation means and their residents' access to local services and their work. The aim of policies of compact cities is to confront the integrated goals of urban policy, or urban sustainability (financial sustainability, environmental quality, social equity). Compact city may play an important role in the achievement of these goals, since it affects the exploitation of space in cities (Detsi, 2016:15).

of information and communication technologies (THO2). S.U.D. may expand as appropriate in a larger number of thematic and investment goals. (Ministry of Development and Competitiveness 2014).

S.U.D. will give priority to strategies which promote an integrated medium term planning of the city and the wider region according to the principle of compact city and they promote its complete integration in a single planning of mixed land use and movement, activation of residential potential for productive activities and energy save, reduction of atmospheric pollution and noise, targeted combat of climate change consequences and social functions and services. (ESPA 2014a).

The categories of areas that S.U.D. may be implemented are the following: Areas that Regulatory Plan is applied or areas that have been defined as areas of urban reconstruction intervention in regional frameworks of spatial planning and sustainable development, in general urban planning, or in plans for integrated urban intervention, areas defined on the basis of the boundaries of the municipal unity or the limits of the general urban plan or regulatory plan and the number of their population is over 10.000 residents, regions that face intensive financial, environmental and demographic challenges, challenges of climate change and functional organization of the city, as well as regions that include zones of de-industrialization that suffer most of economic crisis with the consequent phenomena of urban poverty and high percentages of unemployment and social exclusion or areas of land use change and illegal building (Western Greece Region, Special Administration Unit of Operational Programme 2016: 5).

In these areas, the approach of S.U.D. will be implemented through the tool of I.T.I.. For smaller scale areas, such as degraded central areas, zones of changed land use and urban diffusion, zones of unregulated urban construction, poverty pocks and concentration of groups that are exposed in high danger of discriminations and exclusion, zones with particularly sharp problems of emissions of carbon dioxide and need to adjust in climate change etc., S.U.D. may also be applied in the framework of Local Development with the Initiative of Local Communities. L.D.I.L.C. (Georgakopoulou 2018).

#### **4. INTEGRATED TERRITORIAL INVESTMENTS FOR SUSTAINABLE URBAN DEVELOPMENT**

According to P.A. 2014 – 2020, I.T.I.s are the tool for the implementation of development strategies in particular territorial unities. These areas either present specific problems, which must be dealt with a total way or they have important development potential which is possible to be exploited and enlarged based on a complete development plan. (North Aegean Region, Special Administration Unit 2016: 3).

Implementation of I.T.I.s is seeks the confrontation of some challenges which are promotion of competitiveness, innovation and entrepreneurship with final goal achievement of employment, social

cohesion, preserve of resources, productive reorganization in areas which present wide dismantling of local and regional production systems, balancing of interregional inequities and the monocentricity of the Greek economic and social space as well as the combat against unorganized urban diffusion and traditional inequities related with special geographic characteristics and disadvantages (Regional Council of Western Greece 2016: 5).

I.T.I.s may be financed by European Social Fund, European Regional Development Fund and Cohesion Fund, through combined investments from different thematic objectives of one or more Operational Programmes (O.P.) (Regional and Sectoral) (Georgakopoulou, 2018). Also, I.T.I.s may be funded by European Agricultural Fund for Rural Development (E.A.F.R.D.) and European Maritime and Fisheries Fund (E.M.F.F.) whenever it is considered necessary. Provisions of institutional framework of European Structural and Investment Funds (ESIF) are followed for planning and implementation of I.T.I.s.

Competent bodies for I.T.I.s are National Coordination Authority, more specifically Special Service for Strategy, Planning and Evaluation, which is the competent authority for issuing of directions and co-ordination of Integrated Territorial Development Network, Managing Authorities of programmes which are the competent authorities for management, monitoring and control of I.T.I.s strategies implementation, Urban Authorities are municipal authorities or networks of municipalities or partnerships with a leading municipal authority, and Intermediate Bodies may designate central bodies, regional or subregional authorities, civil authorities or local development bodies. (Ministry of Economy, Development and Tourism 2015: 17).

For instruction and implementation of I.T.I.s strategy responsible is Local Government of 1st grade. It is the first time that Municipalities have the responsibility to create such complete programmes. Each Municipality (Urban Authority) draws up the program base, the content, the Action Plan and the budget of I.T.I.s strategy. Within the framework of planning procedure it is basic and necessary the consultation procedure. Consultation is a continuous and interactive procedure of participation of local institutions, bodies and social groups with aim the creation of the best and complete suggestion of I.T.I.s which will correspond to the real needs or potentials of the Municipality. In the consultation procedure must participate as many as possible citizens in order for the best results to be achieved. Municipalities have available several tools of consultation (thematic conferences, questionnaires, meetings with bodies and residents etc). The procedure of planning is completed with the presentation of the final suggestion. Finally, the Special Administration Unit of Operational Programme of the Region calls its Municipalities to give their final proposals in order to be evaluated. Evaluation and in the end choice of I.T.I. is being

completed through several criteria, drafted by Managing Authority. The final choice is made either by competitive procedure or by direct assignment. (Georgakopoulou 2018).

### 5. INTEGRATED TERRITORIAL INVESTMENT IN MUNICIPALITY OF PIRAEUS (MAP 1)

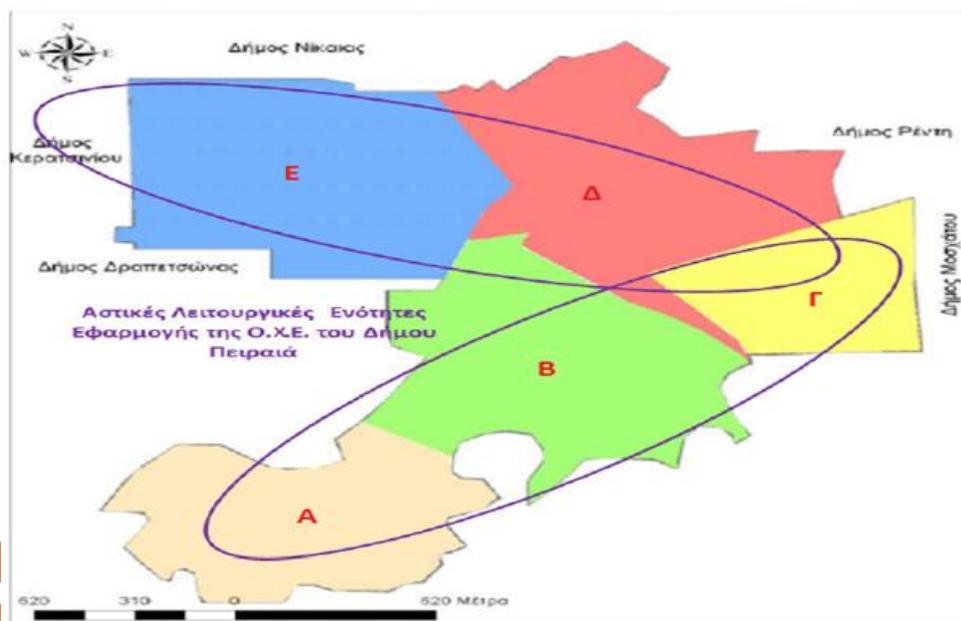
MAP 1 - MUNICIPALITY OF PIRAEUS



Municipality of Piraeus is 12 Km southwest from the centre of Athens and it ends to the northeastern coast of the Saronic Gulf. Population of Municipality of Piraeus was 163,688 residents according to 2011 census, while its total area is 10,685 Km<sup>2</sup>. According to 2011 data, financial active population of Municipality of Piraeus was 73,551 persons while employed were 59,122. From those 59,122, 297 work in the primary sector, 9,215 in the secondary sector, and the remaining 49,610 are employed in the tertiary sector. For the same year, the unemployed in the Municipality of Piraeus reached 14,429 people. Municipality of Piraeus is the largest industrial centre of Greece, while it has the largest port in Europe. Development of local economy is mainly due to Piraeus port, which is the basic connection ring of the continental part of Greece with Aegean islands and Crete but also it is the basic sea gate of European Union (Piraeus port authority 2018) . Its activities may be separated to the commercial port (container, car and bulk cargo), passenger port (with coastal and cruise services), ship servicing (water, electricity, waste management, docking, shipbuilding repairs, etc.) and development and exploitation of land (warehouses, canteens, agencies, etc.) (Municipality of Piraeus 2015a: 43). In 2015, 2,878 cargo ships and 14,562 passenger ships arrived at the port of Piraeus. Municipality of Piraeus has the major

concentration of economic activities, since over than 17.000 enterprises activate in several sectors. On the other hand decline of traditional industries has as results the abandonment of many buildings, the degradation of the environment and the removal of residents from the neighborhoods. Often, in those degraded areas it is observed the creation of concentration poles of economic immigrants. In areas where tertiary sector is developed new territorial and social problems are observed, lack of free space, infrastructure and green places as well as weakening of social networks (Municipality of Piraeus 2015b:3). Municipality of Piraeus seeks to solve these problems through I.T.I. and S.U.D.. Moreover I.T.I.s of Municipality of Piraeus aim at highlighting the development and competitive potential of the city of Piraeus. Municipality of Piraeus was split in two areas of intervention according to the needs of the areas and the implementation criteria of I.T.I.s . The first urban Functional Unity is defined by the Piraike Peninsula, city's centre and it extends towards Kastella and Evaggelistris until Mirtidiotissa and Neo Faliro. The second urban Functional Unity is formed from Neo Faliro towards Kaminia, old Kokinia and Tabouria. Faliro area is divided from the first urban Functional Unity with axis the ISAP railway line. (Municipality of Piraeus 2016, : 38, Map 2: Urban Unities). The first Urban Unity is characterized by the traffic and environmental burden of the port, high population and urban density, unorganized parking, limited urban greenery and lack of free space. The main interventions that will be applied in this specific area concern urban development and revitalization, while secondary interventions aim at the enhancement of social cohesion. The problems that 2nd Urban Unity faces are the intense pressures from the passenger and commercial port and shipbuilding activities, high population and urban density, traffic congestion, lack of free space, abandoned industrial areas and public property. In this second area will be applied interventions mostly to ensure social cohesion and they will be combined with interventions of urban development. (Papailiopoulos 2017: 73).

MAP 2 - URBAN UNITIES



During planning of I.T.I.s strategy, municipality of Piraeus took in mind all plans and actions (Athens – Attica Regulatory Plan, Integrated Urban Intervention Plan, (SOAP) of Piraeus etc), that have already started for Piraeus city. By this way, municipality of Piraeus managed to create a multilevel strategy, which vision is to promote Piraeus as business, tourist, cultural, shipping, and shopping destination of international recognizability with energy, environmental and social added value for residents, employees and visitors (Municipality of Piraeus 2016: 7). Through I.T.I.s is sought the promotion of Piraeus as:

- “Green city”, through the exploitation of energy technologies in public infrastructure and services and its contribution to energy upgrade of buildings in combination with interventions of sustainable urban mobility.
- “Blue city” oriented to sea activities and blue economy.

“Smart city” with the development and adaptation of new technologies, which improve services to citizens, visitors, enterprises, etc, attract young people and create new enterprises. Recent research has highlighted the need to explore the relation of smart and sustainable cities more systematically, focusing on practical applications that could enable a deeper understanding of the included domains, typologies and design concepts. (Angelidou et al 2018). “Sustainable city” under the interaction of environmental, traffic and social interventions and services (Georgakopoulou 2018). The procedure of planning S.U.D. through I.T.I.s started in 2014. An important role to the creation of I.T.I.s suggestion played the procedure of consultation. Municipality of Piraeus made an internal and public consultation. Public Consultation was addressed to local bodies and unions, business community and citizens, in order to form the best and most effective strategy, which will correspond to real needs or capabilities of municipality of Piraeus. Municipality’s executives and services participated in the internal consultation in order to include their own opinion in the formation of the strategy. Consultation was implemented in September of 2016 with the presentation of the final proposal of Municipality of Piraeus (Municipality of Piraeus 2016: 7). Then, Special Administration Unit of Attica invited Municipalities of Attica Region to submit their proposals for I.T.I.s – S.U.D., in order to be evaluated. Municipality of Piraeus’ strategy took the highest rating from the Management Authority of Regional Operational Programme. Its total financing reaches the 80,065,000 euros for the next five years. These 80,065,000 euros will be allocated to interventions which concern urban upgrade (25 million euros), enhancement of social cohesion (27 million euros), enhancement of entrepreneurship (28 million euros). I.T.I.s of municipality of Piraeus are being completed with actions financed by Attica Region by national resources, approximately 32 million euros. These actions concern mainly repairs (Agios Dionisios and

Microlimano), transport and road projects, school buildings and sports facilities (Georgakopoulou 2018).

## 6. QUANTITATIVE RESEARCH

In the sample of this study for I.T.I.s as tool for S.U.D, in the case of Municipality of Piraeus, took part 117 persons and we ended at a sample of 116 participants, in order to have full data for the basic questions of questionnaire for S.U.D. and not incomplete.<sup>4</sup> Social demographic characteristics of the analysis samples are presented below. Therefore, in our sample female sex prevails with 58.6% among ages 41-55 years old (61.2%), with high educational level (55.2%) and mainly they work at the municipality (63.8%). Additionally, their position at work is not related with I.T.I.s at a high percentage (70.7%) while a satisfactory percentage knows the sense of S.U.D. (60.3%) (Table 1).

TABLE 1 - DEMOGRAPHIC CHARACTERISTICS OF THE SAMPLE

Sociodemographic characteristics	N (%)
<b>Sex</b>	
Male	48 (41.4)
Female	68 (58.6)
<b>Age group (years)</b>	
26-40	24 (20.7)
41-55	71 (61.2)
≥55	21 (18.1)
<b>Educational status</b>	
Secondary	52 (44.8)
Higher	64 (55.2)
<b>Working position in the municipality</b>	
Chief	38 (36.2)
Employee	67 (63.8)
<b>Your job is related to Sustainable Urban Development (SUD)</b>	
No	82 (70.7)
Yes	34 (29.3)
<b>You know the substance and content of Sustainable Urban Development (SUD)</b>	
No	46 (39.7)
Yes	70 (60.3)

<sup>4</sup> Given that fewer than 400 employees work in the Municipality of Piraeus, it would be very difficult to have a large-of quantitative criteria-, sample. On the other hand, however, it should be noted that this sample, although small in number, has a high degree of reliability as the participants have addressed the research with particular interest and answered the relevant questionnaires responsibly and carefully.

## 7. RESULT ANALYSIS

Below they are presented the statistics describing the scores of S.U.D. scale for the two areas. S.U.D. scores for the 1st area presents higher average value in relation with the second area but smaller standard deviation ( $29.1 \pm 3.8$ ). Additionally it is presented the control of normality Kolmogorov-Smirnov, which shows that S.U.D. score for the 1st region does not seem to follow the regular allocation, so below we will use methods of nonparametric statistics. Something that does not apply for S.U.D. score of the 2nd region, which follows the data regularity (Table 2).

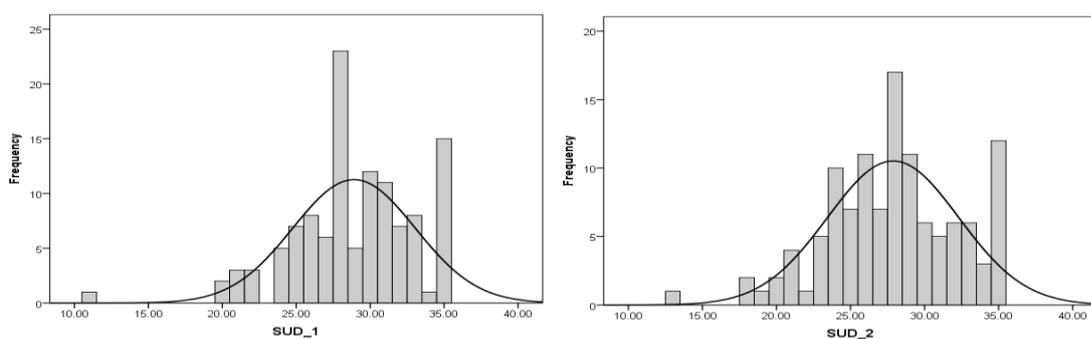
TABLE 2 - DESCRIPTIVE STATISTICS FOR THE SCORES OF SUSTAINABLE URBAN DEVELOPMENT

	SUD_1 (N=116)	SUD_2 (N=116)
Mean	29.1	28
Median	29	28
Std. Deviation	3.8	4.2
Range (min-max)	15 (20-35)	17 (18-35)
Kolmogorov-Smirnov normality test (p-value)	0.005*	0.072

\* p-values based on  $<0.05$

Confirmation of the score on the scale of the S.U.D. in both areas is shown in the following histograms, and whether they follow the normal distribution according to the curve (Plot 1).

PLOT 1: HISTOGRAMS OF SUDS' SCORES



The relationships of S.U.D. scores of both areas with the sociodemographic characteristics for potential confusion factors, showed that age is not the most important factor. In both scores it is obvious that women have higher average S.U.D. score both in area 1 ( $29.5 \pm 3.9$ ) and area 2 ( $28.7 \pm 4.1$ ), in relation with men. For the other factors there is no particular relation to the scales (Table 3).

TABLE 3 - THE RELATIONSHIP BETWEEN DEMOGRAPHIC CHARACTERISTICS AND THE SCORES OF SUD

Sociodemographic characteristics	SUD_1		SUD_2	
	Mean±SD	p-value	Mean±SD	p-value
Sex		0.089*		0.036*
Male	28.3±3.6		27.0±4.2	
Female	29.5±3.9		28.7±4.1	
Age group (years)		0.883		0.451
26-40	28.9±4.0		27.2±4.5	
41-55	29.0±3.6		28.0±4.2	
≥55	29.5±4.5		28.8±4.0	
Educational status		0.880		0.256
Secondary	29.2±3.8		28.5±4.3	
Higher	28.9±3.8		27.6±4.1	
Working position in the municipality		0.318		0.549
Chief	29.6±3.7		28.3±4.0	
Employee	28.8±3.8		27.8±4.3	
Your job is related to Sustainable Urban Development (SUD)		0.828		0.807
No	29.1±4.0		28.1±4.3	
Yes	28.9±3.4		27.8±4.1	
You know the substance and content of Sustainable Urban Development (SUD)		0.304		0.730
No	28.6±4.2		27.8±4.6	
Yes	29.4±3.5		28.1±4.0	

Comparison between groups was performed using t-test or Mann-Whitney test and ANOVA or Krustal-Wallis test. \* p-values based on <0.1

A very powerful test for departures from normality is the D' Agostino test, which based on the D statistic, which gives an upper and lower critical value. Our data give us  $D=0.2605$  and  $p> 0.05$ , so SUD\_2 shows us that it reaches the normal distribution.

In order to check which of the factors affects and how much does it affect we created prognostic models of multiple regression with dependent variable S.U.D. scores for both areas and as independent variables possible confusion factors (sex) and the rest variables from sociodemographic characteristics. Thus it is again obvious that sex affects statistically at an important grade both scores which means that for women S.U.D score raises at 1.7 (0.2, 3.3 95%CI) units for the 1st area, while 2.6 units (0.9, 4.3 95%CI) for the second area, in relation with men. Additionally for the scale of S.U.D. in 1st area it seems that for those who work in the municipality the scale reduces at 1.6 units (-3.3, 0.9 95%CI) approximately in relation with directors while raise at 1.5 units (-0.1, 3.1 95%CI) is observed for those who know the content and the sense of S.U.D. Regarding the relation of S.U.D. scale for the 2nd area we observe that for those who belong at the highest educational level the scale reduces at 1.3 units (-3.0, 0.3 95%CI) approximately in relation with persons of lower educational level, and for those who

work in the municipality the scale reduces at 1.6 units (-3.4, 0.3 95%CI) approximately in relation with Directors (Table 4).

TABLE 4 - ASSOCIATION BETWEEN SUDS' SCORES AND SOCIO DEMOGRAPHICS CHARACTERISTICS

	SUD_1		SUD_2	
	$\beta$ -coef. (95%CI)	p-value	$\beta$ -coef. (95%CI)	p-value
Sex				
Male	Reference category		Reference category	
Female	1.75 (0.2, 3.3)	0.028*	2.62 (0.9, 4.3)	0.003*
Age group (years)				
26-40	Reference category		Reference category	
41-55	-0.65 (-2.9, 1.2)	0.501	0.32 (-1.8, 2.4)	0.759
≥55	-0.46 (-2.9, 2.0)	0.717	1.40 (-1.3, 4.1)	0.311
Educational status				
Secondary	Reference category		Reference category	
Higher	-1.16 (-2.7, 0.3)	0.132	-1.36 (-3.0, 0.3)	0.100**
Working position in the municipality				
Chief	Reference category		Reference category	
Employee	-1.61 (-3.3, 0.1)	0.061**	-1.56 (-3.4, 0.3)	0.097**
Your job is related to Sustainable Urban Development (SUD)				
No	Reference category		Reference category	
Yes	-0.60 (-2.3, 1.1)	0.480	-0.50 (-2.3, 1.3)	0.594
You know the substance and content of Sustainable Urban Development (SUD)				
No	Reference category		Reference category	
Yes	1.51 (-0.1, 3.1)	0.072**	0.69 (-1.1, 2.5)	0.453

\*p-value<0.05

\*\*p-value<0.1

## 8. CONCLUSIONS

Summarizing the findings of the research we notice the following:

- Higher average of score in S.U.D. scale in the 1st area in relation with the 2nd
- Relation between S.U.D. scale of two areas with sex and mainly with the 2nd area
- Higher score of S.U.D. scales for women
- Important factors to foresee S.U.D. in 1st area are firstly sex and then whether work is related with S.U.D. and whether its content is known

- In the 2nd area sex is an important factor for S.U.D. scale as well as educational level and work position in the Municipality
- All those who just work in the municipality present low score in S.U.D. scale for the 1st and 2nd area
- All those who re familiar with the content of S.U.D. present high score in S.U.D. for the 1st area
- All those who have high educational level present low score in S>u>D. for the 2nd area

Municipalities are responsible for programming and implementation of I.T.I.s. It is the first time that municipalities have the responsibility of the creation of such integrated and structured programmes. Through the implementation of I.T.I.s, municipalities aim at the promotion of competitiveness, innovation and entrepreneurship, assurance of social cohesion, preserve of resources, reorganization of production, balancing of interregional inequities and the one – centred character of Greek economic and social place, combating of unorganized urban diffusion, confrontation of demographic challenges and improvement of natural and structured urban environment.

In order to achieve these goals municipalities should complete every action that has been programmed for the period 2014 – 2020. However, during the implementation of the projects several problems may occur which will delay or even stop the completion of the projects. Such crucial problems are bureaucracy, lack of specialized personnel, inappropriate management of financial resources, reactions of citizens and local companies, as well as bad co-operation between local authorities and other local bodies.

A way out of these problems is given by the State, Region of Attica and the municipality itself:

The State should simplify the tender and financial procedure as well as the procedures of control and approve by other competent authorities (Archaeological Service, Urban Planning etc), in order to reduce bureaucracy. Additionally the state should provide Municipalities with the ability to hire new and trained personnel with contracts of project leasing which will have as result the raise of employment in Local Self Government.

At international level it is noticed a reluctance on behalf of citizens to recognize the importance of urban sustainable development and adopt actions which lead to it. Although creating an attractive cityscape has become one of the most promising actions to improve urban functionality and increase urban competitiveness, the resistances from the local inhabitants are always against the urban development.

(Kuo, Perng, 2016) Thus it is important to develop an information strategy that should start from those who are competent for implementation of I.T.I.s..

Regions should organize, in co-operation with their Municipalities several obligatory seminars – congresses in order to inform and train personnel who will participate in the creation and implementation of I.T.I.s.. They should also set up a supervisory and transparency mechanism that will monitor whether the competent authorities make the most of European and public funding.

Each municipality in order to be able to manage and confront reactions of citizens and local companies should provide them with the best information regarding the projects that are going to be implemented in the municipality in the next time period and how they improve the quality of life. This information could be done through consultation. Finally it should be cultivated the best networking and co-operation between local authorities, regional authorities, local companies and citizens in order to achieve better results.

With the successful implementation of the I.T.I.s not only sustainable urban development is fostered, but also Local Government develops. The I.T.I.s tool contributes to strengthening the development and social role of municipalities, improving their capacity to act, making more effective use of and managing their financial resources, better networking and cooperation between local authorities and regional authorities, local businesses and citizens, and the development of a climate of trust between citizens and local authorities. Unsuccessful implementation of I.T.I.s will have unpleasant consequences for our country, Local Authorities and citizens.

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