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Urban Environmental Planning in Greek Cities - The response of medium sized Greek cities, the case of Volos

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45th Congress of the European Regional Science Association
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Land Use and Water management in a Sustainable Network Society

**Urban Environmental Planning in Greek Cities. The response of
medium sized Greek cities, the case of Volos**

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Abstract

The city is a vital sum of functions, of human actions, of resources and of a built and physical environment. The sustainability of cities is relatively a new area of interest, especially for the Greek cities. Only in the last decade was sustainability introduced to the Greek planning process. Unfortunately, the Greek cities do not follow the Local Agenda 21, an instrument which is trying to promote sustainable issues for the built environment. The city of Volos in Greece seems to be more sensitive to the environmental and sustainable development issues than other Greek cities due to its proximity to vital natural resources and to a unique position between sea and mountain. Further more, Volos is one of the few medium sized cities in Greece that is trying to promote the Local Agenda 21 and numerous Life and EMAS smaller focused projects. Even if the city of Volos is not the leader city in the cases of sustainability, nevertheless the city has undertaken lots of initiatives, projects and programmes to promote the sustainability issues. Therefore, it is worthwhile to study the way in which the city faces the sustainability and could act as a useful example for the sustainable urban planning in Greece.

Key Words

Sustainability, Urban Planning, Environmental Planning, Urban Environment

The ‘Development’

During the last century ‘development’ has led the world to industrialisation, technological revolution, greater trust in science, increased speed of production and consumption and an acceleration of information. The progress, that the development has borne, is supposed to improve the quality of our lives, lead to economic development and add to scientific knowledge. Throughout this process, nature has been an overused ‘resource’, a necessity of this development.

To achieve development and more specifically political and economic goals (since these two were thought to be the two basic elements for development) social and cultural traditions were pushed to the background, losing sight of natural systems and human scale. Therefore ‘Quality of life’ was confused with the ‘Standard of living’, when the latter is measured in terms of consumption per capita and jobs. Conversely, for millions of people quality of life is simply equivalent to having clean piped water, adequate food and safe shelter (Webster K.G. 1998, pp. 184).

Today’s modernisation has caused the existence of ‘rational economic man’. This kind of human being has used nature as a resource regardless of whether it was renewable or not, nature was just a matter of utility. Irresponsible exploitation of natural resources and extended use of them has led on the one hand to a risk that future generations might not have enough resources, especially those that are related to energy and on the other hand the extended use of some resources has brought many health and environmental hazards (i.e. Global Warming).

The Cities of the 20th Century

“Urban systems with million of inhabitants are unique to the current age and they are the most complex products of collective human creativity. They are both organism and mechanism in that they utilise biological reproduction, as well as mechanical production processes” (Girardet H. 1998, pp. 194). Parts of humanity live in and work in cities and the rest depend increasingly on the cities for their economic survival (Girardet H. 1998, pp. 193).

Not all the cities on Earth appear to have the same functions and characteristics, ‘speed’ and levels of consumption and production, have the same tendencies and specialisation. The cities of developed countries differ from those of the developing, while cities from either the developed or developing countries differ

with each other. This difference might be caused by the geography and the topology of the city, by the circuits of capital, by the cultural personality and the tradition of the city and from the financial life of it. Especially, European cities consist more or less of a unit of common or similar characteristics and they have recently made an effort to intervene under a common vision and policy that has emanated from the European Union.

Nowadays around 80 per cent of the European population live in urban environments. The urban population is significantly increasing, since more and more people are trying to work in the cities, the land economy is weakening and the flows of migration are still prominent. Undoubtedly, the role of the cities as the driving force behind the economy and the amenities of regional, national and international development is forcing them to be competitive, while at the same time they are trying to remedy the 'troubles' that were left to them from the past (European Commission 1990).

The modern European cities have to face the economic reorientation of amenities, tourism, culture, industry (Mega 1997), poverty, social exclusion, unemployment, criminality, narcotics and of course pollution of the natural environment (European Commission 1990, Modinos M. 2000).

The year 1970 marked an end of an era regarding the trend of massive waves of migration towards the cities. At the same time, there were also policies that prevented migration abroad. The crisis of massive production and over consumption, as well as the lessening amount of urban infrastructure caused as a consequence, the gradual abandon of the traditionally rational catholic urban planning, continual expansion of the urban area and finally an effort for development and renewal of the modern city (Gospodini A. 2000, Chastaoglou B. 2000).

The increasing amount of suburban urbanisation in huge areas without any real infrastructure or external connections has caused in many cities inappropriate areas to become urbanised zones. Additionally, the lack of land to cover the developmental needs in the city centres, has led to the creation of new residential areas in the cities' periphery, where the price of land is lower (Stefanou I., Tsouderos I., Mitoula R. 1999). That is why many European cities suffer from sustainability

problems, which are caused by the change of the relations between physical, structural and functional elements of the cities.

The human population that live in cities consume a lot of resources and this has led cities facing environmental problems. This happens because cities produce pollutants to excess and are tremendous hazards to environmental well being. Therefore, cities are both subjects of protection and sources of environmental pollution. On the one hand they suffer from unsustainable development and on the other hand the cities themselves are negative elements, with serious consequences to the global environment (Mperiatos E. 2000, pp. 73). Air and noise pollution, mismanaged urban waste, and polluted soil and water (European Commission 1990) are some problems characterising urban areas, which are becoming bigger or lesser, according to the urban density.

Of course the environmental problems that cities face nowadays are not just a characteristic of our current era. Ancient Rome suffered from noise pollution and the highly populated medieval cities suffered from water and soil pollution, while the roads of Paris had unbelievable traffic congestion (European Union 1990). Even though, we cannot not say that all the environmental problems that cities face today are completely new, other pollutants such as heavy industries and automobiles have been added to environmental problems in the cities.

The introduction of 'sustainability' into the developmental process

The developmental process, as aforementioned, led our world to an unsustainable position. Environmental problems caused by over consumption of resources, include air, soil and water pollution are detrimental to the health of all living beings. There is a huge uncertainty regarding the capability of Earth to process the amount of wastes that are produced on a daily basis. This has mobilised people to act and aim to minimise these environmental problems. Additionally, local traditions have disappeared into oblivion along with their characteristics and features. The institutions that have raised previous generations have become distant, the tendency towards globalisation, the way power relations have been formed today and the absence of citizens participation in planning have showed that the need for sustainability is immediate.

World leaders met in 1992 at the United Nations Conference on Environment and Development in the Rio Earth Summit. There was a common agenda, in that environmental damage caused by economic development was endangering the well-being and possibly the survival of present and future generations. Major global environmental problems, such as disruption of the climate, had finally produced a commitment to address their causes. Therefore, Agenda 21, the product of Rio Conference, was based on the commonly accepted definition of sustainable development, called the 'Brundtland Report':

'to provide for the needs of the present generation without compromising the abilities of future generations to meet their needs'

Sustainability according to Ravetz is the "watch-wood" for the new millennium and a guiding theme for all human activities. Even though sustainability is a new issue that arose in the last decades there is no certain path to follow in order to achieve it. Also there are no rules or criteria to satisfy, since there is not much experience on this. However there are some basic elements that sustainable development should consist of (Ravetz J. 1999, pp. 3).

The environment, which first arose as an issue of major political and academic interest in the early 70's, has been approached by sustainability in the way in which people use nature. This is such that it would make it a viable option for future generations (Atkinson A. 1999). It has been understood that the environmental damage that was caused mainly by the economic development of these so called developed countries, endangers the well being of both present and the future generations. Major global problems are addressed by sustainable development by respecting nature and the resources that we get from it (Ravetz J. 1999, pp. 6). Sustainability introduces a rational way of managing natural resources and the pressures exerted by our wastes at all levels – locally, regionally, nationally and internationally (Allen A. 1999, pp. 221).

Another issue of great importance for sustainability is that of the diversity. Human population can be defined as a collective of people living together and sharing a number of biological and social characteristics. It is widely accepted that people as individuals differ and people as groups and societies differ (Anderson M.B. 1996). These differences, which can be focused on gender, ethnicity, age, religion, income,

cultural identity and sexuality, consist the social diversity (Boyce A.J., Reynolds V. 1995). Although social diversity may be a relatively new edition to the lexicon of development and sustainable development (Anderson M.B. 1996), it was definitely a very strong motive behind wars (like ethnic cleansing), colonisation, slavery, social injustice, unequal distribution of wealth, racism, disregard of human rights, maltreatment for special social groups (like women, children, elders and disabled) throughout history. Diversity does not necessarily mean breaking things down into smaller sub-sets, or attaching more labels to people, but rather, seeing how the integration of various aspects of our social and economic identities come to shape our lives. It could be detrimental to put all our trust in one set of people and use this as a barometer against which to measure the well being of society as a whole.

Sustainability also means trying to promote social justice. Social justice implies a principle or set of principles to regulate social and economic inequalities (Marshall 1998). Basically, every individual should benefit from the process of joint labour action. But a just distribution includes not only benefits for members of society but also the duties that need to be fulfilled. However, it is very important to incorporate the less advantaged and therefore insure that the needs of everyone are met (Harvey 1988). These needs cannot only be satisfied through material goods but are strongly connected with social relations, which imply that everyone has the right to be treated equally in similar circumstances (Hook 1976). In a just system people can choose their social, political and cultural life and participate in decision-making processes, if they wish to. Sustainability is strongly based on social justice.

Finally participation, which is a basic element of social justice, is another issue of sustainable development. People have the right and should participate in all the procedures that are going to affect their way of life and their standard of living. Participation allows people to express their views and helps to promote negotiations and enhance capacity building on a specific group of people, on a community, on a neighbourhood, on a city and on a country. It also helps to increase the level of democracy in a society (Allen A. 1999, pp. 221-222). Local Agenda 21 is an instrument, which, among other goals, is trying to promote participation and empower the communities.

Does sustainability really exist?

During the last two decades sustainability became a very popular term for planners, politicians, policy-makers, consultants, experts, businesses, local authorities, NGOs and the general public. It has been recognised that the way in which the development has been attempted has led to unsustainability problems. Therefore, 'sustainable development' as it was introduced in the Rio Earth Summit in 1992 came as a 'healthy' solution to the way in which sustainability has been understood and applied but it turned out not to be the one that will create a more viable and better future.

People who have access to power, are financially powerful and have access to resources are those who govern the world today. It is only these people who can arrange the required level of environmental protection. Practice has showed that sustainability is basically only what the rich and powerful can get away with (Seabrook J. 2002).

Unfortunately, the globalisation that is now being promoted under the cover of sustainability is probably going to extend the existing problems. One of the key phrases that are used for that purpose is for the poor to become less poor. But, this could only happen if the rich could become richer. Maybe in absolute terms the income of the poor might rise but compared to the income of the rich we would probably conclude that the gap still remains without any perspectives to bridge it. (Seabrook J. 2002).

This is responsible for carrying inequality and the unequal distribution of power, resources and capital. Social justice, a main element of sustainable development, cannot be achieved through the way that sustainability has been handled until now. As aforementioned, sustainability is formed and is introduced only by persons in a position of power. Unfortunately, it is too difficult for those people who hold the power to refuse their own benefits so that the resources could be redistributed. And even if the planners might want to implement the sustainable paradigm, the circuits of capital and the people who benefit from it would be very reluctant to 'loose' their wealth. Nevertheless, this means that resources and wealth is too difficult to become redistributed and the social justice no matter how ideal might be it is too difficult to be achieved.

Associated with the social justice problem is that nature could not be protected as much as it should. Too many financial benefits such as businesses and trade are based on nature (e.g. natural resources). Of course this means that even if the environmentalists try to convince us to sustain nature it is almost unbelievable that the money driven world would ever let this happen because this would mean fiscal losses (Seabrook J. 2002).

There is still much effort to be made in order to implement sustainability and sustainable plans. Cities, regions and the countries could not become sustainable unless the public sector cooperates with it. The public sector could apply schemes for environmental protection, take measures for the pollutants, redistribute resources, mobilise people and implement social justice, but only if the public sector becomes independent from the 'never-asleep' eye of the capital.

Nevertheless today, the public sector with few exemptions is trying to serve the capital and all other priorities will come after. This is widely evident in Greek cities, where authorities have for far too many years supported economic growth and turned a blind eye to sustainable development.

Sustainable issues of Greek Cities

Environmental protection and sustainability, two matters of great importance, are not given the proper attention in Greece as in many other countries. There appears to be a lack of legislation, tradition, education and sensitivity on environmental issues. Greece has been fighting for many years to become developed and to achieve economic growth, sacrificing sustainability, degrading the environment of the country, leaving its cities to remain unsustainable and facing a plethora of environmental problems.

Sustainability is a situation that involves many factors including the environment – both built and physical, culture, tradition, economics and governance models. If one of these factors is not functioning correctly and is unbalanced from the other factors, sustainability becomes unstable. During the last four decades, when many developing countries were raising the issue of sustainability and voiced its importance, Greece seemed to be unsustainable. In fact, in the Greek vocabulary there is no word for sustainability. There are two words that try to approach the meaning of sustainability and these are *aeiforiki* (always carrying) and *viosimi* (viable), but the

Greek public is not really familiar with these words. After all sustainability has only recently become part of the scientific and political jargon in Greece (Fousekis P. and Lekakis J. 1998, pp. 214-216).

During the last century planners and policy makers in Greece have neglected to raise any sustainable development issues. Consequently, until relatively recently Greece has never produced any national plans for sustainable development (Fousekis P. and Lekakis J. 1998, pp214-216). Only in the year 2000 has the issue of sustainable development been introduced and defined by legislation.

Unsustainability is not just a problem of the country as a whole but of almost every single area in the Greek regions. Entire cities and parts of cities are unsustainable and suffer from a lack of sustainable development. Since the first and foremost priority of local developmental processes and that of the country's was economic growth, very important factors such as environmental protection were forgotten in the Greek cities, towns and villages.

Also, there has been a lack of participation from residents when local authorities were taking decisions about certain areas of cities and cities as a whole. For too many years participatory mechanisms were completely forgotten in urban and regional planning. The voice of local people was completely forgotten either because the authorities had too much control, or because they wanted to satisfy their own claims that participation of residents might create problems. This has contributed to the degradation of the urban environment.

Common Features of Greek Cities

The last 10-15 years has seen significant changes in the field of the urban development on a global level. There has appeared to be a tendency to minimise the role of state and to raise the role of individuals and businesses and re-orientate urban planning towards strategic planning and flexibility (Oikonomou D., Petrakos G. 1999, pp. 413). Nevertheless Greece lacks the strategic planning that could create new chances and realities for Greek cities and the ability to avoid the risks that these new realities and chances might imply (Oikonomou D., Petrakos G. 1999, pp. 41).

What could be generalised as a policy for urban development, still remains in an embryonic state in Greece. No matter what influences that the country accepts from the global community, including the pressure for a more competitive urban net, there is no sufficient and efficient planning theory and method that could apply to the

Greek cities' development. This could be easily understood by looking at the lack of important or remarkable efforts for the creation of strategic development plans in the cities, similar to those evolved in the European area (Oikonomou D., Petrakos G. 1999, pp. 423). Even though there appear to be at this time many plans, there is a lack of any strategy because they are unspecific, do not incorporate effective methods or tools and seem rather more accidental than the fruits of scientific and methodical thought.

Until 1979 there was no systematic urban planning process to produce a healthy and sustainable built environment in Greece. The only instrument that could formulate urban planning and policy was a law that had been introduced in 1923. Although, this law defined the limits between the public and the private 'space', introducing at the same time general values about urban issues, the law never dealt with issues such as the distribution of resources and power and the control of land use (Georgoulis D. 1996, pp. 238).

After 1981 a new law for urban planning and practice came into fruition, but was rather complicated by the existing one (N. 1337/83). The new law introduced new urban ideas. The most significant innovation was the fact that **participation** was introduced into the planning process. Citizens, NGOs, individuals, businesses, local and central authorities were allowed to participate and negotiate with each other and after building a consensus, planning could apply to the reality of the situation (Georgoulis D. 1996, pp.243-245).

No matter how interesting and innovative that law seemed to be, its strengths remained only on paper and when it came into practice and it was not applied, as it should. The local and central government did not promote the participation of people and whenever it was promoted it was applied in a way that could only include the people who had the most power, control and resources. The consequence of this was that planning became a tool for the satisfaction of certain individuals.

The consequences of the aforementioned can be placed into three main points/characteristics of Greek cities:

1. Inflexible Planning: It is widely accepted, both by experts and by the general public that urban planning in Greece is inflexible, time consuming and ineffective. The lack of ways, tools and methods for planning implementation are still fundamental flaws of the Greek planning processes.
2. Small Land Properties

3. Illegal Building

Local Agenda 21 in Greece

Even before the Rio conference and the introduction of Local Agenda 21 into the local planning and decision making process there were some efforts to introduce official bodies that were trying to work in a similar way to the present Local Agenda 21. Unfortunately, they tended to be quite ineffective.

Nevertheless, the situation did not dramatically improve with the appearance of Local Agenda 21 in the Greek local areas. According to a statement from ICLEI, until November 1996, one thousand eight hundred and twelve Local Agenda 21 programmes were put into practice within the sixty-four country members of the United Nations. Out of these, one thousand one hundred and nineteen or sixty two percent of them were put into practice within fifteen countries that were members of the European Union. In Greece the promotion of the Local Agenda 21 programmes was completely left to the initiatives of local authorities. Unfortunately, the local authorities did not seem to bother to deal with Local Agenda 21 (Mperiatos E. 1999, pp. 86).

Throughout the years of the implementation of Local Agenda 21 around Europe and the rest of the world, only one municipality in Greece took the initiative of implementing the goals and issues of the Local Agenda 21. This was the municipality of Lavrio. However, their initiative was not recorded as a Local Agenda 21 but as another program that had similar aims (www.minenv.gr).

Nowadays, there exist two complete or almost complete programmes of Local Agenda 21 in Greece. Both of them exist within neighbouring geographical areas. They are in the municipality of Xalandri and the municipality of Marousi. Both these municipalities belong to the metropolitan area of Athens and Local Agenda 21 was implemented in cooperation with the ICLEI. These efforts were made within the framework of the European programme LIFE that was also the main financial source of the plan (www.minenv.gr).

At the beginning of the new millennium there seemed to be more municipalities adapting to Local Agenda 21 in their planning processes. The results of these are up to now not known as there were no plans issued. Nevertheless, during the past five years Greece seems to be more mobilised and sensitive to the sustainable

development issues and its municipalities seem ready and willing to undertake responsibilities.

It seems that Local Agenda 21 is not too popular or widespread in Greece as it is in other European countries. Of course this is due to a number of factors that prevented Local Agenda 21 becoming a significant tool for planning, intervening or transforming a local area.

Firstly, until very recently local authorities were not powerful. For many years the only body that was creating and implementing plans, not only for the whole province but for local areas as well, was the central government. Unfortunately the central government was not familiar with the local circumstances and these plans either could not be put into practice or were not too efficient. After all, the first and foremost priority of the Greek central governments was economic growth and this led to the un-sustainability of local areas (Mperiatos E. 1999, pp. 76-77).

Only in the year 1999 did the government decide to decentralise its power to local authorities and let them undertake initiatives to improve local areas. Therefore local authorities now consist of completely new bodies that lack the experience and the know-how to implement sustainable plans for the improvement of their areas.

Additionally, information was not supplied to the local governments about what Local Agenda 21 actually is and what its aims were. Only a few members of the local authorities and a few 'experts' had that precious knowledge and consequently they did not have the power, experience or mechanisms to implement Local Agenda 21 (Mperiatos E. 1999, pp. 87).

Finally, the central government and especially the ministry of Environment, Physical Planning and Public Works, which is the responsible body for the Local Agenda 21 and Agenda 21 in Greece, did not seem to support the local authorities in their effort to achieve sustainable development for their province.

Volos - Profile

Volos, the capital of the prefecture of Magnesia, is situated at the centre of the Greek mainland, approximately equidistant from the country's two main urban centres, Athens and Salonica. Built at the innermost point of the Pagasetic Gulf and at the foot of mountain Pelion, it has the only outlet towards the sea from Thessaly, the country's largest agricultural region.

The greater Volos conurbation has a population of 120,000 and includes the Municipality of Volos with 85,000 inhabitants; there is also the municipality of Nea Ionia as well as smaller suburban communities (www.volos.gr).

Volos lies at the place of the ancient city Iolkos, from which according to Greek mythology Jason and the Argonauts started their expedition for the Golden Fleece. Today, Agro the trireme of Jason is the emblem of the city of Volos (www.volos-m.gr).

It was established as a modern city in the 1840's and grew rapidly after the incorporation of Thessaly into the Greek State in 1881. The development of the new city was based on its port and the railway links to the rest of Thessaly and Pelion. A combination of the knowledge and the skills of craftsmen of mountain Pelion, the labour force of Thessaly and the investment from the major centres of the Greek Diaspora enabled the city to develop into an important manufacturing and trading centre that acquired an advanced urban character and was distinct from Greece at that time (www.volos-m.gr).

Today, Volos is an important industrial centre, the third of the country after Athens and Salonica, with large industries in food and beverages, textiles and clothing, cement, basic metallurgy and metallic products. The industrial estate established in 1973 attracted new industries to the area. However, the present worldwide crisis in the manufacturing sector has seriously affected the city's traditional industries with the closure of a series of large companies and rising unemployment phenomena (Petraikos G. et. al. 1998, pp. 65-66).

The port of Volos has been one the most dynamic of the country and met with great success as an international transport centre between 1977 and 1984 with a ferry line for lorries to Syria and the Middle East. There were plans for further development of the line with rail-ferries, but finally had to cease due to Iran-Iraq war. Recent investments in infrastructure and port facilities are expected to boost its position as a major port of central Greece (www.port-volos.gr).

Tourism is an important sector of growth for the area. The nearby mountain of Pelion with the extended coast-line and the Northern Sporades islands (Skiathos, Skopelos, Alonisos), with their traditional settlements and exquisitely beautiful natural environment, are the preferred destination of a large number of tourists, estimated at around one million per year (www.vacation.net.gr).

Trade and services are also important sectors in the economic life of the city, with a growing share of the local economy, especially after the decline of the manufacturing sector. The newly established University of Thessaly, based on Volos, is already contributing to the development of the city. The same applies to research institutes like MIRTEC that deals with industrial research and technological development in the field of metallurgy and DEKAMM an international research centre for commercial transport in the Eastern Mediterranean (students.cied.upatras.gr). Finally, the city of Volos became an Olympic City, as it hosted the Olympic football games in the 2004 Athens Olympic Games.

Volos - Local Authority Initiatives

Although the local authority has not adopted Local Agenda 21 (which is the case in the vast majority of the Greek cities as explained before) it does seem to be more mobilised in environmental and sustainable development issues than other Greek local authorities.

In recent years the local authorities of Volos have undertaken quite a few initiatives to improve the environment of the city, both in the built and the natural environment. Even though these initiatives are relatively new, they seem to be changing the image of the city and deal with the environmental problems that the city faces. These initiatives are mostly funded by the European Union.

Firstly the municipality of Volos is trying to reduce and control the pollution of the natural environment and more specifically to introduce new ways of implementing environmental controls with the rational use of energy, waste management, adopting new environmentally friendly technologies and providing incentives for innovation in the private and public sector. The municipality of Volos is funded for such purposes with the European Union through its participation in EMAS, which is a project for urban environmental management (EMAS 1995).

Additionally, Volos like most cities in the world suffers from the problems that the urban traffic brings. Traffic congestion and environmental problems caused by the cars and the fumes they create are prevalent in the city. This is why the local authority is trying to promote a more environmentally friendly way of moving in the city and are trying to persuade people to adopt public transport and use bicycles for their everyday travel in the city centre (Frantzeskakis et. al. 1997). The first plans for using bicycles in the city centre, providing infrastructure for this purpose started in

1991 but the first complete plan appeared in 1999 (Papavasileiou G., Bitsis K., 1999). Vlastos (2001) claims with certainty that Volos is the city with the greatest number of plans in operation for using the bicycle anywhere in the Greek urban system. The environmentally friendly way of moving in the city was eventually supported by the European Union by creating:

- ✓ *A Car Free Cities Network*. For one day in every year cars are not allowed to drive in the city centre. People can walk and take the bicycle or the bus. At the same day different events such as concerts and different kind of exhibitions take place in the city centre. The purpose of this is to make people understand how their city would be without cars (Municipality of Volos 2000).
- ✓ *Access*. Volos together with another 19 European cities has undertaken a programme called Access, which aims to encourage cities' sustainable development. With this programme the Volos' authorities are trying to improve the air quality of the city by raising awareness in the local community by using posters all over the city, radio and TV shows about the pollution that cars bring and lectures in the city hall (Urban Forums 1996).

Recently the city has welcomed to the use of natural gas for businesses and in the near future for households. The local authority are trying to promote the use of natural gas and in cooperation with the European Union through the programme Natural Gas Integrated Resource Planning it has already made the users of natural gas familiar with rational ways of consuming it and has issued prices for using it both for businesses and households (SAVE 2001).

Volos because of its geographical position and climate does not have enough water resources. Given the fact that the population of the city is continuously growing and that the residents consume more than nature can sustain there appeared to be an immediate need to change the water policy in the city. Therefore, the local government currently tries to inform people both through the media and by lectures at the local schools how they can they use their water sustainably. This programme of local government is also funded by the European Union through the Streams programme (Urban Forum 1997).

Finally, the local authority is generally trying to improve the image of the city through urban planning interventions. The most significant and complete efforts have been done under the funding of the URBAN project. The creation of public open spaces or the improvement of the existing ones, formation of pedestrian zones,

improvement of urban infrastructure and refurbishment of the old abandoned factories that exist within the city to use them for recreational purposes. These are just some of the schemes currently undertaken in the municipality (URBAN Community Initiative 1999).

EMAS in Volos

EMAS is a programme in which every single municipality that undertakes it is responsible for the environmental management systems that are applied within the municipality and within the municipal based businesses. The municipality of Volos participates in this programme, through the municipal bodies of *cleaning the city*, *planting the city* and *waste treatment*, aiming to the sustainable development and the environmental protection, which is a vital part of a balanced economic and social development (EMAS 1995).

With the EMAS, the municipality is trying to contribute to the reduction and control of the pollution of the natural environment of the city and more specifically, to control the environmental impacts, that are caused from the activities of the municipal bodies. The city of Volos, therefore, is trying to introduce new methods on the effective environmental management, on the rational use of energy and natural resources, on the waste management, on adapting new technologies for the environmental management and finally on providing incentives for entrepreneurs.

The city of Volos has also welcomed the local business sector in their effort to adapt strategies taking into account the environmental issues and to develop the right technologies in order to control their pollution. Therefore, the city awards the local businesses that achieve environmental friendly efforts (EMAS 1995).

The effects that EMAS had on its appliance on the Municipality of Volos, as well as on other medium sized Greek cities (Larissa and Patras), could be gathered in the following:

- Rational use of the natural resources.
- Reduction of the cost of the activities that are related to the environment.
- Risk management, and reduction of risks that are caused by accidents.
- Public protection.
- Minimisation of polluting emissions.

- Orientation of the public activities on specific environmental goals, aiming to the continuous improvement of their functions.

Generally, it could be claimed the EMAS achieved to introduce to and inform the relevant participating municipal bodies about the methods of the environmental management. Additionally, the fact that the local business sector is participating in the programme, entitles them with the right to ask for some serious financial support from the E.U. and this has turned the programme out to be more attracting and effective. Therefore, they can easier seek for financial sources in order to utilize their plans that promote the sustainable development of the city.

Volos: A pilot city?

Volos is a city that manages many programmes that have to do with sustainability and environmental protection within the city. In comparison to the other three cities (Larissa, Trikala, and Karditsa) that belong together with Volos to the region of Thessaly, Volos seems to undertake more programmes and takes better advantage of the chances for funding that the EU offers. Thus, quite often, actors of other cities visit Volos in order to gain knowledge and information and to get directed for Volos' useful experience.

The city, through its incentives, is able both to financially flourish and to introduce a new "way" for the other medium sized Greek cities on their attempt to undertake all possible challenges for sustainable development. The city offers to the rest medium sized cities in Greece the ability to "learn" through the city's processes in undertaking, directing and implementing the European programmes, to come in touch with other European agents and finally to exchange experiences and become familiar with the know-how of them.

Nevertheless, the city does not seem to escape the common unsustainable conditions of many Greek cities. Nevertheless, it seems that in the case of Volos local authorities were more mobilised and interested for the common good in comparison to other Greek cities. Although Local Agenda 21 is still not implemented in this city, there have been many breakthroughs and actions to achieve this. Volos is exceptional compared to other medium sized Greek cities as there appears to be a great interest in sustaining the city.

Although it could not be claimed that Volos is the “sustainable city”, it shows all the good perspectives and abilities that it should become one. Of course there is still a lot of effort and work to be done. Eventually, Volos may act as an example and as a pilot city in terms of sustainability and environmental planning for the other medium sized Greek cities.

Conclusions

Sustainability according to Ravetz is the “watch-wood” for the new millennium and a guiding theme for all human activities (Ravetz J. 1999, pp. 3). For too many years the degenerative forces of development have governed the world no matter how it degrades the environment. All fields of experts are now talking about sustainable development but sustainability has turned out to mean what the market and not what the Earth can tolerate (Seabrook J. 2002). Sustainability means more than monetary values can measure. Sustainability is talking about rational use of resources, about social justice, equality, participation and redistribution of resources.

Greece seems to have practiced a kind of development that went far beyond sustainability with the capital governing alongside and the rich and powerful to impose unsustainable development in the whole country. During the last century planners and policy makers in Greece have rarely raised any issues about sustainable development. This has led to the fact that up until recently Greece has never produced any national plans on sustainable development (Fousekis P. and Lekakis J. 1998, pp214-216).

Greek cities need increased effort in order to reach a sustainable level. First of all the local authorities should be more active, more efficient and undertake more responsibilities and initiatives. The local government needs to create environmentally friendly plans, hire experts and should not be dependent on the capital and those who have access to power and resources. Also, local authorities should see the European Union as a supportive and additional fund for promoting sustainability. They should not use the European Union as the sole fund for achieving sustainability as is the case today. Additionally, it is extremely important that local people can participate in strategic interventions that are involved in the planning process. Unfortunately, people in the vast majority of Greek cities do not participate either because they are not asked to or because they are not interested and do not want to offer their time for a common

goal. The local government should ask for their participation and for their opinion. This is something that has rarely happened up until now. People, on the other hand, should become more sensitive and motivated regarding environmental and sustainable development issues as opposed to the indifference that exists today. The latter could be achieved through both education and different types of campaigns that the local authorities, together with the central government and experts, should undertake.

It is also the State's responsibility to reinforce sustainability and to introduce urban environmental planning. Even though local authorities are the bodies that are closer to local conditions and circumstances they are not so powerful and lack the experience, the methods and the tools to implement sustainability. The role of central government should be to create a common framework and path for local authorities to follow in order to achieve sustainability. Also the central government should be willing to distribute its power among local government as well as to try to redistribute its resources in order to satisfy the criteria of social justice and equality. Eventually, it is down to central government as the responsible organisation to legislate about environmental protection and planning, to reinforce plans, to implement them and finally to monitor them.

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