

THE GROWTH POLES STRATEGY IN REGIONAL PLANNING: THE RECENT EXPERIENCE OF GREECE

Manolis CHRISTOFAKIS

*Department of Economic and Regional Development, Panteion University, Athens,
mchri@panteion.gr*

Athanasios PAPADASKALOPOULOS

Department of Economic and Regional Development, Panteion University, Athens

Abstract

In recent years, there has been an attempt to stimulate the developmental role of urban centres in Greece in the context of regional and spatial planning. In essence, through the recent basic programming texts for the periods 2000-2006 and 2007-2013, the growth poles strategy has once again been exploited in the development programming. This paper attempts initially to describe the new growth poles strategy through the aforementioned programming texts, and then to present the ensuing problems, as well as to outline the emerging capabilities of planning regarding growth poles in Greece. The main conclusions of the research refer to the lack of a fixed typology, which is based on a specific methodology that could form a hierarchical categorization of urban concentrations through clear, long-term criteria. They also refer to a relative weakness in the planning and implementation of urban development policy, as part of regional programming. The absence of a systematic investigation of the role of particular concentrations in the growth process at regional, national and broader level is also a key-conclusion. The formulation of necessary supplementary policies, as well as the administrative organisation issues of the country's large cities, are of main importance too.

Keywords: Urban Development, Growth Poles and Axes, Regional and Spatial Planning, Greece.

1. INTRODUCTION

The growth pole strategy has ruled the field of policy practice at an international level for many decades, since the beginning of the 20th century and most specifically after World War Two. In the late 1960s and early 1970s, industrialized and developing countries alike applied the growth pole concept in their urban, regional, and national development planning. After an almost twenty year's period of reaction (late 1970s and 1980s) on the growth poles 'dogma', the growth poles process has been evolved, during the last two decades.

In recent years, there has been an attempt to stimulate the developmental role of urban centres in Greece in the context of regional and spatial planning. In essence, through the recent basic programming texts for the periods 2000-2006 and 2007-2013, the growth poles strategy has once again been exploited as part of the development programming. This paper attempts to describe the new

growth poles strategy through the regional and spatial planning, within the programming framework of the European Union Cohesion Policy for Greece, and to present the ensuing problems, as well as the emerging capabilities of planning regarding growth poles in Greece.

The paper is organized as follows. The second section provides a literature review on the dominant regional development strategies that of growth poles and integrated development strategy. The third section provides a historical review on the formation and implementation of the growth model in Greece. The analytical comparative presentation of the regional development programming and strategy for strengthening the growth role of cities in the 3rd and 4th programming period is concluded in the fourth section. Finally, the fifth section summarizes the findings to provide some conclusions, regarding the ensuing problems, as well as the emerging capabilities of the growth poles strategy implementation in Greece.

2. STRATEGY AND REGIONAL DEVELOPMENT MODELS: GROWTH POLES AND INTEGRATED DEVELOPMENT

The formulation of regional development strategy is a basic requirement for the successful implementation of regional programming. A constitutive element of this strategy is the selection of the spatial or regional development model. Internationally, there are two dominant models: the growth poles and diffusion model, and the model of integrated – local - endogenous development. The first perspective refers to the attraction of activities and the concentration of growth in poles, from where the diffusion of growth is expected to occur towards the surrounding region (Perroux, 1955; Aydalot, 1965; Boudeville, 1968). The second model refers to the integrated spatial development, which is based on the utilisation of the endogenous potential of the regions (Coffey and Polese, 1985; Barquero, 1991; Garofoli, 2002).

The strategy, that is based on the growth poles model, has ruled the field at an international level since the beginning of the 20th century, most specifically after World War Two, and it constituted a 'dogma' in the development of economies throughout the world. Most of the regional development policies and theories of that period were based on the main hypothesis of the almost complete identification of industrialisation with enlargement and growth. The major objective has been the increase of the industrial product and the concentration of development in large urban centres (growth poles), which had the necessary prerequisites (i.e infrastructure, external economies, labour force, market, etc.) for the attraction and operation of large industrial complexes – propulsive industries (Lasuen, 1969). Thus, the concept of "top-down" intervention prevails, which means that state intervention should be intense

through the means of regional policy, so as to boost the process of concentration and diffusion of growth from the pole out to the other areas (Hadjimichalis, 1992; Christofakis, 2001).

On a theoretical level, the explanation of regional disparities by Myrdal (Cumulative Causation) as well as the concentration and dispersion theories, as mainly expressed by Christaller (central place), Perroux (enlargement poles) and Boudeville (growth poles), have greatly supported the formation of the growth poles and diffusion model (Rodrigue et al., 2006). The work of Perroux (1955) is considered perhaps the most significant contribution to the theory of growth poles, mainly through the connection of the growth pole with the operation of "propulsive industries" that exert positive influences on the surrounding area. Growth poles, metropolitan centres and growth axes are the main forms of polar concentrations (Lois González, 2004; Vinuela-Jimenez et al., 2010).

The period from World War Two until almost the mid-1970s can be characterised as a period of implementation of growth poles strategy in developed as well as developing countries. Some of them were: Austria, Belgium, Bolivia, France, Great Britain, Italy, Peru, Spain, United States, Venezuela (Friedmann and Weaver, 1979; Richardson, 1981; Barquero, 1991; Hadjimichalis, 1992). However, towards the end of the 1970s, the peak of the crisis caused serious turbulence to the dominant growth model. In less-developed countries, as well as in the US developed countries and Western Europe, an intense discussion emerged regarding the repercussions of the implementation of polar development and the nature of the regional policies (Parr, 1999). In less-developed areas, conditions and quality of life had not improved as expected, while in large urban industrial complexes, the intensifying trends of population and activity accumulation caused severe saturation issues.

These developments have caused a shift in the dominant perspectives regarding regional development, resulting most significantly in a departure from the "dogma" of growth poles, a process that was never concluded, however; on the contrary, it evolved, since the process of economic growth per se reinforces various types of spatial concentrations (Petraikos and Psycharis, 2004). The theoretical approaches of the "new economic geography" were based on this acknowledgment, emphasising the increasing returns to scale, due to the geographic concentration (Krugman, 1999), the effect of transport and the role of hubs in the formation of dynamic urban centres (Fujita and Mori, 1996), the industrial spatial organisation and concentration economies (Krugman and Venables, 1996) as well as the role of cities and urban networks in the global economic system and commercial relations (Fujita et al., 1999). These approaches, despite the difficulty of their systematic adaptation to both national and regional levels of spatial development planning, offer new evidence for the explanation and the dynamics of spatial organisation, and this evidence should be taken into consideration in any growth plan (Clinch and O'Neill, 2009; Vinuela-Jimenez et al., 2010).

In this new framework, in parallel with the growth poles model, theories and practices are also formulated, on the basis of the integrated development model (Christofakis, 2001). This model led to significant re-adjustments and finally to the formation of a new strategy of regional development, namely the local-endogenous development. These modifications related to the organisation of production, its interconnection with Research and Technological Development, distribution, vocational training processes, the development of new relations between corporations and local organisations, and finally the networking of all the above sectors (Scott and Storper, 1989; Garofoli, 2002; Maier and Obermaier, 2001; Grosjean and Crevoisier, 2003). Networking and cooperation do not solely refer to the inner part of a spatial unit. As argued by Coffey and Polese (1985, p. 86): "Regional economies are open by definition, and therefore, external factors should be considered absolutely important". In this direction, various settlements, and most particularly the dynamic cities, do not only function in a competitive way, but also in synergy aiming at growth and competitiveness, as well as the prosperity of the regions and countries (Mergos et al., 2004; Papadaskalopoulos et al., 2005; Metaxas and Petrakos, 2006).

Thus, the two models (the growth poles and the integrated-endogenous development model), do not operate in a competitive way, but they are complementary to one another, on the basis of a "mixed" development model. In essence, the two models are applied in parallel in various combinations that depend on the particular characteristics and the stage of development of a country, the current international situation, and the strategic socio-economic choices of the governments.

3. THE FORMATION OF THE GROWTH MODEL IN GREECE: A HISTORICAL REVIEW

Following the course of regional policy in Greece and the evolution of the development model through different periods, one can observe a gradual trend of transition from the growth poles model, or top-down development, towards the integrated-endogenous model, or bottom-up development, culminating in the current position where we have a combination of those two models.

The growth poles model had been the dominant one in Greece until the end of the 1970s. During that period, dynamic sectors were concentrated in the greater Athens area, Thessaloniki and urban-industrial centres, along the main development axis of the country. This axis is schematically presented with the so called developmental "S", or alternatively, in geographical terms, as the East Development Axis that is delimited by the dynamic urban centres of the mainland (see Fig. 2): Patras, Athens, bipolar Larisa-Volos and Thessaloniki (Konsolas et al., 1993).

More specifically, the mono-polar system of the period 1950-60, when the capital dominated the housing settlement network of the country, was followed by the bipolar system of Athens – Thessaloniki

during the period 1960-70. After 1970 however, and throughout the 1971-1981 decade, a systematic polar approach was promoted, which was expressed through the attempt to develop an oligo-polar system of regional urban centres, as well as through the determination of categories as regards housing settlement areas. Thus, during the first period after the restoration of democracy in Greece (1974), the growth poles model was dominant. Beyond the two basic poles of Athens and Thessaloniki, the basic aim of regional policy was the strengthening of "rival cities" (the Greek "version" of the French "métropole d'équilibre"), in order to restrain the attracting power of Athens, mainly, but also of Thessaloniki. However, there appeared to be a small shift in the integrated spatial development, through the effort to reinforce dynamic rural centres, without a significant decline in the dominance of the growth poles model.

This shift became more obvious at the beginning of the 1980s, when developing regions and local advantages appeared in other areas as well. However, that only appeared to a limited extent, since the conditions for the diffusion of growth from the dynamic urban centres to the rest of the country were not satisfactory. At the same time, structural problems emerged in large urban centres, especially in the greater Athens area, as well as in other urban-industrial centres, along with local deficiencies in the rest of the developing sectors (Konsolas et al., 2001). Thus, in parallel with the attempt to deal with those problems, the basic aim of regional policy promoted mainly through the Operation Urban Reconstruction (EPA), was the coverage of the population needs in all areas. This was, in essence, a first approach towards the integrated development model, in combination of course with the standing growth poles model. For this purpose, on a spatial level, the principle of poly-centric structure was adopted. A key characteristic of the EPA was the determination of categories of settlement centres known as "open cities". However, in practice, the analysis of the existing settlement structure shows the lack of dynamic centres, with sufficient population (2 to 10 thousand inhabitants) to be able to serve the rural mainland.

At the end of the 1990s and at the beginning of the new century, a synthesis of the two development models is being attempted, within the parameters of the third Community Support Framework (KPS) 2000-2006 and the National Strategic Reference Framework (ESPA) 2007-2013. More specifically, the first period of the implementation of Structural Policy of the European Union 1986-1993 in Greece (Integrated Mediterranean Programmes and 1st Community Support Framework) was characterised by a strategic decision that put emphasis on the criterion of spatial equity, which was promoted through a regional policy of diffusion of small infrastructures throughout the country. The basic reasons behind this policy were associated with the need to deal with the underdevelopment of the country's rural areas. However, in several cases, it was observed that resources were channeled towards small and incomplete public works, with small added value (Petraikos and Psycharis, 2004). The situation changed

in the following programming period, 1994-1999, of the 2nd Community Support Framework. During that period, emphasis was shifted from equity to economic efficiency that was promoted through the concentration of resources on specific, large-scale projects. Further development of problematic areas was considered to be associated with the improvement of the competitiveness of the national economy (Konsolas et al., 2001).

In the period of the 3rd Community Support Framework, 2000-2006, it is clear that public works of national and supranational importance remained a basic priority, even though, the dominance of large public works was significantly decreased. However, despite the small number of new major works, significant resources were tied up for the completion of the works that had been started during the previous period 1994-1999. Nevertheless, at the same time the interest was shifted towards the serious problems caused by intense and long-lasting inter-regional inequalities, particularly in mountainous and insular areas. Also, an additional dimension of the regional problem in Greece related to intra-urban inequalities. During that period, for the first time, special emphasis was put on the formation of a strategic model in the framework of regional programming (Papadaskalopoulos and Christofakis, 2009). In the Development Plan 2000-2006 for the implementation of the 3rd Community Support Framework, a special Development Plan for Metropolitan Centres was developed and specific targets were set for the promotion of the growth role of the country's urban centres, through the determination of special categories of actions for each type of urban concentration. This trend continues in the current programming period, with the implementation of the National Strategic Reference Framework 2007-2013, as well as in the new General Framework for Spatial Planning and Sustainable Development, in which it appears to manifest as an effort to promote a "mixed" model of poles – integrated development. In essence, there is a re-utilisation of the growth poles and diffusion model in development programming that aims at the exploitation of economies of scale and spatial concentration, the strengthening of competitiveness and extroversion, as well as the reinforcement of national cohesion.

4. DEVELOPMENT PROGRAMMING AND STRATEGY FOR STRENGTHENING THE GROWTH ROLE OF CITIES IN THE 3RD AND 4TH PROGRAMMING PERIOD

4.1. Greek Urban Network: a short presentation

The urban network in Greece is characterised by the dominance of the metropolitan centre of the country's capital, Athens. In particular, the Attica region, which hosts the greater urban complex of Athens, has a population of 4 million inhabitants (2006), corresponding to 36% of national population, while 49% of the country's total Gross Domestic Product is produced in the area. Around 3.5 million

people inhabit in Athens metropolitan area (32% of the country's population), whilst the other 500 thousand live in satellite settlements of the metropolitan area. Thessaloniki in Northern Greece constitutes the second largest major urban concentration in the country, with a population that numbers around 800 thousand people (7.3% of the country's population); additionally, four other cities complement the large urban concentrations of the country, with a population of over 100 thousand inhabitants. These six population concentrations correspond to around half the country's population, comprising 45.5% of the national total.

TABLE 1 - LARGE URBAN CONCENTRATIONS IN GREECE (POPULATION OF OVER 100 THOUSAND INHABITANTS)

Urban Centres	Population (thousand)	% share
Athens	3,500	32.0
Thessaloniki	800	7.3
1 st subtotal: metropolitan centres	4,300	39.3
Patras	210	1.9
Heraklion	170	1.6
Larisa	155	1.4
Volos	145	1.3
2 nd subtotal: major poles	4,980	6.2
Total (1st&2nd subtotal)	4,980	45.5
Greece total population	10,940	100

Sources: National Statistical Service of Greece 2001, Institute for Local Government 2008 – Data processing.

The urban network in Greece is additionally complemented by 15 mid-sized urban centres (50 to 100 thousand inhabitants), as well as by a significant number (70) small-sized cities (10 to 50 thousand inhabitants).

TABLE 2 - GREEK URBAN NETWORK – CATEGORISED BY SIZE

Population (thousand)	Number of Urban Centres
Over 500	2
100 to 300	4
50 to 100	15
10 to 50	70

Sources: National Statistical Service of Greece 2001, Institute for Local Government 2008 – Data processing.

The previous analysis has shown an uneven distribution of population and activities in Greece, expressed primarily via the domination of Athens (and secondly of Thessaloniki). In order to deal with this excessive concentration, the main target of the new strategy for the growth poles is decentralisation of development, and the upgrading of the development role of urban centres.

4.2. Programming Period 2000-2006 – Development Plan and Community Support Framework

As mentioned earlier, in the programming period 2000-2006, for the first time, special emphasis was put extensively on the formation of an integrated development model and strategy, through regional planning. New elements in the 3rd Community Support Framework are (Konsolas et al., 2001): the

attempt to strengthen the extroversion of the regions, the specialisation of the development role of the urban centres at regional, national and transnational level, the accession planning of dynamic urban centres to trans-European networks and the creation of development axes, the emphasis on research and technological growth, the interconnection of supplementary economic activities and the integration of activities in the natural and urban environment, the promotion of endogenous growth and the strengthening of the effort to decrease intra-regional disparities.

The strategy for the growth poles was adopted through a particular hierarchical determination of urban centres, which included the following categories (Ministry of National Economy and Economics, 1999):

1. **Metropolitan Centres:** Major urban concentrations in the country that have a primary development role at national level, as well as the potential to acquire an international economic, transport and cultural role. Athens and Thessaloniki are included in this category.
2. **Gates – Hubs of Trans-European Networks:** Urban centres that operate as entrance-exit gateways to the country, which can also utilise their hub position on the trans-European networks and develop a specialised international growth role.
3. **Growth Poles:** The operation of a pole presupposes a sufficient population size that is normally over 100,000 inhabitants, the necessary infrastructure and, importantly, the operation of one or more propulsive activities that can attract supplementary activities and the formation of a dynamic development climate.
4. **Poles of Cross-Border Cooperation:** Border urban centres that are situated close to major transport axes and can demonstrate growth poles characteristics.
5. **Border or Island Areas Growth Centres:** The border mainland and island areas have a need for the development of urban centres that operate as places where production activities and services are concentrated.
6. **Wider Urban Concentrations:** Special planning is required for the existing wider urban concentrations that were formed in recent years. At the same time, Axial and Wider Urban Concentrations are already observed along many basic road axes, while potentially, these kinds of concentrations are expected in the future, notably after the completion of the large trans-European transport axes of the country e.g. Via Egnatia, Western Axis (Papadaskalopoulos et al., 2005).
7. **Centres of regional, Prefectural and Local Development:** other dynamic regional urban centres, the capital cities of prefectures, and local development centres, which are supported by regional development planning.

In this framework, special emphasis was put on the issue of strengthening metropolitan centres and growth axes. It was observed that at international level, Athens may evolve into a cultural centre of pan-European and global importance. As an economic, commercial and transport centre, it may form a zone of influence in South-eastern Europe and the Mediterranean. Thessaloniki, on the other hand, with the proper development planning, could potentially operate as an economic, commercial, transport and cultural centre of the greater Balkans and Black Sea area. The contribution of the Greek metropolitan centres to growth may be promoted through the following (Konsolas et al., 2001):

- The systematic utilisation of the position of Greek metropolitan centres in the trans-European networks, as well as the strategic infrastructure in the sectors of transport, energy and telecommunications.
- The strengthening of the extroversion of the economies of the Greek metropolitan centres by tracing and supporting dynamic and propulsive activities.
- The creation of growth axes within the country and also further afield in the greater Balkans area.
- The specialisation of the role and the accession of Greek metropolitan centres into urban networks in the EU, Balkans, Eastern Europe, Mediterranean and Black Sea.

At the same time, as for the other urban centres, the development strategy is oriented towards three basic directions (Papadaskalopoulos and Christofakis, 2009). The first direction refers to the reinforcement of the "new" entrepreneurial infrastructure of the urban centres (Industrial and Business Estates, Technological and Science Parks, Transports, Commerce and Services Parks, etc.), which will contribute to the attraction of new corporations and the modernisation of existing companies and the creation of new jobs and incomes. The second one is the strengthening of super-infrastructure and city infrastructures (housing quality, upgrading of the environment, social services, security, recreation, etc.), allowing the city to create a competitive growth environment, to utilise the "new" entrepreneurial infrastructures and to become competitive in attracting city tourism and executives for new corporations. Finally, the third direction refers to the determination of at least one propulsive activity per urban centre-pole and the formation of special policy for the attraction and support of these activities. These strategic directions are incorporated in the Regional Operational Programmes, without, however, the necessary specialisation and furthermore, the formation and implementation of certain measures for the realisation of the urban development policy.

4.3. Programming Period 2007-2013 – National Strategic Reference Framework

The new growth strategy for the urban centres, without diverging significantly from the stated targets of the previous programming period, is based on the following elements (Ministry of National Economy and

Economics, 2006): a) Poly-centricity, b) the strengthening of the networking trends among urban centres, c) the improvement of infrastructures and the decrease of urban dispersion, d) the sustainable development of cities (increase of green areas, urban restoration, pedestrian and cycle path networks, decrease of household waste etc), e) dealing with social problems in cities, and f) the improvement of the information flow regarding the urban centres.

A decisive element of the general regional development strategy in the National Strategic Reference Framework 2007-2013, is the growth poles. The promotion of these growth poles is aimed at attracting investments, namely the creation of suitable conditions so as the specific areas may attract the establishment of corporations, the improvement of the operating conditions of urban areas, the betterment of the quality of life of inhabitants, as well as the ability to handle problems associated with the quality of the environment in these areas. Within this framework, a redefinition of the typology of the previous programming period is noted, and the growth poles are grouped in the following three main categories:

- **Metropolitan Centres (Athens and Thessaloniki).** These areas should be considered in terms of daily operational systems, which tend to expand significantly, as the major infrastructure works are being concluded (road axes, railway).
- **Urban Centres of Inter-regional Importance, Urban Centres Networks, and Centres of Special Importance** such as Gates or Hubs.
- **Large Urban Centres of the Insular Space.**

In parallel, the basic criteria for the determination of growth poles are: the population size of cities or urban complexes and their population potential, the geographical position, in relation to the existing and pursued growth axes, the administrative significance, the availability of research and health infrastructures, the structure of the production base and the existence of networking characteristics with neighbouring urban centres. According to the defining criteria, the following urban centres are considered as growth poles in the National Strategic Reference Framework: Athens, Thessaloniki, Patras, Heraklion-Chania, Larisa-Volos, Ioannina, Kavala-Drama-Xanthi, Kalamata, Alexandroupolis-Komotini, Rhodes, Kozani-Ptolemaida.

According to the above, and in relation to the previous programming period, an emphasis on an oligo-polar urban centres system is observed. And here a relative weakness of specialisation in the Regional Operational Programmes is noted, as well as the formation of the necessary supplementary policies (sectoral policy, networking policy, transport policy, etc.) in order the growth poles strategy can be materialised.

4.4. General Framework for Spatial Planning and Sustainable Development

The previous typology is, to some extent, differentiated from the General Framework for Spatial Planning and Sustainable Development, which, through an explicit reference to the regional development models and in the framework of the growth poles model specialisation in the case of Greece, defines the following categories of urban and spatial concentrations (Ministry for the Environment, Physical Planning and Public Works, 2008):

- **Growth Poles.** 1. Metropolitan Centres: Athens, Thessaloniki. 2. Major National Poles: Patras, Ioannina, Larisa-Volos bipolar, Herakleion-Chania bipolar, and Komotini-Alexandroupoli bipolar. 3. Secondary National Poles. 4. Other National Poles.
- **Growth Axes.** 1. Eastern Overland Axis, which runs along PATHE Motorway (Patras – Athens – Thessaloniki – Evzoni in the north border). 2. Northern Axis (along Via Egnatia). 3. Western Axis (along the Ionian Motorway). 4. Central Mainland Axis. 5. Diagonal Axis of Central Greece. 6. Central Peloponnese Axis. 7. Northern Axis of Crete Island.
- **International and Inter-regional Entrance Gates.** 1. Harbour Gates. 2. Internal Gates of the land borders (with Albania, Bulgaria and Turkey).
- **Multi-Polar Development Insular Complex of the North and South Aegean.**

The General Framework for Spatial Planning and Sustainable Development, despite the fact that it was developed almost in parallel with the National Strategic Reference Framework 2007-2013, and in essence refers to the same programming period, is not fully harmonised with it, as it should be with regard to the typology that determines the spatial model for the country's polar growth in the future.

4.5. Comparative presentation of the growth poles strategy

From the description of the three major programming frameworks for spatial and regional development in Greece, there appears to be a general identification as regards the main components that will constitute the pursued future growth poles network. The Greek growth poles network consists of the two metropolitan centres and the other growth poles, primarily in combination with urban centres in the mainland or/and island areas that can function as entrance-exit gates, and secondarily with island poles and integrated insular complexes, aimed at the national spatial integration, through the operation of development axes.

This growth poles network of the Greek space is presented in more detail in the map that is included in Figure 2.

Nevertheless, despite the common reference base, there are significant differentiations that may create obstacles to the effective implementation of the growth poles strategy. This becomes evident if a comparison is made between the typology of urban concentrations used in the various programmes, as previously described.

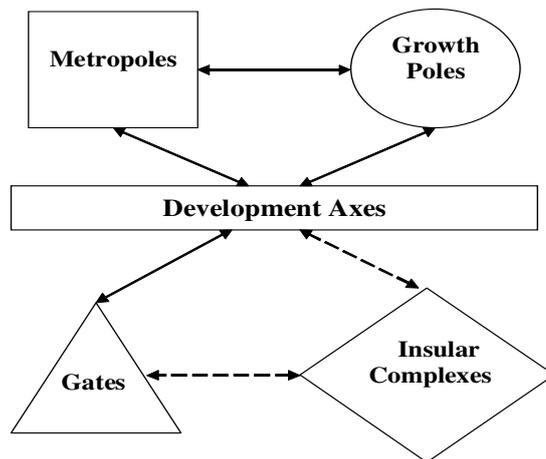


FIGURE 1 - GROWTH POLES NETWORK IN GREEK REGIONAL AND SPATIAL PLANNING

TABLE 3 - TYPOLOGY OF GREEK URBAN CONCENTRATIONS IN THE BASIC PROGRAMMING FRAMEWORK, AFTER 2000

Community Support Framework 2000-2006	National Strategic Reference Framework 2007-2013	General Framework for Spatial Planning and Sustainable Development
<ul style="list-style-type: none"> • Metropolitan Centres • Gates- Hubs of Inter-European Networks • Growth Poles • Poles of Cross-border Cooperation • Growth Centres of Border or Island Areas • Wider Urban Concentrations, Growth Axes (without specialisation) • Centres of Regional, Prefectural, Local Growth 	<ul style="list-style-type: none"> • Metropolitan Centres • Urban Centres of Inter-regional importance, Urban Centres Networks, Centres of Special Significance • Major Urban Centres of the Island Areas 	<ul style="list-style-type: none"> • Growth Poles (Metropolitan Centres, Primary, Secondary, and other National Poles) • Growth Axes (with explicit specialisation) • International and Inter-regional Entrance Gates • Multi-polar Development Complex of North and South Aegean.

In general, as regards both recent programming periods, namely from 2000 onwards, it can be seen that a fixed typology has not been formed as far as the basic programming framework for spatial and regional development in Greece is concerned. This weakness is confirmed in practical terms by the absence of standard choices, even in development plans of the same programming period (for instance Kalamata, in the Peloponnese region, which constitutes a growth pole in the National Strategic Reference Framework, but not in the General Framework for Spatial Planning and Sustainable Development).

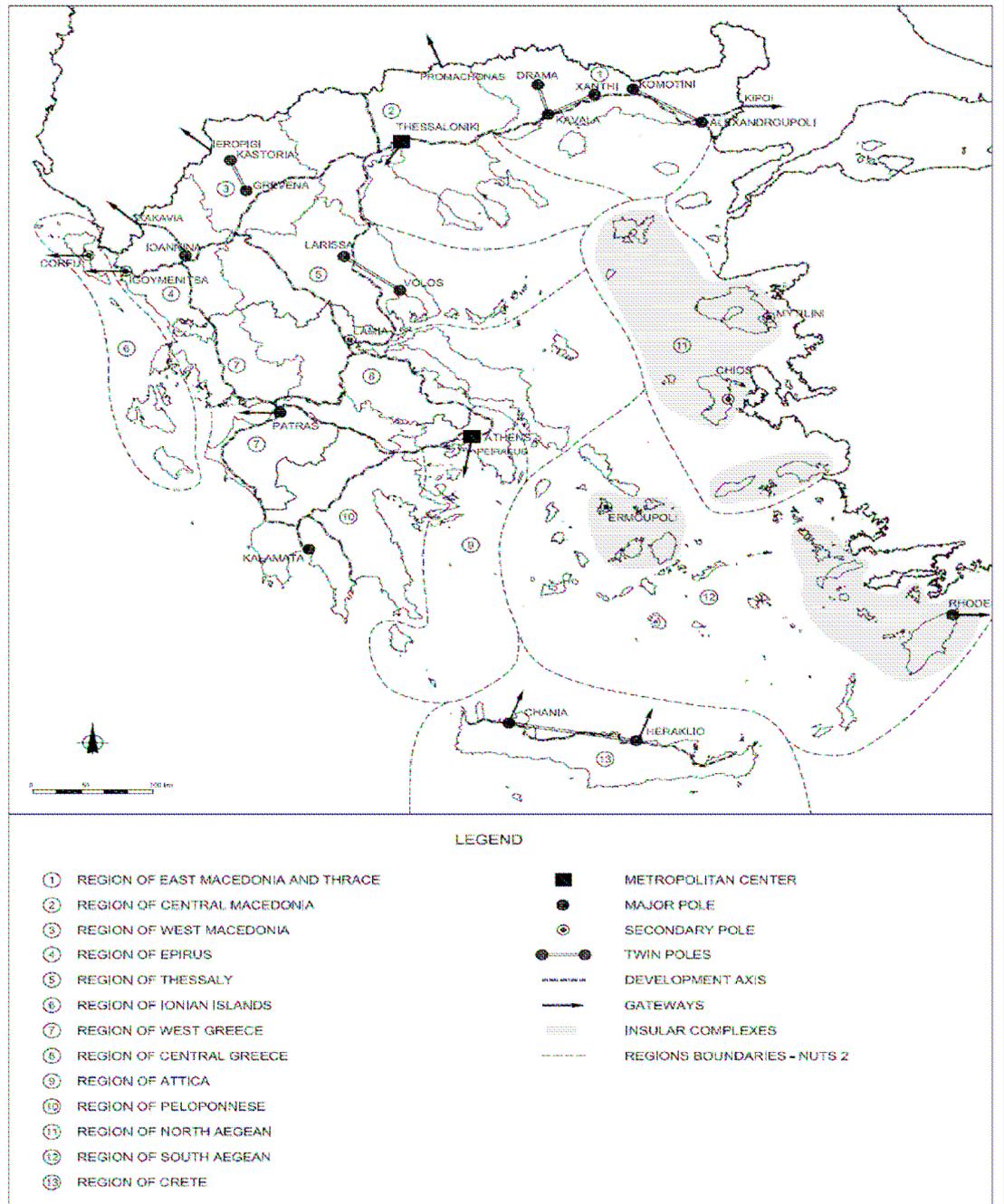


FIGURE 2 - GROWTH POLES DEVELOPMENT PATTERN IN GREECE

5. CONCLUSIONS

The issue of forming and implementing a successful urban development strategy through development and spatial programming, on the basis of the growth poles model, is quite complex and requires further investigation. Certainly, this is not exhausted in the present paper. However, an attempt has been made

to identify the emerging issues and to address major concerns on a systematic basis, so as to clarify the basic issues and the required directions for expansion of the relevant scientific research and policy practice.

The basic conclusion that emerges from the previous analysis is that, in recent years, the major goals and the main directions of the growth poles strategy in Greece are not significantly differentiated. However, a fixed typology, based on a specific methodology, for the hierarchical categorisation of urban concentrations in Greece, with clear and long-term criteria, has not yet been formed. This would function as the base for the formation and implementation of a specific and efficient urban development strategy for the country.

Also, there is a lack of specialised studies as regards these matters, whilst in general, there is no systematic investigation of the development potential and the prospects of poles, centres and growth axes (in terms of inputs, relations and interdependencies, zones of influence, etc.) and finally, of the special role of each one of them, in the development process at regional, national, and even further afield.

On a programming level, the recent implementation of regional programming in Greece shows a relative weakness in designing and implementing urban development policy as part of regional programming. A major problem is the absence of actual specialisation in the Regional Operational Programmes, as well as the formation or adaptation and subsequent implementation of the required supplementary policies (such as sectoral policy, networking policy, transports policy, etc.) for the realisation of the growth poles strategy. In particular, the formation of specialised sectoral policy in order to attract propulsive activities, based on the growth characteristics and potential of each polar concentration, is considered of great importance, in parallel with the promotion of specialised projects in the areas of strategic infrastructures, depending on the developmental potential of each concentration.

In parallel with the noted weaknesses in planning, obstacles are also found in the materialisation of any relevant actions undertaken for the creation of growth poles. These problems are caused by the weakness of Local Government Administration regarding combined soft activities in the urban space, as well as by general issues relating to the administrative organisation of large urban centres in the country, particularly the two metropolitan concentrations, such as the entanglement of many administrative authorities in the management of urban space, the absence of metropolitan governance schemes, etc.

In order to deal with these problems in Greece, the possibility of designing a specialised and at the same time integrated Development Plan should be investigated. This could result in the creation of a

special Operational Plan for the promotion of the development role of the centres, poles and growth axes, with a clear prescription for relevant structures, processes and materialisation actions.

REFERENCES

- Aydalot, P. (1965). Note sur les economies exterenes et quelques notions connexes. *Review Economique* 16, pp. 944-973.
- Barquero, V.A. (1991). *Local Development, A strategy for the job creation*. Athens: Papazisis.
- Boudeville, J.R. (1968). *L' espace et les poles de croissance*. Paris: PUF.
- Christofakis, M. (2001). *Local Development and Regional Policy*. Athens: Papazisis.
- Clinch, J.P. and O'Neill, E. (2009). Applying Spatial Economics to National Spatial Planning. *Regional Studies* 43(2), pp. 157 – 178.
- Coffey, J.W. and Polese, M. (1985). Local development: Conceptual bases and policy implications. *Regional Studies* 19(2), pp. 85-93.
- Friedmann, J. and Weaver, C. (1979). *Territory and Function: the evolution of Regional Planning*. London: Edward Arnold.
- Fujita, M., Krugman, P. and Mori, T. (1999). On the evolution of hierarchical urban systems. *European Economic Review* 43, pp. 209-251.
- Fujita, M. and Mori, T. (1996). The role of ports in the making of major cities: self agglomeration and hub effect. *Journal of Development Economics* 49, pp. 93-120.
- Garofoli, G. (2002). Local Development in Europe: Theoretical models and international comparisons. *European Urban and Regional Studies* 9(3), pp. 225-239.
- Grosjean, N. and Crevoisier, O. (2003). Autonomie differenciee des systemes de production territoriaux. *Revue d'Economie Regionale et Urbaine*. ADICUEER 2003(2), pp. 291-315.
- Hadjimichalis, C. (ed.). (1992). *Regional Development and Policy, Texts from the International Experience*. Athens: Exantas.
- Konsolas, N., Papadaskalopoulos, A. and Plaskovitis, I. (2001). *Regional Development in Greece*. Berlin: Springer - Verlag.
- Konsolas, N., Papadaskalopoulos, A., Ranos, C. and Sidiropoulos, E. (1993). *Regional Prospects in Greece*. GREMI – E.E.C. Research Project. National Report. Athens: Regional Development Institute.
- Krugman, P. (1999). The role of geography in development. *International Regional Science Review* 22, pp. 142-161.
- Krugman, P. and Venables, A.J. (1996). Integration, specialisation and adjustment. *European Economic Review* 40, pp. 957-967.
- Lasuen, J. R. (1969). On Growth Poles. *Urban Studies* 6(2), pp. 137-161.
- Institute for Local Government. (2008). *Study for the delimitation of the geographical limits of the new Local Government Organizations*. Athens: Local Government Institute.

- Lois González, R. (2004). A Model of Spanish-Portuguese Urban Growth: The Atlantic Axis. *Dela* 21, pp. 281-294.
- Maier, J. and Obermaier, F. (2001). Creative Milieus and Regional Networks: Local Strategies and Implementation in Case Studies in Bavaria. In: *Technological Change and Regional Development in Europe*, ed. Schatzland, L. and Revilla, D., Berlin: Physica – Verlag, pp. 211-232.
- Mergos, G., Papadaskalopoulos, A., Christofakis, M., Arseniadou, I. and Kalliri, A. (2004). *Economic characteristics and development strategy of insular Greece*. Athens: Academy of Athens.
- Metaxas, T. and Petrakos, G. (2006). Competitiveness of cities and enterprises in the European periphery: Varna and Bari. In: *Regional Science and Policy: Greece and Balkans*. Proceedings of the 7th Congress of the Greek Section of the ERSA, ed. Coccossis, H. and Fotis, Athens: Govostis, pp. 115-142.
- Ministry for the Environment, Physical Planning and Public Works. (2008). *General Framework of Spatial Planning and Sustainable Development*. Athens: Ministry for the Environment, Physical Planning and Public Works.
- Ministry of National Economy and Economics. (1999). *Development Plan 2000-2006*. Athens: Ministry of National Economy and Economics.
- Ministry of National Economy and Economics. (2006). *National Strategic Reference Framework 2007-2013*. Athens: Ministry of National Economy and Economics.
- National Statistical Service of Greece. (2001). *Population Census*. Athens: NSSG.
- Papadaskalopoulos, A. and Christofakis, M. (2009). *Regional Planning*. Athens: Papazisis.
- Papadaskalopoulos, A., Karaganis, A. and Christofakis, M. (2005). The spatial impact of EU Pan-European Transport Axes: City clusters formation in the Balkan area and developmental perspectives. *Transport Policy* 12(6), pp. 488-499.
- Parr, J. (1999). Growth Poles Strategies in Regional Economic Planning: A Retrospective View. Part 1. Origins and Advocacy. *Urban Studies* 36(7), pp. 1195-1215.
- Perroux, F. (1955). Note sur les notion de pole de croissance. *Economie Appliquee* 7(1-2), pp. 307-320.
- Petrakos, G. and Psycharis, J. (2004). *Regional Development in Greece*. Athens: Kritiki.
- Richardson, H.W. (1981). National urban strategies in developing countries. *Urban Studies* 18(3), pp. 267-283.
- Rodrigue, J.-P., Comtois, C. and Slack, B. (2006). *The Geography of Transport Systems*. New York: Routledge.
- Scott, A. and Storper, M. (1989). The geographical foundations and social regulation of flexible production complexes. In: *The power of geography: How territory shapes social life*, ed. Wolch, J. and Dean, M., London: Unwin Hyman, pp. 21-40.
- Vinuela-Jimenez, A., Rubiera-Morollon, F. and Cueto, B. (2010). An analysis of urban size and territorial location effects on employment probabilities: The Spanish case. *Growth and Change* 41(4), pp. 495-519.