LOOKING AT THE FUTURE OF THE MEDITERRANEAN URBAN REGIONS: DEMOGRAPHIC TRENDS AND SOCIOECONOMIC IMPLICATIONS

Luca Salvati

Address for correspondence:
Consiglio per la Ricerca e la sperimentazione in Agricoltura,
Via della Navicella 2-4, I-00184 Rome, Italy
E-mail: luca.salvati@entecra.it

Biographical Note
Luca Salvati, PhD, is researcher at Italian National Agricultural Research Council in Rome. His main research interests include urban studies, geography and environmental/sustainability issues. He published more than 100 articles in peer-reviewed international journals.

Abstract
The present study analyzed past and future trends in population and urbanization rates in the Mediterranean region. Processes such as coastalization and settlement diffusion, taken as the most relevant patterns of urban development in the region, were described using official statistics and discussed in terms of their socioeconomic and territorial implications. The link between urbanization and the growing environmental vulnerability of cities was also debated. An original planning framework oriented to a multi-scale and multi-factorial approach spanning from economic competitiveness to environmental sustainability was finally proposed.

Key words: Coastal areas, Population dynamics, Social change, Economic structure, Mediterranean.

JEL Classification: J10, R11, R14, R52, Z13.

1. Introduction
According to Matvejevic (1996), everything has already been said of the Mediterranean from an urban, social and economic point of view. Whether or not Matvejevic’s statement is correct, the aim of this research is certainly not the one of adding more material to the Mediterranean debate. The Mediterranean countries reveal a long and complex history, specific demographic and institutional characteristics as well as a combination of original urban forms shaped by the interplay of social
and economic forces. Coming from a unique and sometime glorious past, the mixture of forces and weaknesses characterizing the Mediterranean cities sediment in the present and are projected in the future constituting the genetic heritage of Mediterranean urbanities (Leontidou, 1990; King et al., 1997; Couch et al., 2007).

Located in between the 'global' cities of Northern Europe and the developing countries of the world, Mediterranean cities are aspiring to a stable position amongst the rich part of Europe (Chorianopoulos et al., 2010). Nevertheless, urban structures deriving from the past development phase of the post World War years determine inconsistencies and limitations to this desire (Munafò et al., 2010). While Mediterranean cities have been traditionally considered as the prototype of the compact city, the majority of these cities are gradually abandoning their tradition of density and compactness by switching to a dispersed pattern of development (Catalàn et al., 2008). Furthermore, the Mediterranean region was recently passing through a period of uncertain transition (Leontidou, 1996). Therefore, studying the 'territorial symptoms' of this undefined evolution will reveal useful to policy-makers for the adoption of correct measures in order to improve the urban landscape and the economic competitiveness of cities and to preserve the natural environment surrounding them (Terzi and Bolen, 2009).

The objective of this brief paper is to analyze the recent dynamics (and to infer about future trends) of population and urbanization rates in the Mediterranean region. Processes such as coastalization and settlement diffusion, taken as the most relevant patterns of urban development in the region (Kasanko et al., 2006; Longhi and Musolesi, 2007; Turok and Mykhnenko, 2007; Schneider and Woodcock, 2008), were described using official statistics and discussed in terms of their socioeconomic and territorial implications. The link between urbanization and the growing environmental vulnerability of cities was also debated. An original planning framework oriented to a multi-scale and multi-factorial approach spanning from economic competitiveness to environmental sustainability was finally proposed.

2. Urban expansion and population dynamics in the Mediterranean region: past dynamics and future trends

Urbanization is caused by push- and pull-factors, the structure of the economy, and the stage of economic development (Bruegmann, 2005). In the most recent demographic phase, approximately covering the last thirty years, urban settlements advanced very rapidly in Mediterranean Europe where urbanization expanded at much faster rates than population growth (Hasse and Lathrop, 2003). Mediterranean urban areas are experiencing a change towards dispersed and horizontal rather than vertical growth at the expense of farming and forested areas, semi-natural environments,
and wetlands (Antrop, 2004). This trend serves to attenuate the levels of over-densification of central districts, but also causes the homogenisation of urban environments and the standardisation of the surrounding landscape (Alphan, 2003).

In the report “Urban sprawl in Europe”, the European Environment Agency (2006) has found that six of the ten European cities where urban diffusion is growing fastest are located in Southern Europe (Istanbul, Palermo, Porto, Iraklion, Lyon and Milan). Spanish cities do not escape to this general trend: Madrid (hosting almost 5 million people in his metropolitan area) is perhaps the best example. Further examples of this trend were provided by specific studies covering individual cities in southern Europe: Barcelona (Dura Guimera, 2003), Rome (Munafò et al., 2010), Istanbul (Terzi and Bolen, 2009), Athens (Beriatos and Gospodini, 2004), just to mention the largest cities.

Population growth has been a major driver for the rapid expansion of both large and medium-size city regions. In the Mediterranean, the demographic data indicate two patterns (Table 1). Due to different stages of demographic transition, between 1950 and 2000, the population in the five Southern European EU-member countries doubled, while that of the remaining Mediterranean countries increased more than nine-fold. From 2000 to 2050, a stable or moderately increasing population has been projected in the five Southern and South Eastern European countries (except Albania), with slight increases in Cyprus, and major increases in North Africa and in the Eastern Mediterranean. In the Middle East and North African countries, more people will be added until 2050 than presently live in the five Southern European EU countries.

Table 1. Total population (thousands inhabitants) by country (1950-2050)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Algeria</td>
<td>8.753</td>
<td>13.746</td>
<td>25.299</td>
<td>35.468</td>
<td>43.475</td>
<td>46.522</td>
</tr>
<tr>
<td>Egypt</td>
<td>21.514</td>
<td>35.923</td>
<td>56.843</td>
<td>81.121</td>
<td>106.498</td>
<td>123.452</td>
</tr>
<tr>
<td>Libya</td>
<td>1.029</td>
<td>1.994</td>
<td>4.334</td>
<td>6.355</td>
<td>7.783</td>
<td>8.773</td>
</tr>
<tr>
<td>Tunisia</td>
<td>3.530</td>
<td>5.127</td>
<td>8.215</td>
<td>10.481</td>
<td>12.212</td>
<td>12.649</td>
</tr>
<tr>
<td>Cyprus</td>
<td>494</td>
<td>614</td>
<td>767</td>
<td>1.104</td>
<td>1.301</td>
<td>1.347</td>
</tr>
<tr>
<td>Israel</td>
<td>1.258</td>
<td>2.850</td>
<td>4.500</td>
<td>7.418</td>
<td>9.186</td>
<td>12.029</td>
</tr>
<tr>
<td>Lebanon</td>
<td>1.443</td>
<td>2.464</td>
<td>2.948</td>
<td>4.228</td>
<td>4.701</td>
<td>4.678</td>
</tr>
<tr>
<td>Occupied Palestinian Territory</td>
<td>932</td>
<td>1.125</td>
<td>2.081</td>
<td>4.039</td>
<td>6.755</td>
<td>9.727</td>
</tr>
<tr>
<td>Syrian Arab Republic</td>
<td>3.413</td>
<td>6.368</td>
<td>12.324</td>
<td>20.411</td>
<td>27.859</td>
<td>33.051</td>
</tr>
<tr>
<td>Turkey</td>
<td>21.238</td>
<td>35.464</td>
<td>54.130</td>
<td>72.752</td>
<td>86.665</td>
<td>91.617</td>
</tr>
<tr>
<td>Albania</td>
<td>1.215</td>
<td>2.136</td>
<td>3.289</td>
<td>3.204</td>
<td>3.290</td>
<td>2.990</td>
</tr>
<tr>
<td>Bosnia and Herzegovina</td>
<td>2.661</td>
<td>3.564</td>
<td>4.308</td>
<td>3.760</td>
<td>3.473</td>
<td>2.952</td>
</tr>
<tr>
<td>Croatia</td>
<td>3.850</td>
<td>4.169</td>
<td>4.517</td>
<td>4.403</td>
<td>4.185</td>
<td>3.859</td>
</tr>
<tr>
<td>Italy</td>
<td>46.367</td>
<td>53.325</td>
<td>56.832</td>
<td>60.551</td>
<td>60.851</td>
<td>59.158</td>
</tr>
<tr>
<td>Malta</td>
<td>312</td>
<td>304</td>
<td>368</td>
<td>417</td>
<td>431</td>
<td>415</td>
</tr>
<tr>
<td>Montenegro</td>
<td>399</td>
<td>519</td>
<td>609</td>
<td>631</td>
<td>633</td>
<td>604</td>
</tr>
<tr>
<td>Spain</td>
<td>28.070</td>
<td>33.792</td>
<td>38.889</td>
<td>46.077</td>
<td>49.998</td>
<td>51.354</td>
</tr>
</tbody>
</table>
Urbanization trends in the region have differed significantly (Table 2). While in southern Europe the urbanization rate has been projected to increase moderately by 2050, in North Africa the urbanization rate has been projected to grow even more rapidly. In the Middle East and North Africa, urbanization rates have differed (1950 - 2000), as have the projections until 20350. These projections evidence a growing pressure for urbanization that Mediterranean cities, especially northern African urban regions, will experience in the near future. According to the United Nations Urbanisation Prospects, by 2050, projections estimate that urban population in southern Europe will be 74.6% in Greece, 78.7% in Italy, 77.2% in Portugal, 84.5% in Spain and 93.3% in France.

Table 2. Percentage of population residing in urban areas by country (1950-2050)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Algeria</td>
<td>22.2</td>
<td>39.5</td>
<td>52.1</td>
<td>72.0</td>
<td>83.3</td>
<td>87.4</td>
</tr>
<tr>
<td>Egypt</td>
<td>31.9</td>
<td>42.2</td>
<td>43.5</td>
<td>43.4</td>
<td>49.6</td>
<td>60.0</td>
</tr>
<tr>
<td>Libya</td>
<td>19.5</td>
<td>49.7</td>
<td>75.7</td>
<td>77.6</td>
<td>81.5</td>
<td>85.1</td>
</tr>
<tr>
<td>Morocco</td>
<td>26.2</td>
<td>34.5</td>
<td>48.4</td>
<td>56.7</td>
<td>64.6</td>
<td>72.5</td>
</tr>
<tr>
<td>Tunisia</td>
<td>32.3</td>
<td>43.5</td>
<td>57.9</td>
<td>66.1</td>
<td>71.2</td>
<td>77.2</td>
</tr>
<tr>
<td>Cyprus</td>
<td>28.4</td>
<td>40.8</td>
<td>66.8</td>
<td>70.3</td>
<td>75.0</td>
<td>80.3</td>
</tr>
<tr>
<td>Israel</td>
<td>71.0</td>
<td>84.2</td>
<td>90.4</td>
<td>91.8</td>
<td>93.0</td>
<td>94.1</td>
</tr>
<tr>
<td>Jordan</td>
<td>37.0</td>
<td>56.0</td>
<td>72.2</td>
<td>82.5</td>
<td>86.5</td>
<td>89.0</td>
</tr>
<tr>
<td>Lebanon</td>
<td>32.0</td>
<td>59.5</td>
<td>83.1</td>
<td>87.1</td>
<td>89.3</td>
<td>91.2</td>
</tr>
<tr>
<td>Occupied Palestinian Territory</td>
<td>37.3</td>
<td>54.3</td>
<td>67.9</td>
<td>74.1</td>
<td>78.6</td>
<td>82.9</td>
</tr>
<tr>
<td>Syrian Arab Republic</td>
<td>30.6</td>
<td>43.3</td>
<td>48.9</td>
<td>55.7</td>
<td>64.0</td>
<td>72.2</td>
</tr>
<tr>
<td>Turkey</td>
<td>24.8</td>
<td>38.2</td>
<td>59.2</td>
<td>70.5</td>
<td>83.1</td>
<td>87.3</td>
</tr>
<tr>
<td>Albania</td>
<td>20.5</td>
<td>31.7</td>
<td>36.4</td>
<td>52.3</td>
<td>69.1</td>
<td>77.1</td>
</tr>
<tr>
<td>Bosnia and Herzegovina</td>
<td>13.7</td>
<td>27.2</td>
<td>39.2</td>
<td>47.7</td>
<td>58.7</td>
<td>68.9</td>
</tr>
<tr>
<td>Croatia</td>
<td>22.3</td>
<td>40.2</td>
<td>54.0</td>
<td>57.5</td>
<td>64.8</td>
<td>72.5</td>
</tr>
<tr>
<td>Greece</td>
<td>37.3</td>
<td>52.5</td>
<td>58.8</td>
<td>61.2</td>
<td>67.6</td>
<td>74.6</td>
</tr>
<tr>
<td>Italy</td>
<td>54.1</td>
<td>64.3</td>
<td>66.7</td>
<td>68.2</td>
<td>73.2</td>
<td>78.7</td>
</tr>
<tr>
<td>Malta</td>
<td>88.9</td>
<td>89.7</td>
<td>90.4</td>
<td>94.7</td>
<td>96.7</td>
<td>97.6</td>
</tr>
<tr>
<td>Montenegro</td>
<td>12.7</td>
<td>26.9</td>
<td>48.0</td>
<td>63.1</td>
<td>68.0</td>
<td>74.3</td>
</tr>
<tr>
<td>Portugal</td>
<td>31.2</td>
<td>38.8</td>
<td>47.9</td>
<td>60.5</td>
<td>69.8</td>
<td>77.2</td>
</tr>
<tr>
<td>Spain</td>
<td>51.9</td>
<td>66.0</td>
<td>75.4</td>
<td>77.3</td>
<td>80.9</td>
<td>84.5</td>
</tr>
<tr>
<td>France</td>
<td>55.2</td>
<td>71.1</td>
<td>74.1</td>
<td>85.2</td>
<td>91.4</td>
<td>93.3</td>
</tr>
</tbody>
</table>

Source: elaboration on UN demographic statistics (2012)

A Principal Component Analysis was carried out on data collected in Table 2 with the aim to discriminate Mediterranean countries according to the dynamics of urban population rate over time. The score plot (Figure 1) discriminates developed countries in southern Europe together with Israel from emerging and demographically-growing countries in northern Africa and the Middle East.
Table 3. Population trends (million inhabitants) in selected city regions in the Mediterranean.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Athens</td>
<td>1.8</td>
<td>2.4</td>
<td>3.0</td>
<td>3.1</td>
<td>3.1</td>
</tr>
<tr>
<td>Istanbul</td>
<td>1.1</td>
<td>1.7</td>
<td>4.4</td>
<td>9.0</td>
<td>11.4</td>
</tr>
<tr>
<td>Ankara</td>
<td>0.5</td>
<td>1.1</td>
<td>1.9</td>
<td>3.2</td>
<td>3.8</td>
</tr>
<tr>
<td>Rome</td>
<td>1.6</td>
<td>2.6</td>
<td>3.0</td>
<td>2.6</td>
<td>2.7</td>
</tr>
<tr>
<td>Naples</td>
<td>2.7</td>
<td>3.4</td>
<td>3.6</td>
<td>3.0</td>
<td>3.0</td>
</tr>
<tr>
<td>Cairo</td>
<td>2.4</td>
<td>4.6</td>
<td>6.1</td>
<td>9.5</td>
<td>11.5</td>
</tr>
<tr>
<td>Alexandria</td>
<td>1.0</td>
<td>1.7</td>
<td>2.5</td>
<td>3.5</td>
<td>4.3</td>
</tr>
<tr>
<td>Tel-Aviv</td>
<td>0.4</td>
<td>0.9</td>
<td>1.4</td>
<td>2.0</td>
<td>2.4</td>
</tr>
<tr>
<td>Tunis</td>
<td>0.5</td>
<td>0.6</td>
<td>1.1</td>
<td>1.9</td>
<td>2.4</td>
</tr>
<tr>
<td>Tripoli</td>
<td>0.1</td>
<td>0.2</td>
<td>0.8</td>
<td>1.7</td>
<td>2.3</td>
</tr>
<tr>
<td>Algiers</td>
<td>0.5</td>
<td>1.1</td>
<td>1.6</td>
<td>2.8</td>
<td>4.1</td>
</tr>
<tr>
<td>Casablanca</td>
<td>0.6</td>
<td>1.2</td>
<td>2.1</td>
<td>3.4</td>
<td>4.6</td>
</tr>
<tr>
<td>Barcelona</td>
<td>1.6</td>
<td>2.3</td>
<td>3.1</td>
<td>2.7</td>
<td>2.7</td>
</tr>
</tbody>
</table>

*Source: elaboration on UN statistics.*
3. Urbanization in the Mediterranean: territorial implications and the environment

Whilst more than half the world’s population now lives in towns, two in every three inhabitants in the countries bordering the Mediterranean already live in urban areas. The driver of this urban growth is becoming increasingly endogenous, fed by internal redistribution, inter-urban migration and a rural exodus which is either drying up (Egypt, Tunisia, Libya) or holding up (Turkey, Syria, Morocco). Over a third of this growth will take place in the coastal regions, more specifically in the coastal cities. Coastalization (the concentration of population and economic activities in the coastal spaces) is and will represent a considerable phenomenon of urbanization in the Mediterranean region (Kasanko et al., 2006).

Coastalization of the Mediterranean shore has been a general trend since the last two centuries. This is due to the vast areas of hills, plateaux and mountains that characterise the inland areas of the Mediterranean region, that present considerable structural handicaps for urbanization purposes. But the phenomenon of coastalization has intensified in the last years of the 20th century due to growing international tourism on the shores of the Mediterranean. With 150 million tourists visiting the coastal regions, the Mediterranean is the primary tourist destination in the world, and the influx could double between now and 2025 (King et al., 1997).

Furthermore, the globalising economy and the consequent destructuring of the traditional rural economies and societies of the inland areas has significantly contributed to coastal urban growth in numerous Mediterranean countries. Coastalisation of populations and the economy has also been reinforced by major works that have developed the coastal plains, such as irrigation and drainage systems, de-mosquitoising and large-scale transport infrastructures.

Along the European coastal regions urban diffusion is becoming endemic. The environmental impacts of exurban development are evident in a number of ecologically sensitive areas located in coastal zones and mountain areas. The Mediterranean coast, one of the world's biodiversity hotspots, is particularly affected, and the increased demand for water for urban use, competes with irrigation water for agricultural land. This problem has been exacerbated by the increased development of golf courses, where the over-extraction of groundwater has led to salt water intrusion into the groundwater. The consequences of exurban development on the environment, economy and quality of the cities can be summarized as follows: (i) the degradation of urban lifestyles (especially related to the problem of urban mobility) and the ever growing cost of urban infrastructures; (ii) the loss of farming and natural land along the coasts that is often amongst the richest in the countries in question, the disappearance of wetlands and coastal erosion together with the destruction of highly valuable natural habitats and (iii) the intensification of the effects of
natural disasters in urbanized areas (Kahn, 2000). The list above refers specifically to the consequences of urban diffusion along the coasts of the Mediterranean.

4. Conclusions: Planning for the future of Mediterranean peri-urban regions

Faced with these trends, the policies of integrated management of the coastal areas, of sustainable conservation of the coastline, wetlands and peri-urban farming land, of promoting sustainable agriculture and rural development of inland areas and of integrating tourism and the sustainable development should be strengthened everywhere. The Mediterranean Commission on Sustainable Development endeavours to produce ideas and strategic proposals in this regard, and efforts are being made on the regional level and in most of the Mediterranean countries, but results are still very limited.

On the one hand, the growing pressure on the environment due to human-induced demand factors (urbanization and natural resources consumption), is increasing the disaster potential of megacities. Cities are expanding over more and more area, thus increasing their exposure to natural disasters (such as earthquakes and floods). In particular, the abundance of illegal poorly constructed peripheral settlements greatly contribute to the high vulnerability category that the Mediterranean has been awarded with.

On the other hand, territorial imbalances, albeit mitigated by a phase directed towards devolution and the spread of urban economic functions on a regional scale, continue to show their influence on the internal and peripheral areas in the Mediterranean. The convergence of the countries of the northern shore toward structural policies for the environment and the containment of land consumption, however, has given rise to a sort of 'cultural transition' (Fuschi, 2008) which was expressed, as an example, by local Agenda 21 framework.

Nevertheless, many problems remain at stake in these areas: the loss of agricultural areas and semi-natural, high-value cultural landscapes, the trivialization of the fringe, water scarcity in some peri-urban areas of recent legalization, the lack of truly integrated public transport systems, among others (e.g. Alphan, 2003). These offer examples for an 'urban crisis' accentuated by the phenomena of discontinuous and low-density urban growth (Paul and Tonts, 2005). Urban planning in the socioeconomic conditions typically observed in the Mediterranean was sometimes permeated by choices proved unsuitable to interpret, both at the urban scale and at the regional level, the need for development, recovery, re-balancing of the Mediterranean city (Leontidou, 1990).

In view of the recurring phenomena of spontaneous and de-regulated settlements, the failure of planning, for too long has entrenched behind the economic backwardness and cultural marginality of the Mediterranean (Ioannidis et al., 2009). Spontaneity was often referred as the key
to understanding the landscape and at the same time as production space (Costa et al., 1991). The resulting production of scattered and fragmented cities had a profound impact on the structuring of many urban regions (Chorianopoulos et al., 2010). At the same time, the production of this landscape continues to be associated with the elements and the centrality of the past: the coastline, historical cities, the interior lowlands (Leontidou, 1996).

To explain these processes is then necessary to scale down. The production of new spaces, more sustainable and at the same time moderately compact represents the transition between the past, present and future. Ambitious goals can be achieved in the construction of a common cultural and institutional platform for the management of regions experiencing massive exurban development, for the promotion of multi-functional agriculture acting as a brake to urban diffusion and latent forms of deterioration of the traditional landscape. These actions can be achieved through the development of strategic plans involving technical, political and economic stakeholders. Networking, sharing common goals, including through co-financing mechanisms of reward and penalty, appear important tools in the management of specific and concrete problems, such as the upgrading of the suburbs, the waste management, recycling of abandoned industrial spaces and realities port placed at the edge of the dynamic global economic scene. More generally, planning for sustainable Mediterranean urban regions should converge through a multiplicity of objectives including the quality of life of its inhabitants, the architectural quality and the natural landscape surrounding them.

References


