The Clumsy Metropolis

Urban Dynamics and Globalization in a Medium Sized Metropolitan Area of the Italian "Mezzogiorno"

Abstract

Metropolitan areas are changing profoundly in the globalization era. They are, more and more, characterised by settlement patterns in which city sprawl is the prevailing feature. The real novelty is the multipolar nature that they are assuming, in contrast with traditional settlement patterns of *fordist* metropolises. Among others features, new industrial and commercial landscapes are marking metropolitan sprawl worldwide. Phenomena like the settlement of new *high-tech* production facilities or the diffusion of commercial clusters or large shopping malls represent an important attribute of metropolitan systems.

In this scenario, planning has to confront new challenges related to the increasingly complex interactions between urban places as centres for economic, social and cultural life, and new dynamics marked by complex flows of information, services and labour resources.

Moreover, cities, the place of *knowledge based* economies, are becoming nodes of a complex network where competition in attracting investments is becoming fierce.

In this scenario, the major cities of European lagging regions, including the Italian *Mezzogiorno* are confronting this new perspectives with a specific stance. In particular, some areas of Southern Italy are in an uncertain condition, between a substantial alignment with the consumption patterns and lifestyles of richer areas and a weak capacity of assuming a relevant role in the global network of competing cities.

This paper presents some findings of a more comprehensive research on the Catania Metropolitan Area, the second largest city and the only one that is assuming a marked multipolar configuration in Sicily. In particular, the focus is on localisation patterns of commercial activities and on the emergence of an embryonic diffusion of high tech firms, generated by the presence of a *state-of-art* semiconductor plant.

A smart marketing action conducted in the second half of the 90's was able to partially reverse the negative stigma attached to the city, but this was not followed by an effort to set up a coherent policy at metropolitan level. The considerable gain in terms of city image has been not accompanied by substantial actions aimed at solving the major inefficiencies of this metropolitan system, within a coherent strategic framework aimed at favouring/orienting the overall development of the area.

However, the analyses of collected data reveal that settlement dynamics begin to follow a pattern that take advantage of the dense interactions that characterise this metropolitan area like larger and better managed ones.

Globalization and the cities

According to Castells (1989) in the last quarter of the twentieth century there was a convergence between social and technological change, corresponding to the rise of the *informational mode* of development. In this mode the source of productivity is identified in the qualitative increase of knowledge. Whereas in the other two modes, the agrarian and the industrial, productivity increases are due respectively to the quantitative increases of labour and means of productions in the former and the quantitative and qualitative increases of energy in the latter. At the beginning of the 1970s, a new economic order emerged from the crisis of the socio-economic system based on welfare, state regulation and international control of the economy.

The new order is characterised by an increase of surplus due to higher productivity, a different orientation of the State intervention and the accelerated internationalisation of economic processes. This substantial change was possible thanks to the technological revolution which introduced new production and communication systems and the consequent organisational changes.

Today, the localization patterns of high-tech industries are characterised by a new logic. Knowledge generation and its diffusion are the key elements. Companies are looking for

highly skilled labour, sources of technological information and high risk capital. Physical proximity is not important for transport cost reduction but in order to create a favourable environment for information exchanges.
Cities all over the world are changing under the effect of powerful socio-economic changes. Authors like Hall (1993) and Sassen (1991) have identified some of these forces and their impacts on urban structures. Globalization and dismemberment of trade barriers caused the deindustrialization of traditional industrial areas and the emerging of new production locations. The strategic role played by service economy caused an increasing centralisation of specialised functions which need high levels of investments in communication technologies together with face-to-face contacts. These features characterise only few cities which form a world-wide network with a hierarchical structure dominated by "global cities".
The effects of this evolution of the world economy concern not only main "global cities" but also non leading areas of western countries or places in less developed ones. A particularly interesting phenomenon is the emergence of *high tech clusters* in these areas. Examples are Ireland, Scandinavia or Cambridge in the UK, but also Israel and India. Many studies are trying to understand how these clusters emerge (among the others: Saxenian, 1996 and Stenberg, 1996). Some researchers are looking specifically at marginal areas (Gambardella, 2003). The main explanations of the concentration of knowledge intensive activities in peripheral areas include: the supply of qualified workforce, the presence of managerial competences, a good connection with international markets and the high entrepreneurship of people that have limited other opportunities of using their competences. These phenomena are slowly reaching also Southern Italian regions, the part of the country affected by a long lasting economic and social depression. There are some initial examples of small *high tech clusters* that are emerging in regions like *Campania* or *Puglia*. One of the most interesting is the area of Catania, the second Sicilian city, where activities related to the production of electronic devices are emerging around the large plant of a multinational company (Cesaroni and Piccaluga 2003).

The Changing Role of a Medium Sized Southern City
Catania is the tenth largest city in Italy and the fourth in southern regions, commonly named *Mezzogiorno*. As a matter of fact, according to the last Census (2001) Rome, Milan, Naples, Turin, Palermo, Genoa, Bologna Florence and Bari are, in descending order, the Italian cities larger than Catania. Sicily, is the largest Italian region with a total population of 4,86 million inhabitants.
The city, founded by Greek settlers in the 8th century BC, is located along the eastern coast of the island at the foot of mount Etna. Up to the first half of the 20th century Catania, as many other cities in Southern Italy, has played a role of main marketplace and supplier of services for a large region, namely the south-eastern and central Sicily that includes the provinces of Syracuse, Ragusa, and Enna.
The hilly slopes of the volcano, north of the city, represented for many centuries its rich agricultural background. The scenery was marked by a fine-grained system of cultivated fields and manors dotted by small towns and villages, built along a dense network of old narrow roads.
Thanks to the entrepreneurial attitude of its inhabitants a famous Italian journalist and writer, in the 1950s, compared it with Milan, or rather Marseille, and this description (Piovene 1957) was probably at the origin of the stereotyped definition of *Milano del Sud* that was often promoted by media up to the 1970s. Unfortunately, the city economy was definitely far from the Milan's one and Catania was hit harshly by the industrial restructuring of the 1980s. The huge industrial estate (about 1,800 hectares), optimistically planned in the 1960s, remained almost empty and many of the existing plants were closed or restructured. However, the city has maintained its role of commercial centre and provider of services for a region that goes beyond the provincial borders. Almost in the same period of time, the city development was characterised by the same dynamics of wealthier cities: an extensive suburbanisation that overwhelms the fragile original settlement pattern along the volcano slopes (see fig.1). Since

the 1970s the urban structure has begun to change completely assuming some of the typical features of a small city region.

The Rise of High Tech Industry

A partial overturn in the declining economic trend started when the multinational company *ST Microelectronics,* that was already running a plant in Catania, decided to invest on this location changing it from its previously marginal role of assembly plant to the one of a state-of-art facility.

ST Microelectronics is a company that produces a broad range of semiconductors, used in the telecommunications, computers, consumer, automotive and industrial sectors. The company has 17 manufacturing sites in the USA, France, Italy, Malta, Morocco, Singapore, Malaysia, and several R&D centres.

The Catania plant, opened in 1962, in the early 1980s was a loss-making facility with a high possibility of being closed. However, the presence of a good University, that provides well trained people, the low cost of labour and easy air connections were considered sufficient elements for investing on the existing plant. Moreover, in this industry, highly representative of globalisation dynamics, the absence of a local market is negligible, given the limited weigh and size of the products that can be easily shipped world-wide. After a long and painful restructuring process the plant changed completely its mission. The initial workforce of 2,200 low skilled workers was reduced to 900 and the research and engineering activities were developed. Two new production modules, the second is still under construction, were built in a few years. From 1996 to 2001 the company invested some 1,500 million € in the Catania plant and the new production module now under construction will cost about 2,000 million €. The plant is currently employing about 4,500 people, 1,050 in R&D activities and after the completion of the new module the overall ST Catania site will employ some 5,500.

Today, the *ST* Catania plant produces a wide range of components, used in applications such as cellular telephones, personal computers etc. The plant hosts not only production lines but also basic and production oriented research facilities. Some of these activities are conducted in partnership with the local University and the Italian National Research Council. This condition is favourable not only for the company that takes advantage from the research outcomes but also for the researchers that can have access to the advanced and very expensive equipment of the production lines. The results reached by these partnerships are considerable as it is shown by the relevant number of patents issued.

Up to 5 years ago the company was an isolated experience. Now there are the first evidences of a diffusion of high tech companies in the area. The majority of these businesses are providers of *ST*, both local companies or small branches of large multinational ones like Canon or Applied Materials. A research conducted within the faculty of Economy of Catania University has identified 200 local companies among the *ST* providers. An in depth analysis on a sample of 50 has shown that about 50% of them supplies high tech services (Di Guardo, Schillaci, 2003).

Moreover, other companies not directly linked to *ST*, like *Nokia, Omnitel, IBM, Marconi*, and more recently *Maxim*, have settled small research units or other business activities in the Catania metropolitan area. Some of these, like the call centre of *Omnitel* are just the updated version of labour intensive activities, others are small but definitely knowledge intensive functions.

The case of the last entry, *Maxim*, is quite interesting. *Maxim Integrated Products* is an American Silicon Valley company that designs and produces integrated circuits. The company runs several design and technology centres located throughout the U.S. Canada, Europe and India, always in remote locations, like Bangalore in India or the island of Kona in Hawaii. The only two design centres located in Italy are near Milan and in Catania. The company officials have declared that Maxims *"*has for several years established design centres where engineering talent resides or would like to reside. Some engineers would rather not live in the Silicon Valley, and with the advent of high-speed communications to remote locations, engineers at satellite locations can be highly productive and effective*".* Analysts hypothesize that another reason for establishing so many design centres in remote

places is to make less convenient for design talents to "walk across the street to the competition, a popular Silicon Valley habit". (Quotations from Inside Chips.Ventures, May 2002). It is likely that this localization choice has been also favoured by the presence of well trained *ST* designers not inclined to move from the city but attracted by better salaries.
The interesting point of this case is that Catania is playing a role in new corporate rationalities: the remoteness of the place in terms of distance from major concentrations of high tech businesses from a weakness is turning into a strength. In addition, beyond any particular strategic stance on location choices, a fact is indubitable: the cost of an electronics engineer in Catania is about a half compared with Milan and less than a quarter compared with California (Betts, 2000).
Also other new business ventures have been established in the area by local entrepreneurs that operate in fields like satellite telecommunications or state-of-art software. There is also a moderate presence of small companies that operate in advertising and other media industry. The majority of these activities are very small ones aiming at selling in niche markets. So far there are limited data available, about their size and the overall impact on the economy of the area. However, in recent years the city has shared, to a certain extent, the euphoria of the new economy boom and also its subsequent crisis.
The described phenomena seem to be just the beginning of a turnaround of the city economy that has not yet consolidated this positive trend. For instance the presence of another large multinational company (Wyeth Lederle) that produces pharmaceuticals have not boosted, so far, the same diffusion of activities like the electronic sector.

The Image of Catania
For many years, Catania has been considered just like the other main cities of southern regions: a declining place plagued by unemployment, criminality and poor infrastructures. Moreover, the local bureaucracy was considered a centre of power and a dispenser of patronage that held back the inward migration of new businesses (Betts 2000). This declining scenario has begun to change in the early 1990s. The mayor that ruled the city from 1993 to the end of 1999 made considerable efforts not only to solve the main problems but also to reverse the city negative image. The latter action was definitely very successful since in a few years the city began to appear in the media not only for its major problems but also for the emerging new economic activities, its vibrant night life and the presence of trendy entertainment activities. For instance, the downtown decaying area was revitalised in a few years by a considerable number of restaurants, hotels and pubs.
The municipal government was able to solve some of the major city problems and this positive approach woke up new interests towards the city, both at national and international level. The quoted article of Financial Times (Betts, 2000) can be considered as a sign of the interest of the business community. Of course, not all the media coverage is depicting the situation positively. In 2002 the economic weekly magazine The Economist, defined Sicily as "The Third World's of Europe", provoking heavily flamed polemics.
In January 2002, *Competitive Alternatives,* the guide for comparing business costs in North America, Europe, and Japan issued by the multinational consulting firm KPMG, indicated Catania at first place (with Naples) out of 19 cities in Continental Europe. The city scored an overall index of 87.2 better than Turin, Vicenza and Livorno in Italy, Maastricht, Vienna or Düsseldorf in Europe. The study compared 86 cities in 9 countries analysing 27 location-specific cost factors, including labour, taxes, transportation, energy, industrial land, building construction, leasing etc. Among all cities featured in the report, Catania has the lowest salary, and office lease costs, and the second-lowest industrial construction costs.
The present situation of the media coverage contains some paradoxical elements. In spite of the still contradicting nature of the described phenomena, its media coverage has been quite extensive and often over optimistic. A new slogan, "Etna Valley", recalling of the more famous Californian one, once again created by a journalist (Russo, 1997), has been intensively used in media coverage. The major risk seems that this interest can degenerate in a new stereotype similar to "*Milano del Sud"* coined in the 1950's. This prevailing image

cast by media can prevent from a careful evaluation of the real problems that this place is still facing.

The Metropolitan Area
The following paragraphs give a brief description of the main urban dynamics in the Catania metropolitan area, using the currently available data. The aim is to explore the most relevant changes in the settlement pattern trying to understand the possible relationships with the new tendencies of the city economy described above. The data used have been referred to the 27 municipalities (see fig. 1) around the main city included in the official *Area Metropolitana di Catania* defined by a Decree of the President of Sicilian Regional Government in 1995. Even if the criteria used to include these municipalities in the metro area have been debated quite harshly, these 27 municipalities represent roughly the area with the higher intensity of functional and physical interactions.

The Suburbanization Pattern
Since the 1970s the metro area has been characterized by an intense urban sprawl. Also in this region people moved from the main city to suburbs, according to general trends that had been taking place in industrialized countries since the 1950s. The phenomenon happened later in the cities of Southern Italy where the increase of population of central cities was prevailing up to the 1980s. Tab. 1 shows how from 1971 to 2001 the inhabitants within the administrative borders of the main city decreased of 31% whereas the rest of the metro area increased of 45%. Looking more in depth at the data, it appears that some municipalities have increased up to nine times their population in 40 years, reaching values of population density (5,400 inhabitants per square km in one case) comparable with the ones of centers belonging to the metropolitan areas of Milan, the largest in Italy.
The reasons of this phenomenon are similar to the well known ones that characterize richer city regions of western countries: the search of new residential models like detached or semidetached housing, the diffusion of private cars, and lower real estate prices outside the main city.
In addition, the phenomenon in this area was also caused by the lack of tight zoning regulations in smaller municipalities, in comparison with the main city where a master plan that reduced severely the building ratio per square meter, was approved in 1971. The frantic building activity that had been conducted approximately since the 1970s produced a new urban landscape that wiped out the agricultural activities. Farms were parceled in small plots, often illegally, or according to poor master plans. The phenomenon of parceling and building without consent was quite common in Italy during the 1970s and 1980s. There are estimates of about 12% dwellings built without consent between 1971 and 1984, at national level. In the same time lag, in Sicily, this percentage raised to about 27% of the total existing housing (Gucciardo, 1997). However, the lack of legal consent does not mean that these are shanty-town like settlements, built with corrugated iron, cardboard and plastic sheets. Very often it is not possible to distinguish illegal neighborhoods by the quality of buildings or by the design of the settlement layout. As matter of fact, both these elements are comparable with the legal ones as a whole. This complex phenomenon is the result of a set of faults, including the lack of proper physical planning.
The overall result is quite a homogeneous urban sprawl characterized by an intense usage of the existing infrastructures (fig. 1 and 2). One of the main problems is the road system that has developed via piecemeal growth. This system rests mainly on the narrow and winding radial roads originally built for horse carriages and slowly enlarged and adapted to car usage. New roads are mainly distribution ones indispensable to reach the single plots and with a minimum cross section (4 – 6 meters) without sidewalks and poorly designed junctions. There is almost no sign of hierarchical order in the road system, since the few tangential roads built around the existing downtowns are rapidly surrounded by commercial activities or new residential areas becoming immediately congested. Public transports, mainly bus lines, are suffering from the almost continuous traffic congestion generated by the growing non systematic flow of people and freights. The only relevant investment in the road system has

been the construction of a motorway bypass to connect the two main motorways, the northbound one towards Messina and the westbound one towards Palermo. This infrastructure was completed in the late 1990s but it had been planned almost 20 years before. As a consequence, it is now unable to drain off the traffic flows generated by the intensive built-up area that has surrounded it.
The original almost mono functional system of residential areas has slowly evolved towards a more complex mix of activities. According to a well known evolution, after the houses, commercial activities and public services began to move to the suburban area and, more recently, there are the first indications of a moderate diffusion of other businesses, including the knowledge intensive sectors.

Business Localization Dynamics
The comparison of 1981 and 2001 census data shows how the shift toward suburbia of all business activities and institutions has followed a similar pattern to the population's one. Table 2 shows the aggregate data for the main city in comparison with the rest of metro area. In 1981, only 42% of business units and institutions were located outside the main city, in 2001 this percentage has increased to 50%. In the same time lag, jobs percentage outside the main city moved from 30% to 44%. The trend is clear even if the change in distribution is less marked than the corresponding shift of population. The total number of people employed outside Catania is still less than in the main city but it has increased of about 63% whereas Catania lost in the same period about 9% of its jobs.
The current condition is still quite far form what can be considered a typical feature of *edge cities*: more jobs than bedrooms (Garreau, 1991). The examined case is quite far from this condition not only at aggregate level but also considering each municipality. However, data show that the area is becoming something more complex than a simple collection of suburbia around a central city.
Considering only retail activities this tendency is even clearer. In twenty years the main city lost 20% of commercial business units and 42% jobs, whereas the rest of metro area increased both business units and jobs (see tab. 3). The reasons of this shift are similar to the ones that caused the change in retail distribution in the majority of metropolitan areas of western countries: a greater number of consumers in the suburbia but mainly the availability of large buildings and space for parking, compared with downtown locations.
But the census data are not enlightening thoroughly the phenomenon since they are too aggregate. A more in depth study carried out at regional level (La Greca and Martinico, 2003), gives more details and specificities on the commercial sector. The "malling" of the suburbia is emerging also in this area with some specific features. Instead of single large malls the diffusion of major commercial businesses is marked by the emerging of clusters of medium sized commercial activities. In one case, a proper commercial district (with more than 240 businesses) has emerged in an area close to the motorway bypass, located in the municipality of Misterbianco, a town of about 43,000 inhabitants at the western administrative borders of the main city. This specialized area serves the entire south eastern part of the island and it features a mixture of department stores belonging to national chains but also regional or local companies. Other two smaller clusters, in the shape of commercial strips are emerging north of the main city (see fig. 2). All these commercial concentrations are located near motorway exits or main national roads and are becoming very successful since there are projects of further investments in this sector including a large one hundred thousands square meters mall that will extend on a total surface of about 27 hectares, now under construction west of Misterbianco.

High Tech Activities ad Services
The analysis of data available shows that also knowledge intensive or high tech activities are spreading in the entire metro area. A small sample of data indicates clearly this tendency. Tab. 4 shows the distribution of business units registered at the Provincial Chamber of Commerce from sectors representative of high tech activities. Their distribution is almost equivalent to the one referred to all businesses, that is about 40% are already located out of

downtown. Considering only companies registered as "computer manufacturers", 60% of these are located outside the main city.
These data confirm that the suburban area is changing thoroughly its nature. Many business activities that require office-like spaces especially software houses but also other Ict companies, are diffusing in the suburban sprawl. These locations offer spaces at lower cost, easy parking and are relatively easier to access by car from residential areas, in comparison with the downtown locations . Sites near the motorway bypass are clearly preferred and this condition is often stressed in the companies web sites as a plus for prospective clients.
Moreover, beyond the data shown there are also qualitative signs of this tendency toward a multipolar functional pattern. The suburban area begins to attract not only retailing activities or services for people that live in these neighborhoods. For instance, one of the main private medical centers in Sicily specialized in heart transplants is located in a small town ten kilometers from the main city. Also the offer of high schools is becoming richer outside the main city (see tab. 5). Only the University is still linked to main city even if many faculties and departments left their old premises and moved to a new campus that is on the northern municipal border.
More recently, the main offices of Provincial Government have moved from the downtown historical premises to a suburban location. This choice, even if triggered by the availability of a large building of a bankrupted company was preferred to the previously agreed choice of moving the offices in a new building, planned in the large social housing district of *Librino*. This is a sort of new town for 60.000 inhabitants that was planned and built south of the main city of Catania and that is now far from the new "diffused centre" of the metro area. Moreover, the new premises are hosting not only operational offices but also the departments headquarters. This event can be considered highly symbolic since it is the first time that a substantial share of the political power leaves its traditional premises in the old prestigious city centre moving to an anonymous international style office building.

Main Planning Issues
The phenomena described above are taking place in a condition where planning has played quite a marginal role, especially at metropolitan level. This state is typical of Italy, where the prevailing planning practice has been so far addressed to local land use master plans. The same has happened in Sicily where, a part from a limited number of examples, the only significant planning experiences with a span that overcomes municipal borders are the ones related to the state subsidies for disadvantaged regions from 1950s to 1970s. In these years a number of plans mainly related to industrial infrastructures had been drown up but these experiences are now outdated and were not replied . So far, there have been only limited experiences of territorial plans at regional or provincial level and there are not examples of strategic plans. Actually, the latter type of plans are not diffused in Italy at all since only two major cities, Turin and Florence, have a strategic plan.
A far as the Catania area is concerned, the need of supra-local management and planning is particularly urgent. The way in which this conurbation has formed in the last 50 years explains how old administrative borders have become meaningless. As a matter of fact these borders often cut in incongruous bits the current homogeneous urban fabric, causing relevant planning and management problems. Also apparently trivial activities like infrastructure maintenance, public transport coordination or basic services like waste disposal become complex to manage. In spite of this conditions there are almost no attempts to set up forms of metropolitan government.
More specifically, the harshly debated theme of the economic development of this area, still plagued by two-digits unemployment rate, has not generated a synergic capacity of action. Beyond the apparent interest of public opinion and administrators there is very little action aimed at encouraging and accompanying effectively the existing processes. There has been a limited capacity of public agencies and institutions, a part from the local University, to take advantage of the presence of the growing sector of high tech activities.
For instance two relevant initiatives, the *Business Incubator* and the Science Park, are limited in scope since they assist a small number of companies still at their initial stage. The

business incubator hosts quite successfully about twenty small companies but it has not been followed by similar initiatives, whereas the Science park is playing a marginal role and it resembles an old-style subsidised public agency.
On the whole, there is a poor capacity of dialogue among different initiatives that appear extremely fragmented and ineffective. This is the case of "Single Bureaus" for assisting companies set up in almost every municipality in compliance with a national law, These offices have been left quite always without proper funds and managerial competences and their role in this moment is definitely marginal .
Land use and physical planning issues are in the same stream. Among the main weaknesses of the overall physical planning system the following one are particularly relevant:

- the lack of vision about the future of this area, in terms of clear objectives of development and territorial quality;
- the absence of any form of coordination among planning choices made by single municipalities or different public administrations.

The result of this state is a piecemeal approach to the problems the area that risks to weaken any marketing strategy.
For instance, the availability of land zoned for industrial uses is still limited and there is no coordination among local plans. The result is a difficult match between supply and demand of industrial land. The great industrial estate south of the main city, planned in the 1960s and slowly implemented in the following years, is still representing the main offer of industrial land in the metro area. It hosts the major activities, including the *ST* plants, its research centres and the above mentioned Business Incubator and Science Park, but it does not represent an effective tool for satisfying the needs of prospective investors. The main weak points of this industrial estate are: its old fashioned planning concept aimed at hosting smokestack industries and its poor management as well as the difficulties related to the re-use of dismissed plots (Martinico, 2001). In addition, the offer of planned industrial land outside the main city is almost non existent. This is due to different reasons including the statutory planning system and the traditional resistance to set up partnerships among local governments.
Similar problems can be found in other sectors like transport planning with heavy consequences in terms of traffic congestion and the consequent air pollution.

Final Remarks
From the data available it emerges that this place is on the verge of assuming a role in new global economy with little awareness of its potentialities and of existing risks. In spite of the difficulties in planning and land use management, a certain number of new business activities are springing in the area. It can be hypothesized that this is happening because perceived advantages are prevailing over disadvantages. Many industrial activities that do not require large or special facilities are localizing in inappropriate buildings or in industrial sheds built according to zoning regulations for other purposes, like agricultural supporting activities. Moreover, activities like a software house can be set even in a flat of a multistory condominium of a remote periphery. Also in the examined case, land use practices demonstrate a high degree of "resilience" and many activities can adapt the existing spaces to their needs or vice versa.
But these observations open the field to a central issue: the lost opportunities of the absence of a thorough strategic approach to the problems. Many countries and regions that have been successful in attracting new businesses are planning carefully not only their marketing activities but also the overall offer of the most valuable assets for prospective investors. These include direct and indirect ones like education and training, infrastructures but also cultural heritage and amenities.
Many examples can be found not only in European countries like Wales, France or Ireland but also outside Europe. For instance the case of Taedok Science Town in Korea is an example of matching between land use planning and business attraction initiatives in a metropolitan area (Oh, 2002). Moreover, there are places like Cambridge in Massachusetts

that are using the development of R&D activities to leverage enhancements to the city livability (Farroq, 2002).
The data analyzed are a first step into a more detailed survey of the ongoing phenomena. However they confirm that high tech business activities can choose to localize in areas with poor infrastructure and ineffective management. The analyzed case study demonstrates also that an intensive media coverage can be very useful to attract new businesses. However, initial successes do not necessarily imply the rise of a collective awareness of the need of continuously supporting and enhancing these achievements through an effective and coordinated strategy that include physical planning. A coherent strategy is needed in order to translate the substantial gain in terms of city image in long-lasting advantages.
The real challenge that the local community will face in the next years seems to be the capacity of initiating and conducting a comprehensive set of policies, including territorial ones, in order to consolidate and diversify the first seeds of a new development.

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All information provided in this paper, including references to specific companies or institutions, is aimed at illustrating territorial phenomena and not at judging either the effective or ineffective handling of a particular situation.

	1951	1961	1971	1981	1991	2001	51-01	71-01	51-71
Total Population in Metro Area (A)	476.843	564.951	630.810	687.008	709.096	722.661	52%	13%	32%
Total Population Main City B	299.629	363.928	400.048	380.328	333.075	306.464	2%	-31%	34%
Population Metro Area except main city C	177.214	201.023	230.762	306.680	376.021	416.197	135%	45%	30%
B/A	63%	64%	63%	55%	47%	42%			
C/A	37%	36%	37%	45%	53%	58%			

Tab. 1 - Population in Catania Metropolitan Area (Source: Istat Official Censes)

	1981		1991		2001				
	Business Units (BU)	Employees (E)	Business Units	Employees (E)	Business Units (BU)	Employees (E)	Var population 1981-2001 %	Var. BU 1981-2001 %	Var. E 1981-2001 %
Tot Metro Area (MA)	33.142	149.659	36.360	164.992	42.496	168.438	5,2	28,2	12,
Catania (C)	19.127	104.404	18.874	104.282	21.273	94.612	-19,4	11,2	-9,
MA - C	14.015	45.255	17.486	60.710	21.223	73.826	35,7	51,4	63,
% (MA – C)/MA	42%	30%	48%	37%	50%	44%			

Tab. 2 All business activities and institutions (Source: Istat - Official Censes of Business Activities)

	1981			2001				
	Business Units (BU)	Employees (E)	E x 100 inab	Business Units (BU)	Employees (E)	Add tot x 100 ab	Var. BU 1981-2001 %	Var. E 1981-2001 %
Tot Metro Area (MA)	17.887	44.759	6,5	17.510	36.936	5,1	-2%	-17%
Catania (C)	10.590	29.778	7,8	8.499	17.366	5,7	-20%	-42%
MA - C	7.297	14.981	4,9	9.011	19.570	4,7	23%	31%
% (MA – C)/MA	41%	33%		51%	53%			
% C/MA	59%	67%		49%	47%			

Tab. 3 - Only retail (Source: Istat - Official Censes of Business Activities)

	Software (K72)	R&D (K73)	Electric, electronic and optical devices manufacturing (DL)	Only computer and office machines manufacturing DL30	Pharmaceutical manufacturing (DG24.4)	All Manufacturing Activities (D)
Total Metro Area	791	30	815	55	11	7408
CATANIA	471	23	456	22	7	3723
Metro - Ct	320	7	359	33	4	3685
%Rest of Metro Area /tot	40%	23%	44%	60%	36%	50%
In brackets codes according to Italian Statistical Agency (Istat) Classification - DL30 is a subclass of DL						

Tab 4. Registered Business Units in High Tech Sectors in 2003 (Source Provincial Chamber of Commerce)

Municipality	#	%	
Catania	25	63%	62,5%
Acireale	7	18%	37,5%
Paternò	5	13%	
S. G. La Punta	3	8%	
Total	40	100%	

Tab.5 High Schools in Metro Area (Source: Csa)

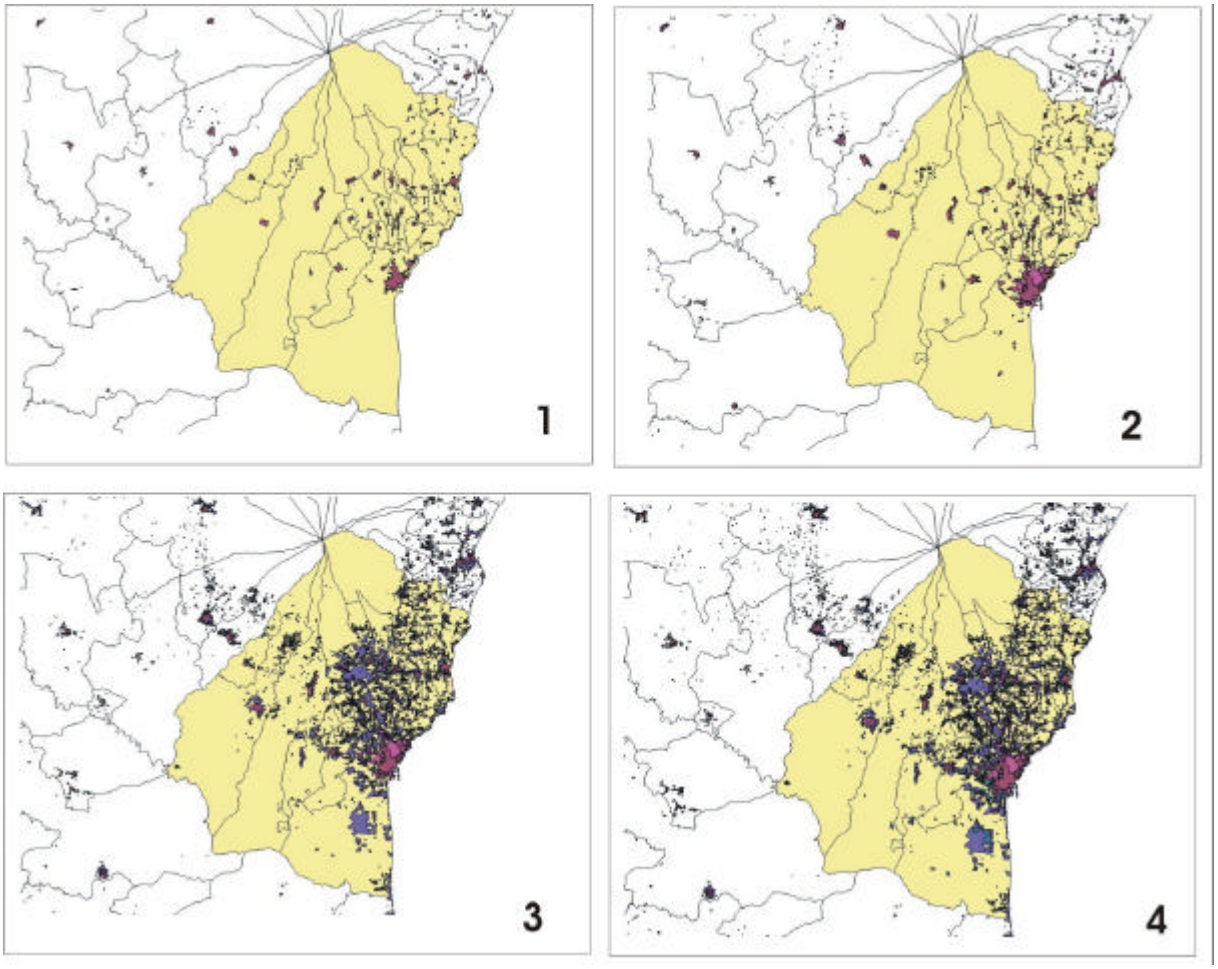

Fig. 1 Urban growth in the Catania metropolitan area. In pale yellow the borders of the official *Area metropolitana*

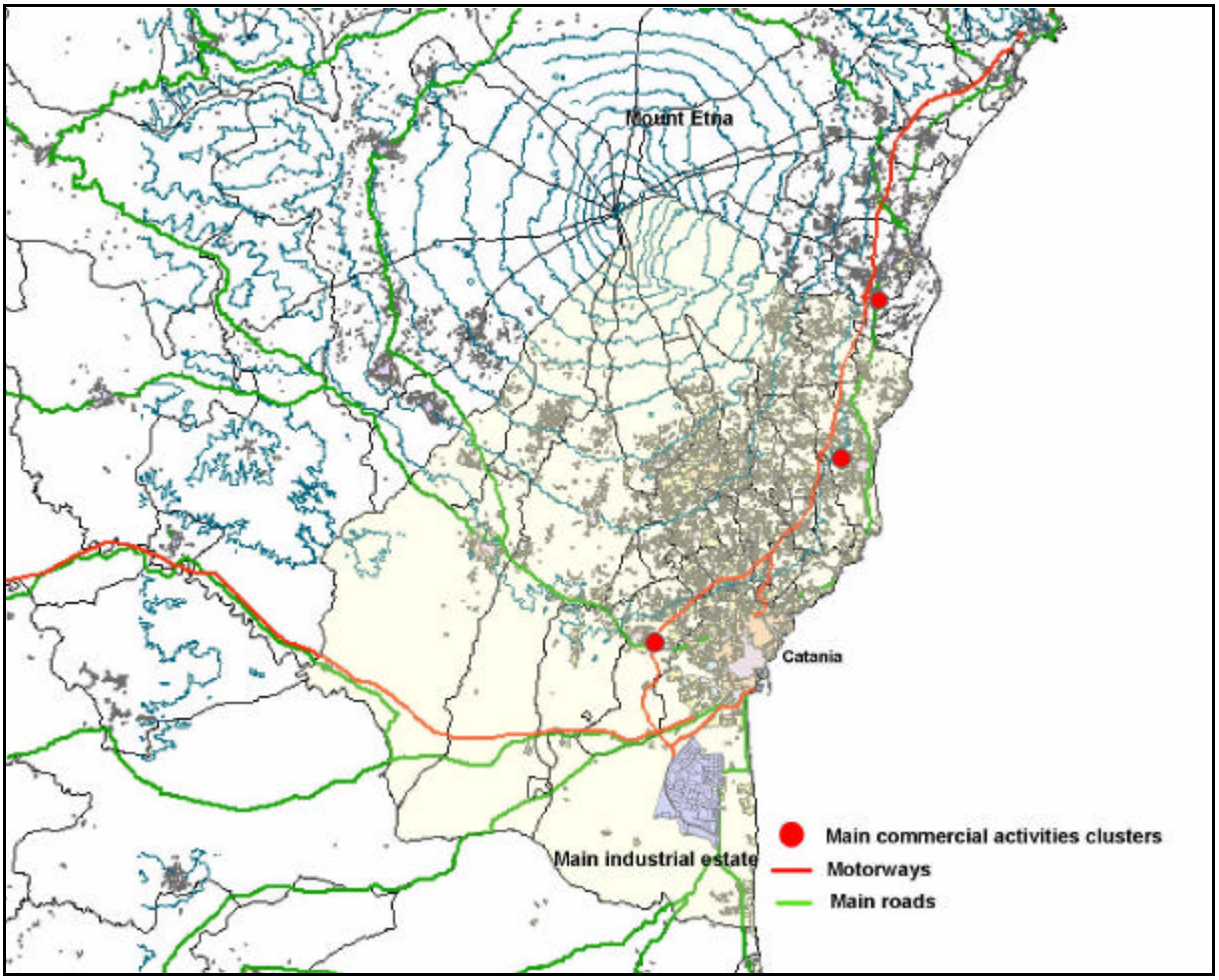

Fig. 2 Catania Metropolitan Area: Urban fabric, road system, major non residential functions