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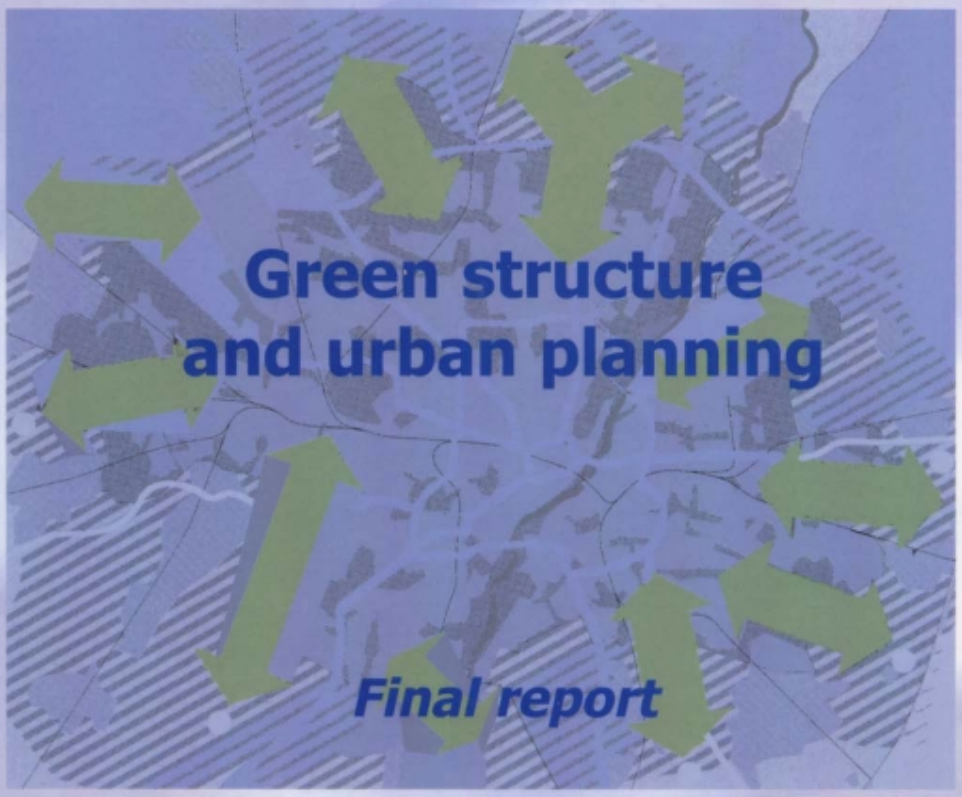

Green structure and urban planning

Final report

COST Action C11

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Green structure and urban planning

Final report

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Milan and the regional 'green structure' of Lombardy

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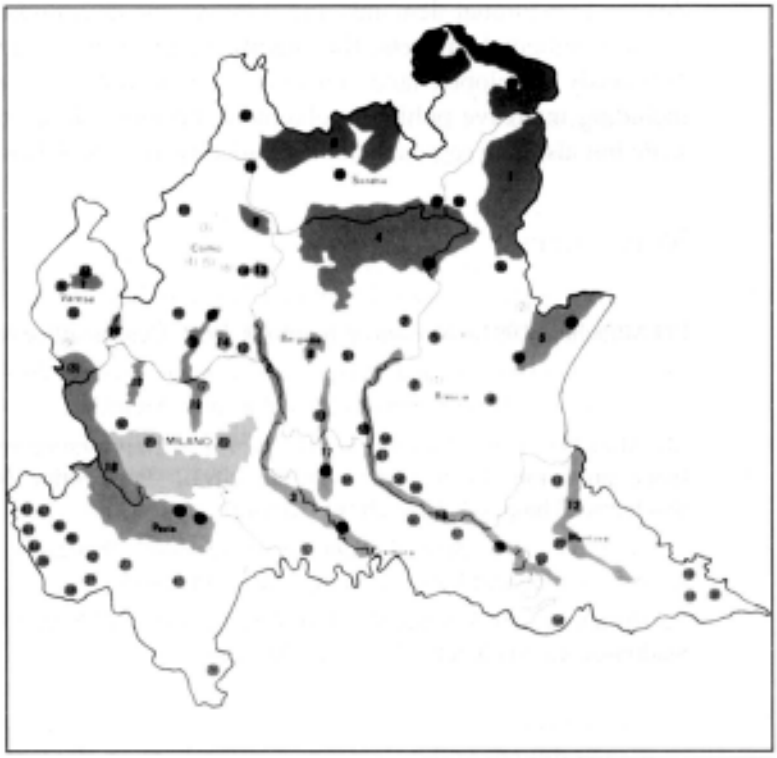
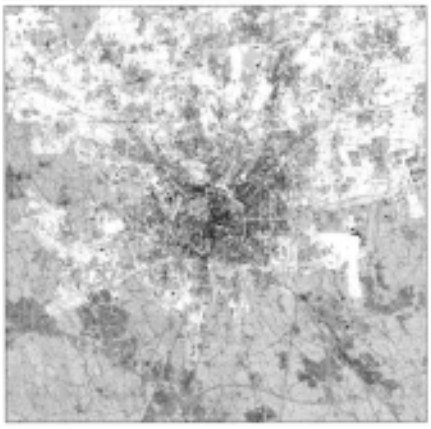
1 Milan, geographic and demographic data



Milan (the Roman Mediolanum – "in the middle of the land") occupies a central position in the Lombardy plain, between the foot-hills of the Alps (nearly 40 km to the north) the river Po (almost 50 km to the south) and two of the Po's main tributaries from the Alps, the rivers Ticino and Adda, (some 30 km to west and east, respectively).



At about 100 m. above sea level, Milan occupies a prime position in relation to water courses gravitating down from the Alps to the plain.

Ground in the northern part of the city is fairly dry, while land to the south is extremely lush and fertile. These geographical factors have long played a key role in the city's development. Dense urbanisation and manufacturing activities in the northern part of

the area expanded to the north-west (along the Ticino valley, towards Lake Maggiore) and to the north-east (along the Adda valley, towards Lake Como). Conversely, land to the south has remained principally agricultural, with relatively few towns concentrated mainly along the route between the western and eastern and the seabords.
Milan and her hinterland now form one of the most densely urbanised areas in Europe at the southern end of theso-called 'Blue Banana'. In all, the city, its suburbs and extensive outskirts (including both urban and rural areas), cover some 188 municipalities, encompassing a population of 3,5 million and an overall area of about 2,000 km2. The population density of this "Greater Milan" is 17,5 persons per hectare. Considered at the regional scale, complete with medium-size belt cities (the "Lombard Multinuclear City", with the cities of Varese, Como, Lecco, Bergamo, Brescia, Lodi, Pavia, and the outer poles of Novara in Piedmont and Piacenza in Emilia) the total population amounts to nearly 7 million.
A Milan "Urban Region" consisting of the area bounded by the rivers Ticino and Adda, to west and east, by the foothills of the Alps to the cities like Novara and Bergamo, has become a feature of Planning Documents in recent years.

2 The green structures of Milan

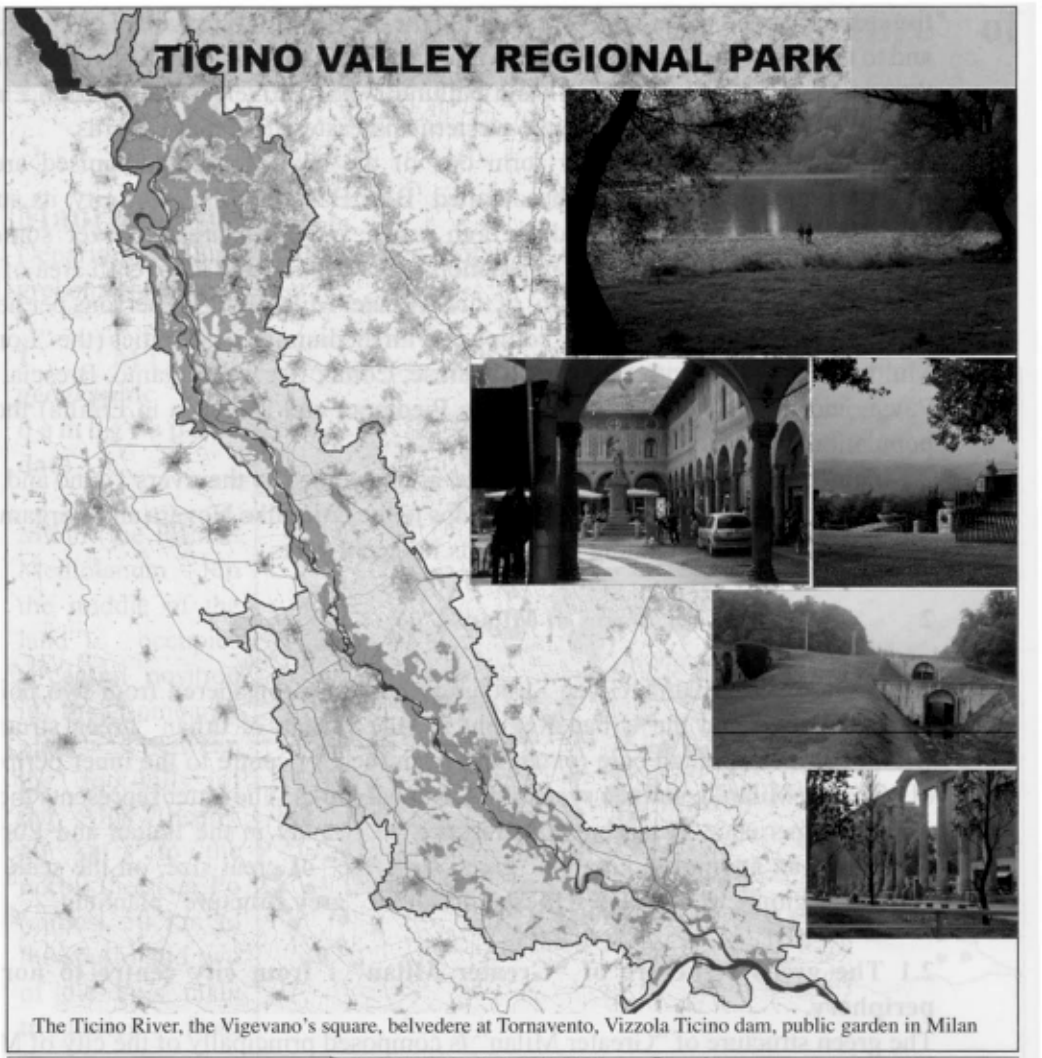
As given above, Milan's Green Structures should be considered from two points of view : the city and the Urban Region, i.e. the system of urban "green structures" within the metropolitan core (extending from the city centre to the inner peripheries of "Greater Milan"), and the system of Regional Parks. The latter represents the most original experience Milan has to offer as a case study in the Italian and European panorama: an attempt to create a "green structure" of great size, on the scale of an "Urban Region", which also serves as a tool for "grey structure" planning.

2.1 The green structure of "Greater Milan" : from city centre to northern periphery.

The green structure of "Greater Milan" is composed principally of the city of Milan's urban parks, supplemented by several extensive green areas located outside the municipal boundary but within the administrative area of the 'Province'.
The development of this green structure followed the expansion of the city from the mid-19th century (when Milan was still a walled city) to the end of the 20th century (when Milan became a conurbation). As stated earlier, the principal thrust of this urban growth was to the north-west and to the north-east , with some recent exceptions to the north and east.

• North-east system.

In 1783, when the city was still under Habsburg rule, the first public park was begun in the north-eastern sector of the city intra-muros, on land formerly in monastery ownership, adjoining the "Venice Gate" (Porta Venezia). Originally designed as an "Italian garden" with a smaller "English garden" appended to the Royal Villa of



The Ticino River, the Vigevano's square, belvedere at Tornavento, Vizzola Ticino dam, public garden in Milan

1790,.this park became the "Giardini Pubblici di Porta Venezia" (17,7 hectares).
In 1881, temporary structures were erected there for the National Exhibition (the first event of what was to become the Milan Fair).
The role of the public gardens as a venue for the leisure and cultural activities was reinforced by the construction of the Natural History Museum (1893) and the Planetarium (1943). In 1777-1780, a Royal Villa was built at Monza (some 15 km to the north-east of Milan's Porta Venezia) There too Italian and English landscaping influences were combined in the design of the associated park (732,5 hectares). In 1922 the famous Monza Autodromo (motor racing circuit) was built in the park. The former Villa now houses a school of arts and crafts. In 1923-1927, the Monza Bienniale (international exhibition of decorative arts) was held there, as was the 1930 Monza Trienniale (forerunner of the Milan Trienniale, first held in 1933 at the Parco Sempione). In the late 19th century, another large park was planned along the same Milan-Monza axis, complete with a hippodrome. All that came of the project was the race-track ; it was closed in the 1920s (when horse-racing was transferred to new premises north-west of the city). The former track was converted for use as an open air school (the Casa del Sole) and a park (the Parco Trotter).

• **North-west system**.
Soon after the "Giardini Pubblici di Porta Venezia" opened to the public, a large new sports stadium in the form of a Roman arena was inaugurated (1806) ; it flanked the then Parade Ground occupying part of a former ducal hunting ground immediately north-west of the Castello Sforzesco.
At the end of 19th century, the old Parade Ground was designated as the site for a new public park by the first Milan Master Plan (1889) :the future "Parco Sempione" (47 hectares). The second National Exhibition (1906) was held there and, nearly three decades later, the "Palazzo dell'Arte" was built in the Park for the first Milan Trienniale (1933). Meanwhile, Parade Grounds a few kilometers to the north-west became available for other purposes. Extensive green structures had been planned around these Parade Ground since the late 19th century. In the 1920s and 1930s the Milan Fair was transferred to thesite, and a group of parks was built nearby, withextensive sports facilities includinga new horse-racing track, the San Siro football stadium and a large swimming pool at the "Lido". This area was enriched during the Post-World War II reconstruction of Milan by providing new green areas on an artificial hill made with accumulated rubble from the bomb-damaged city (1943). Called Monte Stella, this hill also has an agricultural zone (Parco di Trenno).

• **East system**.
Two special parks were created to the east of Milan during the 1930s : Parco Lambro, on the River Lambro, and, a few kilometres further south the Idroscalo – a stretch of water originally intended to serve as a seaplane port within easy reach of Milano Linate airport. The Idroscalo was later converted into a aquatic sports facility. A new park was created nearby in the 1960s : the Parco Forlanini.

• Metropolitan belt park system : North Park and South Agricultural Park

Milan's most recently created parks are the North Park (1975) and the South Agricultural Park (1990). Located at the interface between the Metropolitan administrative area and neighbouring municipalities, both these parks were planned as links between the metropolitan core and the belt of the Regional parks.

The North Park (600 hectares) is located within a built-up area ; it encompasses subsisting patches of agricultural land, scattered woods, a former military airport (part of which is now used as a 'recreational airport') and a large Secondary School complex. The North Park represents the mmost southerly ramification of the northern Regional parks, forest land for the most part, stretching like fingers through the agglomeration of Milan's northern suburbs.

The much larger South Agricultural Park (48,000 hectares) forms a 15 km-wide green belt around the southern part of the city and its outskirts, linking two Regional Parks : the Ticino Valley Regional Park (to the west, on Lombard and Piedmont Regions) and the Adda Valley Regional Parks, South and North (to the east). Composed principally of cultivated fields and compact farm buildings of the courtyard type (the "cascina"traditional to the Po Valley),the South Agricultural Park also encompasses a number of some of satellite "dormitory towns built in the 1970s and 1980s.

• New city parks in the making

In 1995, the Nine Parks project was adopted by the City of Milan. The aim was to create new parks in zones mainly occupied by redundant industrial and military premises, by means of public-private partnership agreements : the Municipality would sanction planning zone changes (from industrial to residential) and high building quotas providing 50% of the overall site area was given over to parkland. Six of the Nine Parks are now at the construction phase.

• Dynamics

By analysing the way Milan's green structures have been formed, we may observe some phenomena closely related to the problems of the densely built metropolitan conurbation, notably the problem of finding enough large areas of land for parks.

We have seen how the creation of parks in the north-west system of green structuresfollowed outward shifts, from the centre to the periphery, of activities requiring extensive areas of land, such as military Parade Grounds or the Milan Fair : Parco Sempione was laid out on former military land (the old Parade Ground) and, for a while, the Park shared this site with the Milan Fair. Later, the Milan Fair was relocated to a site vacated by other Parade Grounds which, in turn, moved still further out of town ; that site has since become surplus to military requirements too, and a new park is now proposed there (one of the Nine Parks). As the Milan Fair has been yet again, to an out-of-town location, the question of whether or not its previous site should be used for a green area is currently under discussion. In the case of "green structures to the east and the north system of the city, we have seen how the creation of parkshinged upon re-using former airportsor airport-related facilities for leisure uses :

the Idroscalo, where a seaplane port was convertedfor use as a "water park" ; and the "North Park", where a former military airport became a "recreational airport".
The inter-relationship between airports and 'green structures' is also a major issue with regard to Regional parks in the vicinity of Milan (cf infra, The Ticino Valley Regional Park relationship with the Malpensa hub).
Another characteristic of Milan's green structures in the parallel development of parks within the city and on its outskirts. Such was the case when Milan's first green structure (the "Giardini Pubblici") was created within the city walls while the Duke's park was taking shape a few kilometres away, at Monza. A comparative pattern emerges from analysis of the role played by the Regional Park network, in creating green structure at the scale of the "Urban Region" as is explained below.

2.2 'Urban region green structures': Regional park network

When considered at the scale of the "Urban Region", 'green structures' are represented by a network of Regional Parks where Municipalities and Provinces, working as consortia, have direct responsability for works of environmental renewal and revitalisation, and for enabling public use of these parks by building and/or maintening such structures as cycle ways or canals. (for further information, cf 'Policies', the Chapter five, Milan Case Study).
This network is composed as follows: two riverside parks, to east (the South and North Park of the Adda River, 31,400 hectares) and to west (Park of the Ticino, 90,000 hectares); a metropolitan belt park to the south (Southern Milan Rural Park, 48,000 hectares); and two linear parks wedged between built-up areas to the north-west (Parco delle Groane, 3,445 hectares) and to the north-east (Lambro Valley Park, 7,254 hectares). These are linked by smaller Regional parks.
This extensive green belt of parks positioned around the city has been used by planners as a strategic tool, to curb the outward expansion of the "Urban Region". Yet the designation of Regional Parks - which constitute Territorial Plans at a supra municipal level and thus take precedence over Municipal Master Plans - has turned out to be the only possible mechanism through which the city can be equipped with green structure, at a time when the Milan Metropolitan area is confronted by the increasing deregulation of building development and the extreme fragmentation of administrative powers and planning instruments.

3 The Lombard Ticino valley Regional Park as an example of 'regional scale green structure'

The Lombard part of the Ticino Valley Regional Park, on the western outskirts of the Milan Metropolitan Area, is the largest one of the Lombard parks. It was designated in 1974 and represents the Lombardy Region's first experience in combining the overall planning and design of green areas with environmental protection, as a means to counteract urban sprawl. One of this park's characteristics is the very wide swathe (20km to30 km or more).of protected land running the entire length of the river

valley. In all, the park covers a total area of 90,640 hectares ; it encompasses 430,000 inhabitants and 47 municipalities in the provinces of Milan, Pavia and Varese.
The Lombard Ticino Valley Regional Park covers the Ticino river valley from Lake Maggiore to the River Po ; its boundaries envelope river banks and the canals, large areas of woodland (including former feudal hunting grounds) and agricultural land, three medium-size cities (Pavia, Vigevano, Gallarate), several smaller cities, 2500 agricultural businesses and Malpensa airport (the inter-continental hub for northern Italy). Three highways, four railways and several national and provincial roads traverse the river (and hence the park).

The Ticino river bed, with its multiple floodplain ramifications, is the widest bed of all the Po tributaries. It presents an exceptional biodiverse environment and constitutes an ecological corridor (the only one in northern Italy) between central Europe and the Mediterranean. These conditions are unique in Italy, there are no other plain of similar size, nor any comparable 'natural' environment, anywhere else in the country. Moreover, the Ticino valley is within easy reach of the sprawling Milanese agglomeration, yet because it was used as a game reserve throughout the 19th and 20th centuries (by members of the Lombard and Piedmont nobility and subsequently by rich industrialists), its natural environment has survived, more or less intact.
Another remarkable aspect of the Ticino Valley Regional Park is that,despite its vast size, its boundaries 'happen' to coincide with green and grey structure that were already well-designed and well-equipped ; the word 'happen' must be used here as some municipalities in the valley opted to be included in this Regional Park while others did not, for reasons of local politics. In fact, the park would be improved by the inclusion of other municipalities, particularly on the Piedmont side of the river where the area granted to the Ticino Valley Regional Park is limited to a narrow strip along the river banks and nearby woodlands (an area of 6,250 hectares) in 11 municipalities.

Structure and landscape of a Regional Park
A Regional Park is a consortium of Municipalities and Provinces, governed by an Assembly (Assemblea Consortile). The territory of the Park is governed by a Plan of Territorial Coordination (PTC) setting out restrictions and conservation criteria applicable to each typology zone.
I shall attempt a brief description of the landscape in the Ticino Valley Regional Parks of Lombardy and Piedmont : a sort of "green city" covering an area of nearly 97,000 hectares, in the form of a linear structure some 110 km in length and 7 to10 km wide, centred on the River Ticino.
It is organised as follows :

a. Woodlands and natural river banks
In terms of planning legislation, the most protected areas,of the Park are the river banks and woodlands (their status being akin to that of historical cit centres). Their status as designated "Natural areas" also affords them protection under the National

Law on Protected Areas .
Most of the Park's woodlands (some 19,290 hectares) are concentrated along the river banks (the river bed occupies an area of 14,710 hectares). These woodlands and river banks fall into two main categories : at the northern end of the valley, where the river fast-flowing river is largely contained by high steep banks, Alpine and evergreens predominate ;thereafter, as the river bed widens and meanders through the floodplain, the vegetation is composed principally of hydrophyte plants.
The woodlands are partly composed of former feudal game reserves, areas of which remain in private ownership.
The river banks are densely forested from the source of theTicino at Lake Maggiore to the city of Pavia. At the northern end (where the river is rarely overflows its high, steep banks even in spring), there are a few villages, some heliotherapy centres and several riverside resorts which tend to become fairly crowded in summer. Swimming in the river is dangerous owing to rapid current ; even so, people do swim there and unfortunately, some drown every summer.
One of the few remaining area of moorland is contained within the northern woodlands ; so too, is the international hub of Malpensa airport. From 1910 onwards, sairports have been a constant feature of plans for the area bordering the Ticino valley woodlands : a military airport is sited there, and the disued Lonate Pozzolo airport, is located south of the Malpensa hub, where a third runway is planned.

b. The river's lateral canals

The entire canal network within the Park is protected by the Plan of Territorial Coordination (PTC). These waterways also fall under the jurisdiction of the various Water Authorities responsible for running the different networks: Consorzio Villoresi, Ente Nazionale Energia Elettrica (ENEL), Associazione Est-Sesia, among others. Any improvement or modification to the waterways must be approved jointly by the relevant Water Authorities and the Park Administration.
Seen in the perspective of the 'green city', the canal system represents the principal transport network. Water from the river Ticino has been channelled through canals to power mills since medieval times ; however, the canal system was built mainly for transport and irrigation. The most important canal of this kind is the Naviglio Grande (52 km), built originally in the 12th century to connect Lake Maggiore to Milan. This canal begins at Tornavento (a few kilometres downstream from the source of the Ticino, where the river remains navigable) ; it then runs south, almost parallel to the Ticino, all the way down to the city of Abbiategrasso, where it forks : an arm branches off southwards (the Naviglio di Bereguard), while the Naviglio Grande continue eastwards to Milan. There, it feeds another canal, the Naviglio Pavese to Pavia.The Naviglio Grande was long used to transport heavy materials (likeas marble for theconstruction of Milan Cathedral, or firewood) and to irrigate the dry plain. From the 1800s, the Milanese nobility built several country villas there, with direct access from the city by boat ; a few small cities alsogrew up along the canal. The Naviglio di Bereguardo (19km) was used to transport salt from Venice to Milan

The Naviglio Pavese (30 km), connecting Milan to Pavia, was completed at the beginning of the 19th century ; it was used both for transport and irrigation.
The Ticino river also feeds the late 19th century Canale Villoresi, an irrigation canal that branches off at the Pan Perduto lock, north of Tornavento ;after runnig almost parallel to the river as far as Tornavento, it heads eastwards, through Milan, and terminatesat the Adda River. The Canale Villoresi and the related canal system are controlled by the Consorzio Villoresi. The third major canal of the Lombard side of the river is the Industrial canal, which was routed from the Pan Perduto lock at the beginning of the 20th century. It feeds a network of four hydro-electric power stations between Vizzola Ticino and Turbigo (also the location of one of Italy's largest thermo-electric power stations. This last takes water for cooling from the Naviglio Grande . At this point, the electrical network continues on the other side of the river, with another canal routed to feed another hydro-electric power station near Vigevano. The last hydroelectric power station directly served by the Ticino river was built in the 1950s, with a dam-bridge at Porto della Torre, near Somma Lombardo. In that same period a regulation dam for the whole system was built at Miorina, between the Porto della Torre Dam and the egress of the river from the lake, at Sesto Calende. The Industrial canal and the hydro-electric power stations are controlled by Ente Nazionale Energia Ellettrica (ENEL). All these canals are equipped with contiguous service roads, for maintenance and inspection. So the canals's service roads provide the entire park with a sort of cycle way trunk-route, some 70 km in length, running through woodlands north-south from Sesto Calende to Pavia, with the track alongside the Naviglio Grande leading right into the centre of Milan. This main north-south infrastructure incorporates 14 bridges accross the River Ticino ;they are of various types (stone, iron, concrete, or pontoons) and date from the early 19th century onwards. Along its way, this network connects with a great variety of landscapes and townscapes, ranging from urban settlements (mostly historical centres), to unspoilt countryside (cf infra) or the industrial landscape of the power stations.

c. Countryside

Rural area makes up the greater part of the park (54,530 hectares) ; they are concentrated in its central and southern sectors, on both sides of the river. Seen in the perspective of the 'green city', these rural areas represent the everyday fabric.
The landscape in these rural areas is dominated by the cultivation of rice and corn : fields ponctuated by irrigation canals (especially in the area of rice) and studded with farm buildings known as "cascina"; these are usually of the traditional courtyard type, set within the irrigation canal network. Some date back to the 15th century. Before agriculture was industrialised, these buildings often housed hundreds of farm workers during the rice harvest. Today, many cascina are disused, or have been converted for use as tourist facilities.
The park also contains two large monasteries: Morimondo Abbey, and Certosa di Pavia (the Pavia Charterhouse) bothof them past centres of agricultural innovation .
Morimondo Abbey was founded in the 11th century by French monks from Morimond.

The monastic community reclaimed fields near the river banks between Abbiategrasso and Bereguardo and introduced a cultivation technique knowed as "marcita" whereby the abundance of water was used to prevent the soil from freezing, so that several harvests could be produced each year.
The Certosa di Pavia was founded in the late 14th century by the Duke of Milan ; the monks used experimental cultivation techniques to tend vast areas of land. The Certosa was the final segment in the Duke's Great Park (2,700 hectares, stretching northwards from Pavia and the castle). Deemed one of the earliest parks in Europe in the modern sense of the term; the Great Park had pleasure buildings such as the Mirabello, hunting grounds, fields and cascinas for testing innovatory methods of agricultural production and a boundary wall some 22 km in length.

d. Urban settlements

Urban areas within the Park amount to 14,710 hectares in all, encompassing 47 cities and relatives villages. Limits on urban growth laid down by the Plan of Territorial Coordination (PTC) must be respected by Master Plans for cities inside the Park. Seen in the perspective of the 'green city' these areas represent a sort of periphery.
In most cases, the populationof these settlements ranges from under than 1,000 to 10,000 inhabitants ; the exception are Abbiategrasso (about 30,000), Gallarate (about 50,000), Vigevano (about 70,000) and Pavia (the largest, with about 90,000 inhabitants). Nearly all these cities are of medieval or even Roman origin ; most have historical centres with squares and churches dating from the Middle Ages to the 19th century and some have castles, too. The smaller cities are in immediate contact with 'green structure', but this inter-relationship is sometimes more problematic in the case of the four medium-sized cities .At Pavia, the urban fabric is perfectly integrated with the natural landscape of the Regional Park. The banks of the river Ticino remain sparsely built even in the historical centre core, and the city retains an intact image thanks to the old covered bridge and the street from it, which follows the south-north axis of the Roman city and leads straight to the castle and the former ducal Great Park (the present Parco della Vernavola). By contrast, uncontrolled urban sprawl during the 1950s,1960s and 1970s on the outskirts of Vigevano has left the city centre effectively isolated from the Regional Park, despite the fact that the historical core is physically linked by a canal system. Similarly at Abbiategrasso, where parts of the old city wall survive and the former moat is now a public park (Parco della Fossa), the historic core has been cut off from the nearby canal system and the Regional Park by the city's more recent outskirts.
These instances of urban expansion pre-date the designation of the Regional Park in 1974. Since then, the planning of urban development within the Park has placed greater emphasis on the quality of townscape in relation to rural and natural surroundings, and on promoting the restoration of the architectural heritage. The use of 'green corridors' to link thearchitectural heritage to 'green structure' has been explored in several (as yet unimplemented) projects.

Interregional, regional or inter-municipal level

and scale of green structure arrangements in Italy

The Park of river Ticino valley, regional parks network for the "urban region" of Milan

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The green structure of the city and region of Milan is mainly represented by the Lombardy system of regional parks of which the Park of Ticino Valley represents one of the most important in regard to dimension, position and richness of natural and architectural monuments. The disposition of the regional parks in the surrounding of Milan reflects the geographical morphology of the area. Two north-south flowing rivers form the valleys of Ticino and Adda, cross the Padanian plane and divide the Milan region in west and east. Milan area is formed in the north by the Prealps and the Alps and in the south by the great agricultural area, where resurging waters come from the Alps. In a process of almost 30 years since the beginning of the 70s the banks area of the two main rivers together with parts of the southern land and the woods and mountains in the north of Milan had been transformed in a network of Regional Parks to realise a wide green belt for the city of Milan and its conurbation area.

The Ticino valley shows a great biodiversity and represents an ecological corridor between central Europe and the Mediterranean area. Nevertheless the valley is settled in the middle of one of the most urbanised areas in Europe (Milan region, nearly 3.5 million of inhabitants – the southern end of the "Blue Banana") characterised by various forms of sprawl phenomena.

The area of the Regional Park of Ticino is characterized by

- natural woodland areas used in the past as "hunting reservoirs";
- wide agricultural areas in the south; canals on both sides of the river of which those in the east are used as waterways since medieval times and as place for building Villas for Milanese nobility since XVI century ("Sistema dei Navigli");
- other canals for hydroelectric production and industries and for agriculture (Canale Villoresi, XIX century, Canale Industriale, 1900-1940);
- three medium sized historical and industrial cities (Pavia, Vigevano, Gallarate with almost 80 000 inhabitants each) and several small sized cities;
- two ancient monasteries with a wide possession of land;
- the Malpensa airport (intercontinental hub for northern Italy);
- three highways, some state and provincial roads and four railways crossing the river.

In 1974 the Ticino valley from the Lake Maggiore until the River Po (on an area that gradually grew until 90 640 hectares, with a linear shape of nearly 110 km) had been

transformed in the Lombard Ticino Valley Regional Park, including the territory of 47 municipalities (with 430 000 inhabitants) touching the area of three provinces (Varese, Milan, Pavia).
So the image of the Regional Park Network results as a complex pattern of "natural" and "agricultural" areas with huge infrastructures, historical cities and modern metropolitan peripheries shared between different levels of administration from municipal to provincial until regional scale. On another perspective the Park Network represents also a sort of articulated and rich museum of landscape, architectural monuments and historical infrastructures with consequent problems of heritage conservation under the control of national legislation.
Planning system: The Italian system of environmental planning is based substantially on: cataloguing of areas for environmental limitations, identified by the Regions (through Regional Territorial Landscape Plans); management and design of green areas at a local municipal level (through Master Plans and various forms of Detail Plans).
The coordination between landscape planning on a regional scale and planning on a municipal scale is carried out by the Territorial Coordination Plans (Piano Territoriale di Coordinamento – PTC).
The planning and management of the Regional Parks is based on the PTC. The Plan has, when adopted the effect of a declaration of general public interest and urgency, and of the impossibility of postponing the interventions specified in it. It replaces at all levels landscape, territorial or urban plans or any other planning instrument. On the legal point of view the Regional Parks represent a "consortium" between municipalities and provinces.

1 Policy discourses

The public discourse evolves since many years pointing out the "challenge" to preserve a "natural area" in the middle of the most urbanised territory of northern Italy.
The first great discourse on the green structure in Milan area rose in 1967 with a movement in Pavia (the Cambridge of Lombardy) asking for a "defence" of the survived natural area of the River Ticino from the increasing conurbation and urbanization phenomena. In this time the discourse about "preservation of natural areas" was running together with the other emerging discourse of the "conservation and restoration of historical city centers" (Centri Storici). Between 1974 and 1978 a regional law established the "Lombard Regional Park of Ticino Valley" (the first regional park in Italy).
During this process the discourse gradually passed from the idea of "defence of nature and historical heritage against urbanization and industrialization" to the idea of "challenge to integrate industrial development and urbanization with nature and landscape preservation". The way to translate the "idea of the challenge" into a real political instrument was the Territorial Coordination Plan (Piano Territoriale di Coordinamento, PTC), that plays the role of a "large scale planning institution" directly controlled by all the municipalities being part of the Ticino Park.

Today the discourse of "challenge" began to retire once again back to the discourse of "defence", because of the contradictions of the development in the urban Region of Milan. Economic increase and new infrastructure facilities are foreseen, for example the enlargement of Malpensa Hub or the realisation of new high capacity railways connecting the airport with Turin-Lugano-Milano and new highways connecting the airport with Pavia. Next to this, the new Fair of Milan in the area of the former oil refinery of Rho-Pero near Sempione is in construction, followed by the need of other new highways partly crossing the area of the park. All these infrastructure improvements result in attracting local investors and with the consequence of producing conflicts with the local administration, that supports the Park.

But green structure was seen as a form of regulation of the territorial balance at regional level by the administrative body. During the formation of the Park Network an important event was represented by the fact that a great part of the members of the regional administration were specialists and not mere politicians occupying a seat. The body was elected with the institution of the regional government in Italy since 1970 (but the Regional administration started to have a full delegation of power from the State only in 1977). Two are the great problems of the governance of the territory in the metropolitan areas of northern Italy: on one hand, is the extreme administrative fragmentation of the land in small municipalities with the consequential difficulty of coordination of single, small scale master plans and their integration into large scale plans and programmes; on the hand, is the extreme aggressive, intense and deregulated development of the metropolitan areas.

The great discourse of "innovation" within the regional administration in Lombardy was the idea to match better administrative political territories with the natural-morphological territories: including rivers crossing the plane, the pre-alpine woods and mountains in the north and the great agricultural plane at the south of Milan. Following the example of the Ticino Park, these administrative units were identified as "green structures" for "Milan urban region area" and instituted as "Regional Parks". The remarkable fact of this action was that, with a lack of "large scale planning" because of the great lateness of the Regions (Regioni) in this field, the Lombard administrators should use tools of "green structure" planning to create a new tool for "grey structure planning". In this sense this "park strategy" was seen not only as a way to provide green structures for the city and the region of Milan, but also as a "chance" to quit irrational forms of governance in the territory at the metropolitan scale. This strategy was extended to the whole Lombardy region to form a system that grew gradually in the 80s and 90s covering almost 20% of the regional territory (4 481 26 km2 forming the Network of 22 Regional Parks distributed on the river valleys crossing the plane and on the mountains in a region of 23 851 km2.)

2 Coalitions and influence

University and public opinion. During the starting phase of the construction of the Ticino Park in the seventies, the most important and successful coalition was the

association between the university and public opinion. The public opinion was mainly represented by the inhabitants of the area and the cities belonging to the park. They had organised themselves in a local association (civic associations, environmental associations). The intellectuals and specialists from the university were coming from different branches – human issues, urban planning, biology and ecology. In the sparkling atmosphere of the seventies the two parts of the coalition met thanks to the mediation of the local political organization and with the official support of the left political parties. The Park was founded thanks to a petition addressed to the just born regional administration (Regione). After the institutionalisation of the Park the coalition survived in an institutional frame: the park administration represented by the Assembly of the Consortium (Assemblea Consortile) is constituted by a council of the delegates from the municipalities and from the provinces. This Assemblea Consortile commissioned to Universities investigations, studies and symposia on the Park, e.g. on the economic transformation of the area. At the same time the environmental association collaborates with the Park in volunteer monitoring and maintenance. This kind of collaboration is quite an exception in the urban planning practise in Italy.

Public opinion, professional specialists, regional administration. After the success of the Ticino Park, and its governmental instrument, the Territorial Coordination Plan, worked out in many other municipalities in Lombardy - under the pressure of the local public opinion. They commited themselves to professional studies of planners for the realisation of regional parks. At the same time the regional administration supported this kind of initiatives because the Park Coordination Territorial Plan was meeting a requirement of national legislation. This kind of plan was transmitted from the State to the Regions. So, during the eighties and the first half of the nineties the policy of the "regional parks" had been strongly supported by the Region, realising a strong coalition between different levels of administration (regional, provincial, municipal) with the agreement of local associations. Today this coalition became more feeble because the Region plays the role of a mediator between the Parks and has to deal with strong local economic forces asking for more freedom of action and loosend restrictions of the park ties.

Coalition private investors, public opinion, administration. This kind of coalition represents the new approach in the last decade and shows the evolution of former coalitions. Another example is to be seen nowadays in the project of the Locarno-Venice navigation line trough the waterways net of Navigli. The project is promoted by the the old local association of the Friends of the Navigli (Amici dei Navigli), by the Swiss municipality of Locarno at the Lake Maggiore and by private enterprises with the aim to build port structures, waterways and facilities for boats. This navigation line exists since the medieval time until the last century. I was totally demised in the sixties. The initiative meets the sympathy and the interest of many local municipalities because they see the possibility of an economical grow with tourist activities in their territory. In this way the initiative tries to create a coalition by winning popu-

lar support, administration on various levels, the interest of intellectuals and professionals, various operators with economical interests as well as two countries.

Coalition of peripheries against centre.
Notwithstanding many studies and debates show, that the structure of the region is still almost monocentrical. Since the post-war reconstruction a regional balance has not been found for the urban development of Milan area. Few "central areas" mostly within the city of Milan are able to attract most qualified functions thanks to the high level of accessibility. Many peripheral areas in the region are characterized by an uncontrolled grow of residential settlements. Among those peripheries are many areas of the Ticino Park, whose inhabitants commute everyday to Milan. A feeling of hostility against the city of Milan became obvious in the "regional peripheries", because all unattractive functions (some industry, logistic, etc.) are situated in the territories of the Park. Development is depending on the realisation of new great infrastructure facilities as the hub of Malpensa or the high capacity railways. In a certain sense the Regional Park represents a coalition of the peripheries against the centre but nowadays many municipalities in the Ticino Park are in a great dilemma: on one hand, the realisation of some new highways gives more accessibility; on the other hand is at stake the quality of the environment that represents one great resources of the area.

3 Distribution of power and resources

The importance of the local agreement. As seen before the success of this kind of "regional" green structures depends much on a negotiated agreement within local inhabitants and other actors. For the people living in the area, especially the river with all its attractions belongs to the local heritage since generations. The esteem of the park depends much on the support and direct involvement of the local population. The few that opposed to the Park had been farmers – who were suffering from restrictions of their activities. Others were the owners of the quarries who had to stop their activities in the river bed. Nevertheless after a while the farmers committed themselves to adequate activities within the park regulations. They were helped with some facilities to improve the quality of their products and perform better on the global market. After almost 25 years of existence of the Park and nowadays of an insecure local support for the Institution of the Park some municipalities start to suffer a little of the constraints of the Territorial Coordination Plan for local urban development. They want to meet the new economical chances for the area represented by the Malpensa hub with the consequential attraction of investments, work opportunities, etc.

The power of the big companies. In the case of Ticino Park the great company (partly public) SEA (Società Esercizi Aeroportuali) plays an important role and has nowadays the power to administrate the Malpensa airport and Linate airport in Lombardy as well as some other airports in South America. The plan of the hub, with

the third track and some new service centres nearby the airport and the promise of an increase of business in the area represent a stake able to pursue some municipalities of the Park to renounce to the environmental quality in the name of economical progress. Naturally in this game is not evolved only the SEA, but other companies too, that are interested in activities to increase industrial growth in the area of Malpensa.

Regional administration as a mediator. In the last years the Region has promoted the formation of the regional green structure with its formal legitimation and has now changed its role. Instead of representing a real pole of power it started to play the role of mediator among different interests: on the one hand, investors and companies requiring freedom of initiative and less limitations in the regional green structures; on the other hand, the Parks administration tries to defend the position reached with the evolution of regional and national legislation in thirty years of political debate on green structures. In this lack of authority private interests, included those of the big company SEA, seem to have won the first round: some "natural areas" had been cancelled by the national government from the list of the "national natural areas". This represents a hard strike to the integrity of the Regional Parks Network that has lost a certain level of protection. This meant the re-opening of negotiations about the status of the regional green structure.

4 Rules of the game

Considering the up mentioned phenomena it can be deduced that one of the most important rules of the game is that any initiative relating to maintain the regional green structure must look for the agreement with the local population. First of all because of a technical problem: the Assemblea Consortile of the Park is constituted by legal delegates of the municipalities within the Park boundary, and the master plan of the Park (PTC) is in the end the only formal instrument of governing land use (PTC is an instrument that gives indications that must be included in the local master plan). On the other hand because of structural problems: the institution of the Park depends much on the wish of the local public opinion and of local society. Every day the administration of the Park is invaded by an enormous quantity of questions and requires of all kind from local people. They must try to satisfy these wishes, otherwise they risk to loose the local consent that is at the base of their existence.

In the last development of the game, influenced by the liberalism that characterised the Italian political life of the last years, local regional power declines. New rules seem to be required. In October 2002 the Park of Ticino received an hard strike with the cancellation of the status of "natural area" of his woodlans from the national list of protected areas (the Regional Parks includes some parts that are also under the protection of the National Low on Protected Areas that represent the most restrictive form of tie in the Italian legislation). At the same time the Park had been declared as Monument and Heritage of Humanity by the UNESCO. These ambiguous events represent new rules of the game, accepting contradictive activities without coordinating them with a planning instrument.