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(Article begins on next page)

GreenLinks

Linking Urban Developments to Green Areas
An overview of good practices in Europe

Linking Urban Developments to Green Areas

An overview of good practices in Europe

edited by Biagio Guccione, Andrea Meli, Giorgio Risicaris

preface by Giovanni Malin



by the GreenLink network of cities under InterregIII Bmedoc program

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Regione Toscana (Italia)

Gerencia de Urbanismo, Ayuntamiento de Sevilla (España)

Assessorato Turismo e Commercio, Regione Emilia Romagna (Italia)

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Less known but well practiced experiences in border urban developments

Munich. Riem landschaftspark • A. Valentini (Firenze)

Lyons. Parc Gerland • A. Valentini (Firenze)

Rome. Prato Fiorito park • A. Valentini (Firenze)

Athens. Unification of Archaeological Site Project. Upgraded network of pedestrian links to the archaeological zones • J. Georgi (Zografou)

Copenhagen. The Five Fingers Plan • J. Georgi (Zografou)

Paris. Urban agriculture: Paris Municipality Main Verte example • S. Carrano, L. Delhaye (ARSIAL)

Rome. Urban agriculture: RomaNatura "Educational farms" • S. Carrano, A. Lo Re (ARSIAL)

Berlin. Biotope Area Factor • A.L. da Rosa Segura (VRSA)

Helsinki. Biotope Area Factor • A.L. da Rosa Segura (VRSA)

Catalunya. Ter River • Alba-Ter Consortium (Emilia Romagna)

Italy. Uso River • P. Milani (Emilia Romagna)

Gallecs • M. Martí, H. Munujos (Barcelona)

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Pinerolo (Turin). Strategic Plan "Landscape 2006" • B. Foddis (Sardegna)

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Preface

I have always considered open spaces surrounding built-up areas as territories for potential urban expansion to the detriment of natural, environmental and cultural values, usually entrenched in extensive spaces in the outskirts.

I have always regarded the subordination of the countryside to the marked predominance of building as a traumatic problem.

So, I have always understood the need for a carefully studied upgrading of these territories rather than an unattainable reversal of trend, in order to find a practical, positive answer to the various needs of the city.

It is not unusual to find former agricultural lands, once carefully tended, close to built-up areas or in the suburbs, plains or hills, which have gradually lost their significance either because they have been built on, or because they have been abandoned whilst waiting for urban development, or underused due to unprofitable or scarcely profitable cultivation.

In these critical suburban situations, the pressures of urban advancement have a clear advantage over natural landscape. To understand this problem in depth and evaluate the possibilities of reviving these territories, using modern technology applied to the needs of the citizens, was the incentive to promote an extensive study to attract greater attention to this thorny question.

Europe gave me the chance to attract this desired attention and

the Green Link project played its part, with the participation of Greek, Spanish, Portuguese and Italian partners.

Thus Green Link proposes a comparison between local tendencies within different suburban open spaces, an evaluation of difficult situations under pressure, a comparative study of local legislation and valid European practices, an analysis of the needs of the city and, finally, a range of possible solutions.

This volume is a compendium of the preliminary considerations by the partners on the problem proposed and presents a range of projects to be developed subsequently, principally dealing with four topics:

- technological infrastructures and productive activities;
- renewable energy and biodiversity;
- educational, cultural and artistic activities;
- sports, free time and tourism.

The result is an interesting document offering fertile ground for the development of avant-garde proposals as an incentive for socio-cultural, natural and environmental values to be found in the dialectic relationship between city and country.

Giovanni Malin
Project Coordinator

Prefazione

Ho sempre considerato le aree libere circostanti i centri abitati, quali territori di una potenziale espansione urbanistica a scapito dei valori naturali, ambientali, culturali in gran parte radicati in vasti spazi delle periferie urbane.

Ho sempre visto il problema come fatto traumatico che metteva in subordine la campagna al forte prevalere dell'edificato.

Ho sempre colto, per questo, l'esigenza, non tanto di un'inversione di tendenza, materialmente irrealizzabile, quanto di una riqualificazione puntualmente studiata, di questi territori al fine di dare una risposta fattiva e concreta ai vari bisogni delle città.

Non è infrequente infatti riscontrare, a ridosso dei centri abitati e nelle immediate periferie urbane, terreni ex agricoli, di pianura e/o di collina, una volta favorevolmente utilizzati, che nel tempo hanno perso la loro connotazione vuoi perché urbanizzati, vuoi perché abbandonati in attesa di un recupero urbano, vuoi ancora perché sotto utilizzati a causa di coltivazioni e/o impieghi non più redditizi o comunque di scarso reddito.

In queste situazioni di criticità delle aree periferiche, ha buon gioco la pressione dell'antropizzazione metropolitana sulla naturalità del paesaggio. Comprendere a fondo il problema e valutare i possibili futuri scenari per una rivitalizzazione di questi territori, alla luce anche di moderne tecnologie felicemente applicabili in ragione delle esigenze cittadine, è stata la spinta a promuovere uno studio di larga massima che potesse provocare una maggiore attenzione sulla dibattuta questione.

L'Europa mi ha dato l'occasione per sollevare l'attenzione desiderata e il progetto GreenLink, con la partecipazione di partners greci, spagnoli, portoghesi ed italiani, ha inteso fare la sua parte.

Ecco allora che GreenLink si propone di effettuare concretamente il confronto fra le tendenze locali riguardanti le aree verdi periferiche dei partners, a predisporre una valutazione delle situazioni di pressione e di criticità, a redigere uno studio comparativo dei quadri normativi locali e delle buone pratiche europee, ad analizzare i bisogni della città ed infine ad elaborare in modo congiunto una gamma di possibili scenari.

Questo volume raccoglie così le preliminari considerazioni avanzate dai partners sul problema oggetto di studio e predisponde già una griglia di progetti, da affinare successivamente, principalmente rispondenti a quattro tematiche:

- infrastrutture tecnologiche e attività produttive;*
- energie rinnovabili e biodiversità;*
- attività educative, culturali ed artistiche;*
- attività sportive, tempo libero e turismo.*

Un documento interessante, dunque, che prepara terreno fertile per la formulazione di proposte d'avanguardia per l'incentivazione dei valori socio-culturali, naturali ed ambientali riscontrabili nel rapporto dialettico fra città e campagna.

Giovanni Malin
Coordinatore del Progetto

GreenLink, a network of cities and regions introducing the integrated planning of urban-green fringe areas

Innovation, Private Public Partnership, Sustainability

The pressures related to development expectations of peripheral areas of our cities are dramatically producing negativity, neglect and under development in these areas, considering urban external boundaries as the back yards of the cities destined and dedicated to receive “everything, everywhere”.

The GreenLink concept is oriented to the extreme opposite: considering peripheral areas of our cities as façades, quality gates, urban environments to protect, develop and promote, producing added values and an upgrading of city life.

This is not limiting the urban extension trends: GreenLink is pledging for strategic quality vision, integrated approach and sustainable development.

The European Spatial Development Plan (ESDP), the Lisbon and Gothenburg strategy, the EC Urban acquis, together with the World Bank’s City Development Strategy, compose the logical and methodological background of the GreenLink challenges. They also address activities for pilot applications that city partners elaborate in selected peripheral areas of Florence, Seville, Athens (Zografou), Vila Real Santo Antonio, Riccione, Terracina, Oristano and Palma de Mallorca.

The main purpose of the GreenLink project is to study and share concepts and principles and to elaborate demonstrative actions in order to optimise the strategies and the wise and respectful planning of the suburban areas. The challenge is to research a common, realistic and pregnant vision, aiming to overcome the contradictions which limit the potentialities of the undeveloped and brown field suburban and intra-metropolitan areas.

The mean used under the InterrgIIIBMedocc performance, is a collegial, trans-national and integrated action, by a method that is part of both the town planning and the nature and environment protection disciplines. The green areas, around or inside the urban zone, are subjected to unique and particular conditions, because of the urban growth pressures and because of the risks of

degradation in the natural and cultural values of the landscape. These areas have to answer to the needs of city exploitation as well as to the needs of nature preservation, and they have a key position in the transition between metropolitan anthropism and the nature of the landscape. The cooperation between the organisms that administer these territories is the base for a future of synergies and of shared government, needed for a balanced and enduring development.

GreenLink is willing to make a comparison between the local development trends related to the suburban green areas of the partner cities, an evaluation of the pressures and of the critical conditions, an assessment of the values to protect, a comparative study of the local normative picture and of European good practices, as a joint venture. At the end of this performance partners elaborate scenarios giving convincing and dynamic answers to the cautious development of the suburban green areas, which must involve the need of growth and of environmental protection in a balanced vision.

This purpose is reached through the division of highlighted local pilot case studies around four key axes: technological infrastructures and productive activities; renewable energies and biodiversity; educational, cultural and artistic activities; sports, leisure and tourism. The four axes are checked in order to verify their compatibility with a virtuous integration of needs in the suburban green areas and the results are recommendations, suggestions and prescriptions. The scenarios that follow, represent theoretic models, which have to be demonstrated through simulations elaborated by the partners, applying the recommendations, suggestions and prescriptions. Each partner develops a demonstration for each axis, simulating the realisation and verifying the compatibility, feasibility, harmonisation, and coherence of the operations with the local strategic and normative picture, the correspondence to needs and values considered and the evaluation of costs and

benefits. The project supports these activities, giving particular attention to the governance, in order to study the involvement of the public and private organisms interested, in a necessary and preliminary harmonisation for the cautious and coherent planning of an ecologically appropriate development.

The suburban areas of the Mediterranean are characterised by highly critical conditions, weakness of management, fully open positions (territories waiting to be used) and by degradation. The added economic values, essential to attract investments, often create procedures which do not pay enough attention to the risks for the environment and nature quality and which do not develop a preliminary base line recognition, a strategic vision and an integrated approach through a wise evaluation of the impacts. This condition reduces the competitiveness and produces a structural weakness of the global system of the metropolitan area. On the other hand the potentiality of these territories is very important and, if well exploited, can generate quite positive repercussions, considering the improvement of the suburban quality conditions, the level of global quality of the urban region and consequently its competitiveness and increased attraction.

The more qualified environmental values, needed by the city, are situated in the suburban peripheral areas, where there are also major pressures for development. On the other hand, many services, requested by the surrounding rural hinterland, can be delocalised from the inner urban areas, to the suburban and near hinterlands, avoiding interdependence stress. An obligatory platform of alliance between cities and rural hinterlands should lead to wise and integrated planning, needed for promoting innovative dynamic profiles in border urban systems, solving conflicts and tackling opportunities.

Three fundamental requisites are expected to be tackled by the planning pilot demonstrations: Innovation, Private Public Partnership and Sustainability.

Innovation is performed by integration of demonstrations in a two way bridge methodology: a thematic horizontal cross cutting, common for all partners, enabling them to follow-up and assess plans in a virtuous, comparative way and a vertical strategic vision, embodying demonstrations in local strategic development plans, town planning tools and regional ERDF Operational Programs (2007-2013) priority axis.

Private Public Partnership is an essential parameter for development planning of areas along urban boundaries that essentially belong to private owners, but where major public interests exist and principal urban environmental and natural values are located.

Sustainability is attained by verification of the decision making local process for GreenLink pilot plans, financial capacity for relevant investments, participation of local actors and residents in the planning process and evaluation of social economic impact of measures. Feasibility and cost efficiency of plans is assessed by the means of an integrated approach, process oriented, relating GreenLink proposals to the site vocations and to the needs and opportunities of the city.

In order to tackle these three basic requisites, partners use common templates and sheets establishing shared criteria and parameters and they develop inter-departmental actions and decision making locally.

The selection and assessment by the project partners of some less known but well practiced European experiences of redevelopment for urban fringe areas, is one of the first steps, aiming to open horizons and import good practices.

Giorgio Risicaris

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Heleni Munujos

THE GREENLINK CASE STUDIES

Local Research

«Within Europe, out of 726 million inhabitants, 534 live in huge urbanised areas whose outskirts lack the feel of the city, and are often degraded and vulnerable». These are the words of Maria Cristina Treu in her introduction to the book she edited with Danilo Palazzo *Margini. Descrizioni, strategie, progetti* (“Margins. Descriptions, strategies, projects”) ¹.

For these half billion people it seems senseless to say nowadays “I live in Rome, Paris or Athens” since the inhabitants of these cities rarely see the Colosseum, the Louvre or the Pantheon. They are losing their identity as citizens and have trouble in finding reference points with which to identify in the midst of the recent urban sprawl which has grown out of all proportion.

Town planners, landscape architects, architects, sociologists and economists ask themselves how they can solve these crises which do not only affect the image of the city but also the future of the people who live there. Suburbia is incomprehensible, neither country nor city, just an agglomeration of buildings which has eroded agricultural land. For this reason the GreenLink programme is of pressing relevance. It is a popular, well-researched topic, the object of careful experimentation, but with no infallible solutions as yet. In this situation the GreenLink project experiments with other methods comparing ten different European realities. The intention is to find a way to compare the different experiences and site peculiarities to lead to solutions, certainly not univocal but at least coherent in approach, as already described in a preceding report (see Giorgio Risicaris, *GreenLink, a network of cities and regions introducing the integrated planning of urban-green fringe areas. Innovation, Private Public Partnership, Sustainability*).

The original conditions of the areas chosen by the partners are described in this section of the book, using a common formula to make a more effective comparison between the various experiences. The first part shows the general problems encountered by the partners, which affect the GreenLink experiment: town

planning tools, decision-making processes, existing development pressures, values to protect, and risks, weaknesses and strengths, major urban development plans and projects. The second part deals with physical descriptions of the GreenLink pilot sites and town planning predictions for their development. The major problems of these areas are indicated, especially the innovative objectives resolving exposed problems.

Many topics are shared:

- Natural values and urban sprawl (Palma de Mallorca, Vila Real, Tuscan Region and Collserola);
- Recreational and sustainable activities (Vila Real, Collserola, Tuscany, Florence and Sardinia);
- Agricultural vestiges to protect and compare with new usage (Florence, Tuscany and Arsiál);
- Useful infrastructures and deterioration limitation (Florence, Zografou and Vila Real);
- Historic situations out of context (Zografou and Tuscany);
- Need for interconnections between open spaces and landscape fragments (Zografou, Florence, Emilia-Romagna and Arsiál);
- Relationships between architecture and open spaces (Sevilla; Florence and Sardinia);
- Reorganisation between the outskirts and the natural/agricultural hinterland (Emilia-Romagna, Palma de Mallorca and Zografou).

These are just a few of the subjects dealt with by the partners. In many cases the “park” solution is the most obvious, the last trench to defend in the besieged countryside and cases of nature in danger. It is certainly the solution to many situations: the Collserola technical partner is an excellent example in this sector, and many other partners are moving in this direction (Zografou, Sevilla,

Palma de Mallorca and Tuscany) but it is not always valid. Maintenance costs and the site itself can be obstructions, but this is no reason to renounce a new town-country relationship. It might be necessary to reverse the accepted vision of the diffused city (that which Turri defined “*Megalopoli padana*” – Po Valley Megalopolis – in Italy², or that of the Ruhr basin in Germany and all the intensely urbanised areas in Europe). Possibly one should return to the idea of the countryside arriving on the doorstep of the city, inverting the old concept of Arturo Soria y Mata, the Spanish engineer, whereby the city wedges itself into the countryside to link Madrid to Brussels, to green wedges beginning in the country or natural landscapes to encroach on the city. Antonella Valentini writes «Green wedges are the ideal solution to the need to plan the conservation of open space linear systems with penetrating spatial relationships to separate settlement structures»³.

It could be useful to resuscitate the Copenhagen five fingers plan (see the euro research: *Copenhagen* edited by Joulia Georgi), conceived to limit urban development in five directions, which should be studied again today in a different light for the advantages of green wedges penetrating as far as the city centre.

This is a theme as vast as it is difficult to solve and which calls for appropriate, closely examined answers. GreenLink offers its contribution with this compendium of experiences.

Biagio Guccione

¹ MARIA CRISTINA TREU, DANILO PALAZZO (edited by), *Margini. Descrizioni, strategie, progetti*, Alinea, Firenze, 2006.

² EUGENIO TURRI, *La megalopoli padana*, Marsilio, Venice, 2000.

³ ANTONELLA VALENTINI, *Progettare i paesaggi di limite*, in *Margini. Descrizioni ... cit.*

COMUNE DI FIRENZE

(Italia)

In Florence *the tools for town planning* and territorial management that concern us are the following:

PRGC (Municipal Land Use Plan) which will soon be replaced by the *Structural Plan* awaiting approval:

- Strategic Plan;
- Florence Province Territorial Coordination Plan;
- Provincial Development Plan;
- Control of protected areas;
- Regional Development Plan.

Particular attention should be paid to the Structural Plan which is the main instrument of territorial planning for Tuscan Regional Legislation in spite of recent regional regulations (L.R:1/2005) which give extensive planning power to the municipalities. For this reason we will concentrate on quality which should be taken into account in this plan. Many elements of research into this subject are already present in the Florence PTCP (Provincial Territorial Coordination Plan) but nevertheless we will investigate them more minutely for more detailed information particularly suitable for themes on an urban scale.

Pressures

It is no novelty to point out the exceptional pressures on the city of Florence due to its beauty and growing tourist demand which cause wear and tear in the historic city, with reverberations as far as the suburbs. This results in land consumption for commercial, residential and services sector uses, as well as for mobility and services infrastructures. This consumption has become disturbing enough for the administration to issue a ticket to enter Florence. Certainly this process does not only concern the historic centre ... the already diminished Florentine countryside pays the consequences.

Merits

The urban quality to be protected is not only in the historic centre. In one of our recent studies, shown here in only one illustration although it involved more than three years of research, enduring environmental and landscape value emerged thanks to the guidelines drawn up by Edoardo Detti in the 1962 Land Use



1. The Arno River seen from the Varlungo bridge, Southern entrance to Florence

Plan. This can be summarised in one sentence: save the hillsides surrounding the city centre and preserve the Florentine skyline. On this basis it is possible to construct our projects based on the following elements:

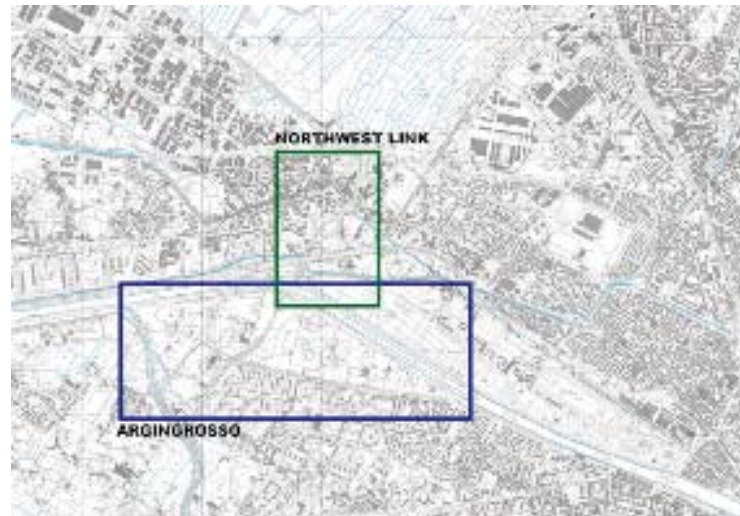
- Balance between built and open spaces;
- Quality of land use;
- Quality of the urban relationships system;
- Cultural landscape heritage.

Risks

Even if a high quality open space survives, the risks and fragility remain.

To summarise these risks it is possible to say that if open spaces have not already been filled in the city, the countryside or the splendid hillsides, they exist as voids ready to be filled with inappropriate contents.

In this case the GreenLink project has a strategic pilot role and must indicate how to use the surviving spaces of value which mere conservation cannot defend. These areas must assume a vital role in the structure of the city.



2. Pilot project areas: a) Northwest Link; b) Argingrosso

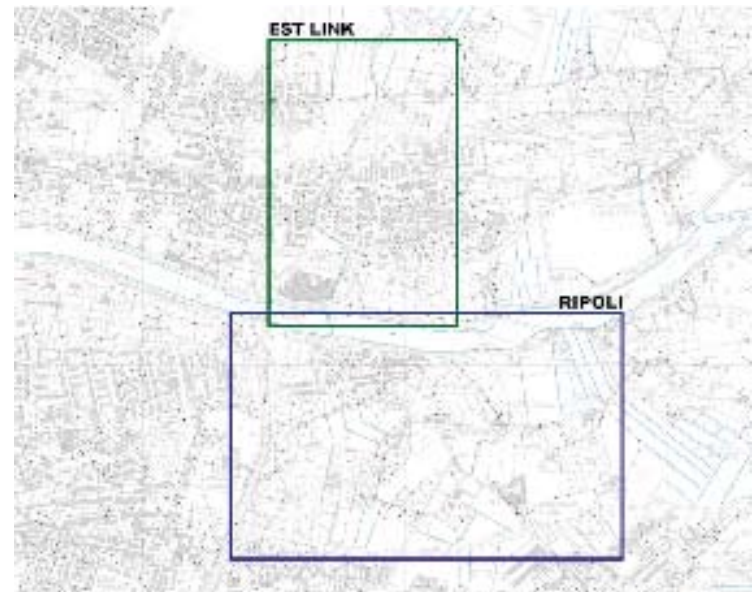
Weaknesses and strengths

The following elements have been identified as strong or weak points in our design strategy requiring all our analytical as well as propositional capacities. We have identified three main factors in each section which need to be examined in detail and possibly amplified and enriched on the basis of research, but in any case remain initial reference points:

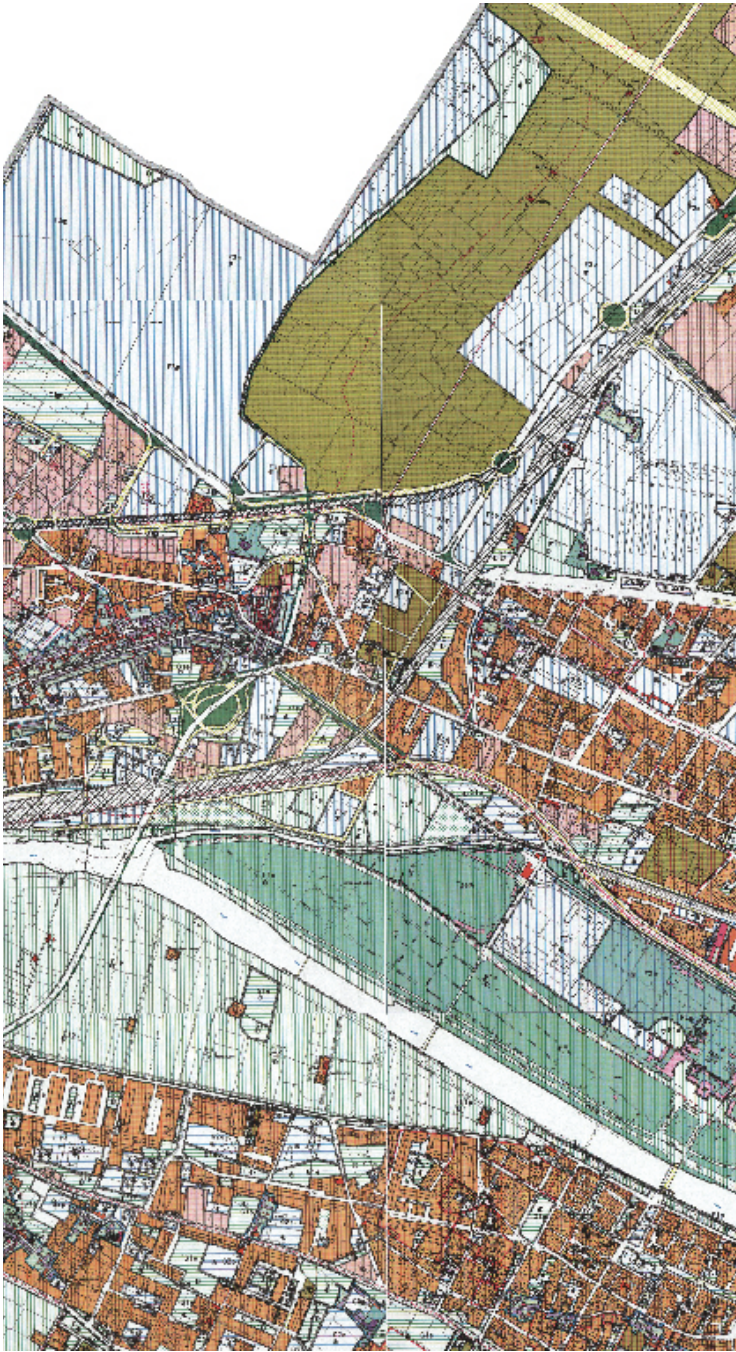
Weaknesses

- Lack of long term strategy in town planning;
- Lack of integrated planning;
- Poor capacity of developers to promote integrated projects.

In recent years developments in Florence are the result of incidental requests from private or also frequently from public bodies (as for example the railway lines or the courthouse) and are therefore fairly incompatible with the city structure today since they are not part of a unified strategy.



3. Pilot project areas: c) East Link; d) Ripoli



Florence Municipality has only recently adopted a ten-year programme allowing for extensive planning, even if the economic means of achieving it are still not clear. In any case the drawing up of the Structural Plan by a town planner who is intimate with Florentine habits, both good and bad, bodes well for the future even though it is always difficult to pilot broad programmes. Partial realisation is often damaging for urban structure, particularly in a morphologically delicate city, where there is no more room for error.

Strengths

- Cultural tradition for preservation;
- Sensitivity of citizens to environmental quality;
- Availability of tools for environmental protection.

Undeniably Florence is a city with rich cultural traditions, where citizens are hyper-sensitive to the organisation of their city and are very careful to safeguard its monuments and surrounding landscape, even though this sensibility has been disturbed by wrong choices. The legislation is sufficient to protect urban quality but when it is not severely enforced it becomes inefficient.

Many projects are currently underway in Florence. The modern image of the city is of a great worksite promising rich urban renewal to bring an ancient city up to date. Many interventions live up to these expectations whereas others can create problems and in some cases compromise the controlled, balanced image that the Detti Plan (1962) guaranteed for years.

The main projects are:

- Novoli park and development;
- Castello park and development;
- High speed underground railway;
- New Tramway;
- Arno river Metropolitan park;
- Protected natural areas of local interest (ANPIL).

The four areas chosen for the pilot projects are near the main city entrances, to the north from Bologna/Milan and to the south from Rome. For simplicity we have called them: Northwest link, Argingrosso, East link, Ripoli.

These are marginal areas of the city of great strategic importance for future interventions of urban reclamation, each of which has

4. Area adjacent to the Ponte all'Indiano: example of conflicting usage in the North-West part



5. Detail of the North-West area of the City Plan

its own peculiar problems which can be summarised as follows:

Northwest link: Strategic area between two major urban parks (Cascine – Plain park) fundamental node, full of infrastructures;

Argingrosso: Area to be developed as urban park;

East link: Sensitive area between Mensola ANPIL and the Arno river, under development pressures;

Ripoli: Important natural area, crossed by the south highway, with restored rural buildings.

The major problems in the four areas are:

Northwest link (Brown fields, mobility infrastructures)

This is an area full of infrastructures where the Northern slip road joins the motorway Autostrada del Sole and the Ponte all’Indiano which carries all the traffic coming from Livorno/Pisa. In

addition there is the Airport and the old railway line which led towards the original Leopolda station as well as the new line on the viaduct leading to the new railway centre at Campi Bisenzio. All these infrastructures coexist with industrial areas both active and abandoned.

Argingrosso

Integration with existing land uses

This extensive area (about 80 hectares) is one of the few still free, destined to become an urban park to complete the programme “Progetto Grande Cascine” on the opposite bank to the famous historic park. It is rich in interesting eco-systems and is also the potential overspill area for the river Arno. Work had already begun but there is still administrative uncertainty due to opposition.



6. Le Cascine seen from Argingrosso

East link

Compatibility between developments and open spaces

This area is distinguished by the presence of the most important sports infrastructures in the city (the National Football Stadium and Sports Centre). Adjoining it is the ANPIL (Protected Natural Area) of the Mensola stream. It has discreet urban quality but hovers between sustainable development and incompatible interventions.

Ripoli

Measurement of developments

This area has kept the characteristics of an agricultural area more than the others even though it has been heavily compromised by various interventions, in particular the slip road to the toll gate of the motorway Autostrada del Sole.

To find innovative solutions for the outskirts of a modern city is certainly an ambitious goal which architects, town planners and landscape architects have been aiming at for many years. Our choice has always been minimalist. There are no magic formulae. Our objective is to study the various sites and find simple solutions to re-link them to the urban structure and to restore open spaces, giving them a clear role in the reclamation of the suburban landscape.



7. Surviving agriculture near the Southern entrance to Florence

To summarise: to control development and keep a correct balance between open and built-up spaces. In every case we ascertain that the objectives follow these priorities:

Northwest link

Qualify brown fields, integrate mobility infrastructures into urban life

Argingrosso

Achieve a decision-making agreement

East link

Guarantee a balance between open spaces and developments

Ripoli

Define a relationship between the city and rural areas

Northwest link

Technological infrastructures and productive activities

The features of the area, as shown previously, include the regeneration of the degraded areas which have often been attributed with negative connotations due to improper use and since it is not generally considered that infrastructures or industrial sites can be of high quality, as many recent examples demonstrate.

Argingrosso

Renewable energies and biodiversity

Argingrosso represents the future and the natural development of an idea of a city park relating to the recently evolved and transformed urban structure which, through a correct balance between constructed and open spaces, can guarantee a Florence in line with European contemporary tradition for future generations.

East link

Sport, leisure and tourist activities

As has already been suggested this is the natural vocation of this area which everyone knows but which still needs an adequate unitary solution.

Ripoli

Educational, cultural and artistic activities

An area in which agricultural values must be emphasised and protected. The cultural and educational aspect could be the key to achieve these objectives.



8. Southern entrance to Florence: Via Generale Dalla Chiesa



9. Le Cascine Railway Station

REGIONE TOSCANA

(Italia)

1. Town planning tools, decision making process

The creation of the “Parco della Piana” (Park of the Plain) involves various public authorities including the Region of Tuscany, which has promoted and coordinated the initiative, the Provinces of Florence and Prato and the Municipalities of Florence, Sesto Fiorentino, Campi Bisenzio and Prato. During the early phases, covered by a protocol of intent prior to the signing of a planning agreement and later a programme agreement between political authority leaders, the Project did not involve the Municipality and Province of Prato which asked to participate subsequently, thus including the important Etruscan archaeological site at Gonfienti and the farm property, Cascine di Tavola.

The planning agreement aims to modify local government instruments, that is to say:

- the Regional Territorial Policy Plan
- Provincial Territorial Coordination Plans
- Municipal Structural Plans

The programme agreement, provided for in the various plans (Regional Development Plan, Provincial Development Plans, Strategic Plans for Chief Municipalities) will establish the timing and financing methods for carrying out the projects on the basis of the financial resources available.

Once these instruments have been realigned, in accordance with the methods provided for by Regional Law no. 1 of 2005, it will be possible to activate unified regulations for the whole area, necessary both in the fulfilment phase of the project and for establishing management instruments. This also involves members of the private sector.

2. Existing development pressures, values to protect, and risks

The main pressures

The “Piana Fiorentina” (Florentine Plain) comprises a geomorphic area starting at the north-west of the City of Florence and extending to Pistoia. It is bordered by the Apennine foothills to



1. Rural buildings, Cascine di Tavola (Prato)

the north and Mount Albano to the south and roughly coincides with the metropolitan area of Florence-Prato-Pistoia.

An area containing many rural and environmental features of great value can still be found right in the middle of this most highly populated part of the region, which the Regional Structural Scheme has identified as a Metropolitan Park. The Park of the Plain involves a large portion of it and many urban and regional infrastructures are also located in it: the Airport at Peretola, the road-rail distribution hub at Gonfienti, urban solid waste transformation plants at Case Passerini and Le Miccine, the manufacturing area of Osmannoro and the industrial zones of Prato. The area is crossed by important communication arteries such as the A1 and A11 motorways, the Mezzana-Perfetti Ricasoli, the Lucca Provincial Road, national rail links with the road-rail distribution hub at Guasticce together with other local links (regional services and underground).

A population of 200,000 inhabitants gravitates on the Park in addition to that of the Prato area, as yet undefined. The urbanisation of traditionally agricultural areas has also brought about the heavy



2. Ombrone Pistoiese Stream (Prato)

development of connection and service infrastructures, in addition to the considerable consumption of the territory. This has given rise to a marked and progressive marginalisation of many areas, with the consequent transformation of the typical rural landscape of the plain, once noted for the variety of features created by the overlaying of linear systems of water courses and farm tracks over plots of fields. Contrasting with sites of environmental importance, classified as SIC and SIR, such as ANPIL La Querciola and that of the ponds at Stagni di Focognano, there are heavily run-down areas such as the installation at Case Passerini.

Aspects to be protected

The rural nature of the area is therefore the main element to be improved and preserved to ensure the protection of the areas of natural beauty and archaeological interest (the prehistoric settlements of the plain at Sesto, the Etruscan settlement at Gonfienti along with the farm estate at Cascine Medicee di Tavola).

It is important to assist the maintenance of the structure of historic settlements, linked by ancient routes which can still be found intact in the area, in order to ensure not only the restoration of small historic towns and villages and urban dwellings of a rural nature but also their contact with the surrounding urban area to guarantee physical continuity in the configuration of the Park.

Risks

Currently there is a disjointed set of Local Authority planning instruments which means that projects regarding particular areas or themes are handled separately. This prevents the accomplishment of a single plan for the park and thus makes the restoration of all the environmental, landscape and historic features difficult, despite the will of the authorities involved.

Whilst the hill areas, generally recognised for their rural, landscape and environmental value, have been adequately studied and protected, the plain, on the other hand, has only recently received the attention it merits in the light of the heavy impact of population growth and urban development on this area of great value. A coherent plan that marks out the function of the area is lacking.

3. Weaknesses and strengths

Considering the extent of the land to be incorporated into the plan for the park, it is important to gain further understanding of the area which must supply a picture of the types of settlement in it and their function in order to identify the operational and



3. Gonfienti Park (Prato)



4. Villa Montalvo Park (Campi Bisenzio)

management instruments needed to overcome the seemingly fragmented view and inadequate use of the local rural structure.

One other fragile factor is the diversity of the bodies involved and their relative financial resources which has prevented the construction of a unitary space until now.

Therefore, the weaknesses are identified as follows:

- the width of the area concerned and the discontinuity of size;
- mixed usage;
- the variety of funding sources.

The alarmingly high pollution values from vehicle emissions together with noise (airport) and environmental pollution (hydro-geological risk, waste disposal installations) have highlighted the need for the authorities to take swift action to halt this negative impact on the environment.

The other opportunity is offered by the need to adapt and unite the structural plans of the two major municipalities (Florence and Prato) on several strategic questions. The Regional Territorial Policy Plan and the Provincial Territorial Coordination Plans are also being reviewed since they have not been applied to achieve a coherent policy for the whole area despite the opportunities given by regional law.

Nevertheless, the system of governance of the Tuscan local autonomies can now take advantage of improved dialogue between the

different authorities and thus obtain a coherent form of action with the aid of the amended Regional Law of 2005 regarding government of the territory.

The current strengths, identified on the basis of information regarding the local situation, are as follows:

- the existence of instruments of territorial management in force to protect environmentally important rural features;
- the need for better environmental insertion of public facilities;
- the explicit political will to transform this partially run-down urban area into a metropolitan park.

Ten years of regional urban culture aimed at sustainable development, the duty of assessing environmental and socio-economic sustainability of plans and the system of regional government all lead to the hope that it will be possible to adopt the necessary instruments for the management of the territory at large, in order to meet the needs expressed by the local communities, although not necessarily corresponding to the boundaries of the local authorities involved.



5. Marinella Park, connecting path towards Gonfienti

4. Major urban development plans and projects

The Park of the Plain includes a group of mainly publicly owned properties and the rural nature of the area will prevail when drawing up the plans.

The municipalities have already earmarked certain functions for the most important areas contained within the Park in their instruments for governing their territories, which are at various stages of progress:

- the creation of the “Parco di Castello” within the plans for urban development to the north-west of the City of Florence;
- the protection and improvement of the “ANPIL La Querciola” in Sesto Fiorentino;
- the Focognano Park in Campi Bisenzio;
- the Park and Villa Montalvo in Campi Bisenzio;
- the Archaeology Park at Gonfienti in Prato;
- the “Cascine di Tavola” Farmsteads in Prato.

5. Physical description of the GreenLink pilot sites, and town planning predictions for development in the GreenLink pilot sites

The six strategic areas identified for the Park are distributed over the land from Castello to Cascine di Tavola, where entrances will be built. The layout and intrinsic features mean that a variety of uses can be proposed.

Whereas it is easier to see the potential of the Parco di Castello and the Cascine di Tavola due to the proximity to large urban centres, the Ponds at Focognano and Querciola also play an important environmental rôle in the park and can therefore be used for teaching and research purposes. The Archaeology site at Gonfienti will gain in importance and thus in its cultural function and this will also apply to the Cascine di Tavola and the “Villanova” Etruscan settlements in the Sesto Fiorentino area.

At least two sites within the GreenLink project, (Cascine di Tavola and the Archaeology Park at Gonfienti) are well suited to cultural and educational activities. The system of lakes between Sesto Fiorentino and Campi Bisenzio offers further landscape and environmental opportunities in addition to the conservation of the rural habitat of the plain. A network of footpaths and cycle tracks linked with the main public transport nodes would also create continuity within the scheme and an identity as a large, central park connected with other green spaces of the hill region

and Arno river bank. Small facilities for sports activities could also be introduced along the footpaths as well as near the urban settlements.

6. GreenLink pilot sites major problems

The major problems existing in the individual areas:

Castello Park

This is an area bordering on and separating the important Airport facilities from the planned urban development to the north west. To the south is the interchange between the A1 and A11 motorways and to the north is the infrastructure belt comprising the railway and the road linking Florence and Prato.

Querciola Ponds

This wetland area of great natural and environmental importance has suffered the impact of urban settlement and development in the metropolitan area, including the industrial areas at Osmanoro, the Scientific Pole of the University, the installation at Case Passerini and the nearby Airport. The Municipality of Sesto Fiorentino has not only drawn up regulations for the protection of the area but has established a number of teaching activities in collaboration with the Italian Bird Protection League (LIPU) and other voluntary organisations. During the laying of the foundations of the buildings, which now house the National Research Council (CNR), large areas of prehistoric settlements were uncovered, highlighting the need to carry out an archaeological survey, especially of prehistoric remains, in the entire area of the foothills lying to the south of the Florentine Plain. The result of the project is the acquisition of a large quantity of data on the oldest human population of the zone, both in historic and naturalistic terms, in order to reconstruct the human-environmental coupling. These issues, related to the archaeology of the area, must also be added to those regarding the environment and water courses.

Focognano Ponds

This area is bordered by the A11 motorway to the north and covers 66 hectares, of which 35 are the property of the municipality, the land destined for the park. The entire area is under the management of the WWF due to its high environmental value and also the original lacustrine nature of the zone. The Oasis includes



6. Grand-ducal bridge - Cascine di Tavola (Prato)

five small lakes called Calvana, Morello, Calice, Acqualunga and Focognano, where typical wetland vegetation of reeds, varieties of canes and rushes and yellow irises (or aquatic orris) flourish amongst the borders of poplar and willow.

There are many species of wildlife living or passing through Focognano, such as varieties of herons, egrets, coots, grebes, yellow wagtails and stilt plovers. Sightings of migrating storks have also been reported. The lakes are home to tree-toads and the crested and dotted newt. The oasis is equipped with a lecture room, footpaths and observation points.

Montalvo Villa and Park

The villa, property of the Municipality of Campi Bisenzio, is ideal for the park management offices by virtue of its central position. Cultural events and exhibitions related to the Park can also be organised in the villa buildings.

Gonfienti Archaeological Park

This is located on the edge of the Prato plain between the River Bisenzio, the Marinella stream and the Calvana foothills under the peaks of Pizzidimonte

Initial analyses and surveys have revealed orthogonal road axes

and habitation areas drained by deep perimeter canals which appear to be constructed in modular forms. An Etruscan centre, of which 12 hectares have been uncovered so far, built in regular urban forms at least from the second half of the 6th century BC, is at the origins of the layout and history of Marzabotto.

Just as for Marzabotto, with its regular urban form, architectural cohesion and intense commercial and crafts activities, we can also presume a precise strategy for control and definitive occupation of the entire area for Gonfienti, within a complex picture of profound territorial and economic transformation which influenced the whole of the Mediterranean during the second half of the 6th century. Gonfienti seems to be the departure point for the trans-Appennine route, which was one of the main junctions for Fiesole as well as Artimino and their relative networks of communication.

The centurial traces of Florentia appear to be coherent with the urban plan of the Etruscan centre, bolstering the theory of a rationale for the territory since archaic times at least. This was probably also related to the route which was already important at that time and conditioned the rationalisation of the Arno plain between Florence and Pistoia in Roman times, established on the diagonal axis of the via Cassia, joining the two cities in a straight line. The railway is located next to the Central Tuscany Road-Rail Distribution Hub, designed as the largest regional freight yard, whose enlargement plans have been modified to prevent damage to the remains of the Etruscan city unearthed during the work, all in the area where there are motorway junctions and the Florence-Prato ring road.

Cascine di Tavola

The Farmsteads, 'Cascine', constitute a splendid urban park which conserves historic 15th century buildings of Laurentian design, located to the south of the City of Prato in the stretch of land between Poggio a Caiano and Prato, and between the River Ombrone to the south and the Fontanelle - Via del Crocifisso to the north, the built-up area of Tavola to the west and the via Pratese to the east. The Cascine, surrounded by a deep moat and high walls in the shape of a quadrangle, have the appearance of a plains-built castle. The Laurentian design, intended to unify the villa with all its annexes and pleasure spots into a rich and complex structure, was consolidated under Cosimo. The farmstead building and the Pavoniere (Peacock Aviary) were linked by a system of navigable



7. ANPIL –Focognano Oasis (Campi Bisenzio)

canals to the garden of the villa and joined to the Arno and the Ombrone. Hunting and fishing could thus be carried out in a vast and varied territory which stretched from Poggio di Bonistallo to the Peacock Aviary. This could therefore justifiably become one of the entrance gates to the Park and to this end should be adequately improved and linked to the wider area.

7. GreenLink pilot projects innovative objectives resolving exposed problems

It is important to structure a rural space which has territorial continuity, also by means of the creation of a network of pathways linked to each other and the six main areas, and to preserve the rural nature of the area together with the historic, environmental and landscape features. The ecological-territorial continuity between the hills and the river Arno must therefore be maintained and increased, creating territorial ecological networks. The Park itself must perform a specific ecological function, triggering natural processes of self propagation in the vegetation, in the regulation of water cycles and the protection of the wetlands.

Access to the Park must be made easy by means of foot and cycle paths connected to the public transport networks since it is situated at the centre of a densely populated area and offers recreation facilities by virtue of its intrinsic features. The rural nature could be better protected by encouraging ecologically compatible

farming, forestry and nursery methods and increasing the level of biodiversity.

8. Thematic grid prevalent correspondence of pilot projects, why? and how?

It is of strategic importance to promote environmental re-development policies which will permit the re-composition of the hill-plain-river system and thus create an harmonious relationship between the Park, urban settlements and the river and hill parks, in a context where the area has been altered by forms of unplanned urbanisation over the last decades.

It is necessary to create the infrastructure to connect the entire suburban area between the two major cities using a defined morphological and functional structure with a unitary plan to ensure a sufficient level of protection of the bio-diversity and the landscape identity, together with its enjoyment.

Bibliography

Some pictures are drawn from these two books: *Ad Arnum, verso un parco fluviale dell'Arno*, by LEONARDO ERMINI and LUIGI ULIVIERI, photos by PAOLO DE PIETRI; *Tra natura e opere di bonifica*, by SIMONE BENINI and IACOPO MANETTI, photos by LUCA RADICATI e LILIANA MATERASSI.

GERENCIA DE URBANISMO - AYUNTAMIENTO DE SEVILLA

(España)

Town Planning Tools

General Plan For Urban Management. Approved on 19th July 2006.

Strategic Plan Seville 2010

Existing Pressure Points

Heavy pressure to convert these plots into urban sites for residential and tertiary purposes

Values to be Protected

Dehesa De Tablada

Area subject to flooding, association with river and central location in the area.

Recovery of river vegetation, provision of facilities and adequate conditioning.

Generation of a source of biodiversity which would maintain links with other open spaces of high natural value near the city: Doñana Park, the Guadiamar green corridor and the river Guadalquivir itself.



1. Expansion zone of the park

Los Gordales

Peripheral area as a reserve for university establishments and other university linked activities including sports, leisure and cultural activities.

Area intended as a spatial link between free urban and metropolitan areas, seeking interrelation between all areas.

Weaknesses and Strengths

Weaknesses

Land pending inclusion in the public domain (Dehesa De Tablada) or negotiation with central government (Los Gordales)

Strengths

Citizen awareness for the conservation of land for suburban park or equipped park.

Protection of land for planning for use as free spaces.



2. Alamillo courtyard



4. The present situation in the park, pedestrian ring

Most important Local Plans and Projects

Transfer of the site for the Seville April Fair to Charco de la Pava.

Development planning: Partial Plan

Programming: 2nd four-year term: 2010-2014.

Objectives and criteria:

- equipped park at los Gordales, free space recovering continuity between the long-standing parks and the natural environment, through la Dehesa de Tablada;
- implementation of use by university in combination with special urban uses such as the Ciudad de Justicia. Supramunicipal local equipment and tertiary services.

SGEL – 35 General System for Free Spaces “Parque de los Gordales”.

Objectives of the Pilot Projects

Dehesa De Tablada

Actions to be performed:

- *Flooding:* Render flooding of land compatible with the protection of permitted buildings and equipment;
- *Delimitation:* Topographic redefinition based on existing or newly created main roadways permitting the definition of land protected from flooding of the river;
- *Accessibility:* Achievement of a high level of road links and



3. Aerial photograph of the area

- accessibility with respect to the city;
- *Formalisation:* Maintain and enhance the mixed nature, mid-way between agricultural use and urban periphery;
- *Programme:* Irrigated areas. Nursery areas. Water features. Sports areas. Children’s play areas. Areas with public buildings. Car parks. Special features.

Los Gordales

Possibility of linking the university with the river. North Campus-Central Area-South Campus.

Linear structure of colonisation of the territory, supported by the fast road separating los Gordales de Tablada.

The horizontal nature of the area is complemented by sporadic vertical interruptions, maintaining permeability to the equipped park or university campus.

ASSESSORATO TURISMO E COMMERCIO REGIONE EMILIA-ROMAGNA (Italia)

1. Town planning and environment

1.1. Introduction

At regional level

The Emilia-Romagna Region regulates land use and protection under the Regional Law no. 20 of 24th March 2000, which has the following goals:

- a) to create an effective and efficient system of land programming and planning for the economic, social and civil development of the regional population to ensure improvement in the quality of life;
- b) to promote an adequate use of environmental, natural, territorial and cultural resources;
- c) to reorganise the skills available at different institutional levels and to promote liaison procedures between planning instruments, in compliance with the subsidiarity principle;
- d) to favour cooperation between the Region, Provinces and Municipalities and to foster orchestration with the economic and social forces for the definition of programming and planning choices;
- e) to simplify administrative procedures by ensuring transparency and double-checking.



1. Sorrivoli (FC)

In compliance with the provisions of art. 24 of the above-mentioned Regional Law 20/2000, a Regional Landscape Territorial Plan (PTPR) has been drawn up to identify the regional historic, cultural, landscape and environmental resources and to define legislation for their protection and upgrading.

At provincial level

The Province of Rimini, in compliance with art. 26 of the Law 20/2000, has drawn up the Provincial Coordination Territorial Plan as a tool for directing and coordinating municipal town planning, where the areas set up to protect the environmental features of lakes, basins and watercourses are identified. The study for the cycle path will be carried out mainly within this framework.

Moreover, the Plan establishes if these areas are suitable for carrying out activities related to the creation of parks, by setting up temporary and movable facilities, itineraries, and resting places suitable for leisure activities, excluding any work which may imply soil sealing. Finally, areas of high landscape/environmental interest, existing and potential ecological corridors, nature reserves set up by the province or municipalities (i.e. PAN areas, Marano and Conca river systems) are also identified.

1.2. Brief description of environmental local policy and recent projects

The Municipal Structural Plan (PSC), implementing the directives of the Provincial Co-ordination Territorial Plan (PTCP), is a general town planning tool drafted by the Municipalities to outline their development and planning strategies and to protect the physical and environmental integrity as well as the cultural identity of their land (R.L. 20/2000, art. 28).

Riccione Municipality, chosen as the entity which will implement the actions included in the GreenLink project, has drafted its own PSC (March 2004) which details urban development guidelines, of which the following are of special interest to the GreenLink project:

- the creation of a cycle path along the coastline;
- the definition of the main network for the penetration and distribution of the road system, as well as of a park-and-ride system



2. Aerial View of Riccione (Photograph Riccione Municipality)

- and parking lots near the so-called ZTLs (limited traffic areas);
- pedestrianisation of the seaside area;
- coast-hinterland integration.

2. Local open questions and debated leading issues or controversy for urban boundary developments

2.1. Introduction

One of the most serious problems of the hinterland is its recent urban development, such as the new manufacturing area in the Conca river valley (Municipality of San Clemente), currently under construction, which includes new dwellings, factories, commercial areas and roads. The critical aspect consists in how the land will be used for the establishment of the new manufacturing activities. The on-going debates focus on the new location of the production area, on the lack of suitable urbanisation works, and how the area will be developed. This manufacturing area also involves the creation of a new road system in the valley, including the construction of a new bridge over the Conca river, in a high-water area, to connect two existing provincial roads. Other critical issues include the creation of a new rigid structure in a high-water area and of roads crossing highly productive agricultural areas, which will inevitably cause their fragmentation.

A further local issue is the establishment of another manufacturing area, extending over a surface of about 1,000,000 square metres, near the tributaries of the river Melo, where a thermo-recycling waste plant is located, and its development project.

Considering the need to reverse this trend leading to environmental

degradation, the envisaged extension of the existing riverside parks and the creation of nature trails and cycle paths aim at promoting, upgrading and protecting the river environments.

The coastline is heavily urbanised with several tourist and accommodation facilities located in the area between the railway and the seaside, and with residential and manufacturing facilities in the remaining part extending towards the hinterland.

During the summer, the heavy flux of tourists in the seaside area dramatically worsens the issues related to traffic and two-wheeled vehicles. For more than a decade, the coastal municipal authorities have started a policy aimed at increasing protected cycle paths, and at promoting the hinterland.

The hinterland, near the valleys of the Marano and Conca rivers, offers significant aspects in terms of nature, history, architecture, local culture, and wine & food traditions.

Weaknesses

The Romagna coastline underwent huge tourist development between the 1950s and '60s, and several accommodation facilities were unmethodically built in areas meant for residential use.

The internal road system is often inadequate during periods of heavy tourist flux and the lack of suitable extra-urban national roads makes this problem even worse.

Except for a few manufacturing areas, the hinterland suffered from reduced economic development, so it still has many of the characteristics of a rural environment as a result.

Strengths

The tourist industry is undoubtedly the driving factor for the development of the entire Romagna coastline, which is one of the most important international tourist destinations. It offers multiple attractions to visitors: bathing and seaside-related services; hotels; commercial and restaurant facilities, places for practising sports, leisure and entertainment, health centres (spas); and amusement parks. All these turn the Romagna coastline into a competitive tourist pole, above all the stretch of coast involved in this project, also due to its good quality/price ratio.

The hinterland environment differs notably from the coastal one, both from a natural and structural point of view. It features green spaces for practising open air sports activities such as cycling, horse-riding, hiking, etc., as well as historic villages and wine & food itineraries.



3. Coriano (RN) (Photograph by T. Mosconi, Tourism Department Photographic archives, Rimini Province)

Several mediaeval villages with fortresses, churches and castles, provide tourists with the opportunity to enjoy a holiday which is not only centred on the seaside, and to discover the artistic and historic heritage of a hilly, fertile land. Moreover, village fairs and festivals give them the opportunity to learn about the folklore and wine & food traditions of the inland towns.

Within this context, it is worth underlining the presence of areas of great natural interest and relevance in terms of environmental tourism, for example the Conca Oasis and the Onferno Reserve.

2.2. *The GreenLink pilot sites*

The GreenLink project aims to identify shared strategies for an efficient and respectful planning of the suburban green areas.

The Emilia-Romagna Region became a partner in the GreenLink project with the purpose of promoting an orderly and integrated land development, improving the environmental and social quality of the urban area by implementing upgrading actions in compliance with the legislation in force. The Region has identified an area within the Province of Rimini as the pilot site for the project, since this land shows highly interesting elements for planning analyses and experimentation (heavy tourist movement, a possible connection between the coastline and the hinterland, the presence of highly urbanised zones near areas with significant environmental and natural aspects). More exactly, the area to be studied includes different municipalities, stretching from the coastal area of the Municipality of Riccione to the hinterland as far as the border of the Emilia-Romagna Region, marked by the basins of the Marano and Conca rivers.



4. Landscape, Gemmano (RN) (Photograph by T. Mosconi, Tourism Department Photographic archives, Rimini Province)

The land in question, located very near the coastline, includes several areas set up to protect the environmental features of lakes, basins and watercourses, within a context of great natural and landscape interest, of protection of nature, as well as of historical-cultural aspects.

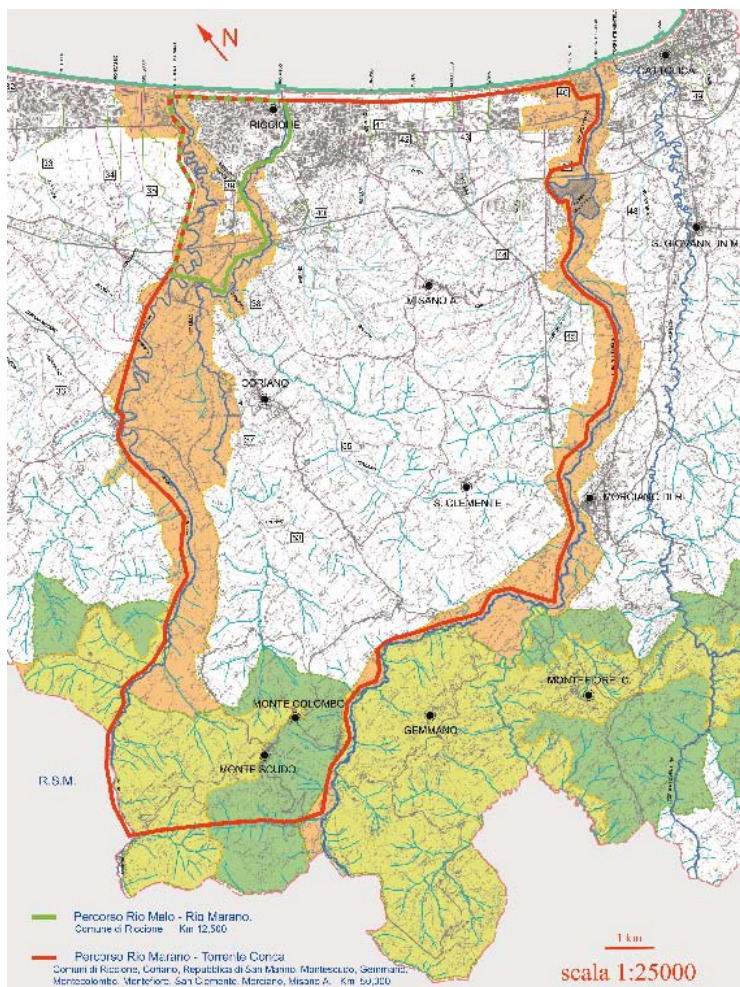
The project's main goal is to define the feasibility of a cycle path/nature itinerary of touristic-educational-environmental relevance which will connect the seaside area to the inland towns.

It aims to create local and economic synergies, with the purpose of developing and diversifying the regional offer for tourism, promoting sustainable development, and strengthening competitiveness by building a homogeneous image of both areas.

The decision to choose the municipal area of Riccione to implement the project was taken considering the opportunity to develop and enlarge its existing cycle paths and nature itineraries which are already connected to an urban network linking different poles: sports facilities; schools; etc., near the river Melo, and the paths which are being designed along the river Marano.

The project will include two interconnected cycling circuits for tourists:

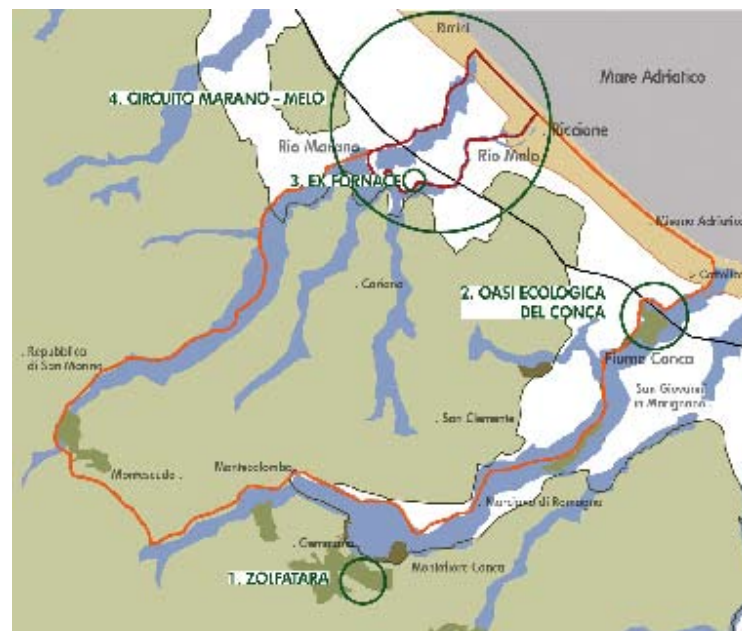
The first, more easily accessible, will extend over about 12 kilometres, within the municipal area of Riccione, along the Melo and Marano rivers. A few stretches of this circuit will include areas of environmental-natural interest (wetlands, small lakes, waterfalls in the Melo river ...). This circuit will be connected to the existing sports facilities, tourist and wine & food services. Moreover, a cycle path will be built between the two watercourses



5. Marano and Conca River Basin, paths

to create a circuit which will be more easily accessible to citizens and tourists. A feasibility study has been drawn up for this circuit, and more precisely for the Marano river stretch, for the creation of wetlands and phyto-purification areas, to improve the quality of wastewater from the municipal purifying plant, which is then emitted into the river bed;

The second, more suitable for nature-related and hiking activities, will stretch along about 50 kilometres, through other municipal



6. Detail of the project, Diagram

areas, along the Marano and Conca rivers, and will include a cycle path to join them near the border with the Marche Region. Connections with the Republic of San Marino are also planned. The itinerary will end in the seaside area where it will link with the existing cycle paths.

A further aim of the project is to revitalise a cycle path built along the Conca river about 10 years ago with regional funds, which is scarcely used due to the lack of connections with a wider network of tourist-cycling itineraries.

As for the issues concerning the creation, management and maintenance of environmental paths, this project also aims to conduct a comparative analysis into possible technical solutions, the types of paving (made of permeable and low environmental impact material), and at evaluating the creation and maintenance costs to provide useful suggestions and guidelines to ensure correct design and execution, and to exchange ideas with the other partners facing the same issues.

The project aims to foster the development of a closer relationship between the strongly urbanised coastal area and the natural



7. Conca Oasis (Photograph by E. Dall'Ara)

environment surrounding it, in order to create an open system capable of interconnecting with the attraction poles of the surroundings, providing alternative and pleasant cycle paths in areas dedicated to citizens and tourists, and helping to reduce the man-induced burden in those areas (such as the coastline and the seaside resorts) which are subject to overcrowding problems in the peak tourist season.

The analysis of the context in which these circuits will be created also aims to pool all the skills available in the municipal offices responsible for the circuit design, thus reducing administrative fragmentation and avoiding the development of isolated actions, through the active participation of all those involved in the project's creation and achievement of results.

Another goal is to connect the areas adjacent to those of great natural-historical-cultural interest and to make them more accessible, by enhancing the specific features of each single area located near the path as much as possible, and by promoting the land.

The project provides the opportunity to upgrade suburban areas for the achievement of better land quality within the context of a sustainable use of natural resources, by involving private businesses working in the tourist and accommodation sector.

3. The pilot areas

The environment where the cycle path will be created, in the shape of a ring connecting Riccione to its hinterland, often shows conflicting landscape and environmental aspects. The heavy an-



8. Conca Oasis (Photograph by E. Dall'Ara)

thropisation resulting from the development of mass tourism has entailed a remarkable use of land and environmental resources. The widespread landscape pattern often has an “unattractive” mixture of accommodation facilities, businesses, leisure spots and rural areas with distinctive traits. This project has been conceived to provide the following important opportunities:

- to initiate a process of landscape improvement, by re-shaping the boundaries between the several conflicting situations, with the purpose of turning fragmentation into variety;
- to develop themes for a diversified tourist proposal in tune with new strategies aimed at enhancing the environmental, local and “emotional” qualities of the land, also as an alternative to the seaside;
- to improve connections between existing tourist facilities, providing alternatives to exclusive use of the car;
- to reform the ecological network and its connections, strengthening the role of the main rivers.

The interrelation between the four project themes (technological and manufacturing infrastructures / renewable energies and biodiversity / educational and artistic activities / sports activities, leisure and tourism) is strengthened since, in this case, they all revolve around a single structural theme which should be further developed for various strategic reasons: *water*.

Water is the natural “vehicle” of biodiversity and environmental variety. It is the backbone of the land and creates a seamless network: this implies a great strategic potential for such a fragmented area.



9. Zolfatara countryside (Photograph by M. Zamagni)

Water is the basic element making up the river environment which will run parallel to the planned cycle circuit for long stretches. Therefore, it can be a common theme with teaching relevance, capable of connecting the different types of landscape resulting from its multiple forms and uses.

With this in view, the four pilot areas have been chosen:

- 1) the sulphur-mines or *Zolfatara* (Municipality of Gemmano – Municipality of Montefiore Conca) / manufacturing activities;
- 2) the Oasis and Bird Watching Sanctuary of the river Conca (Municipality of Misano Adriatico) / biodiversity;
- 3) the former brick factory along the river Melo (Municipality of Riccione) / educational, cultural and artistic activities;
- 4) the ring along the Melo and Marano rivers and the adjacent leisure areas (Municipality of Riccione) / sports, leisure and tourism activities.

The *Zolfatara* is a former area of sulphur-mines, near the river Conca. This area can be regarded as a cultural destination but also as the “final part” of the river Conca itinerary, as well as a “bridge” area connecting the riverside tract and the Onferno Reserve, further from the river and well-known for the relevance and appeal of its geo-morphological features. It is strategically positioned in the project itinerary, as it is set in the low hills of Conca, Ventena, Tavollo and in the landscape of the calcareous-arenaceous hills of the southern zone – according to the classification of the landscape units provided by Rimini’s PTCP 2007 – in a transition zone between the river valley and the first foothills. After this the cycle path changes, since the orography and road

network are different, and becomes an itinerary for hikers and mountain-bikers, failing a public transport service connecting different cycle circuits.

The *river Conca Oasis and Bird Watching Sanctuary* is a wetland of natural interest upstream from the nearby motorway, located along the river Conca. Policies to enhance it and proposals to set up protection systems (ZTL, SIC) are underway. It is considered to be an area of special interest for the coexistence between natural / environmental elements and high-impact infrastructures (i.e. the motorway, and the Santa Monica racetrack) sharing the common feature of being destinations or means for tourism, besides their geographical proximity. This mixture of contrasting characters, as mentioned earlier, is a peculiarity of the land involved in the project. Taking action in these areas implies the ability to design whilst providing a new positive interpretation of the existing contrasts, working within the margins, the borders, trying to promote the peculiarities of each area, and creating new, symbolically meaningful landscapes.

The former brick factory is a ruin along the *river Melo*. In the past, several manufacturing activities (quarries, oil mills, mills, brick factories), relying on the soil and water resources, were established in the river valleys of this land (Marecchia, Conca...). On the one hand, these activities have “exploited” the rivers, but on the other they are part of the history of the local economy, whose memory is preserved today by industrial archaeology sites, architecture being part of the river landscape (and of the image people have of these rivers) exactly as any other natural element. The idea to restore the former brick factory for teaching and cultural purposes – by creating exhibition spaces, classrooms, places meant for open air workshops – aims at recognising and enhancing the historic importance of industrial archaeology, its aesthetic potential and the possibility to assign it new contemporary uses.

The “short” cycle itinerary along the *Melo and Marano rivers* is a pilot area conceived as a crucial element to penetrate and explore the hinterland, closely connected to the coastal and urban context, which can be completed within a few hours. For these reasons, it is suitable both for “*una tantum*” and “daily” sport and leisure activities. In fact, there is a need to design an itinerary with closer links to daily life, capable of connecting urban, suburban and rural green spaces, passing through more and more rarefied urbanisation levels, with the constant presence of the rivers acting as a common element.

CÂMARA MUNICIPAL DE VILA REAL DE SANTO ANTÓNIO

(Portugal)

1. Town Planning Tools

Each Municipality in the Algarve has several official regional development planning instruments that must be considered before undergoing any activities for natural conservation:

- PROTAL - Regional Territory Planning Outline;
- “Natura 2000” Network;
- POAP - Natural Reserve Planning Outline;
- Areas under POOC - Coastal Planning Outline.

At a local level, every Municipality must produce a Local Director Plan (PDM), which contains all of the development guidelines. It can be changed after 10 years and all the major investments must be included. On a smaller scale, there are specific plans elaborated for different development areas: Urbanisation, Heritage Protection, Environment and others.

Decision Making Process

Each Department within the Municipality has its own priority development area. They submit actions directly to the Executive Council (the Mayor and elected members) for approval. There is a specialised office with the specific objective to relate with EU institutions, to learn about funding and to present programmes to Departments in order to develop projects and submit them to the Executive Council.

2. Values to Protect

Nature Reserve areas: located North of VRSA and Monte Gordo, harbouring aquatic fauna, birds and local flora;

Forestall area: located south of the populated areas near the shore lines. A large pine wood containing many natural ecosystems;

Protected coastal areas: 500m of coastline.

3. Risks

- Use of natural areas for urban expansion;
- Authorised and unauthorised tourism activities within protected areas;



1. View of Sapal, Site Plot I

- Severe degradation of natural spaces;
- RSU deposition;
- Serious danger of forest fires.

4. Existing Development Pressures

Urban expansion: existing built-up areas are on the verge of invading protected areas, as real estate activities tend to increase in order to maintain tourist activities during the summer and with population growth;

Tourism intensity: pressure of a flourishing tourism industry in such a small building area could arise in the form of urbanisation in natural areas protected or not protected. At present there are species here whose ecosystems are very fragile;

Traffic: there are two access roads to the municipality and one of them serves all the beach areas. Especially during summer, the lack of parking spaces is a very severe problem in VRSA, Monte Gordo and Cacela.

5. Strengths

- A well structured PDM (Local Director Plan): this document is being revised taking into account all the constraints, opportunities, strengths, weaknesses and threats;



2. Conservation of Coastal Dunes

- Political class awareness towards the environment, preservation of the cultural and built heritage, resulting in several long term actions and plans destined to recover and promote local heritage icons, sought by visitors and locals alike. Recent enquires reveal that this strategy is well perceived and valorised by both groups;
- A clear and global strategy in sustainable usage of suburban areas through recreational and sports activities. Territorial development is a priority and EU funding has been largely used to benefit the population with equipment and infrastructures;
- Territorial organisation: this area is almost unspoiled and benefits from regional development plans that kept urban expansion within boundaries. All soil usage can be carefully planned enhancing future possibilities towards sustainable economic activities such as tourism.

6. Weaknesses

Mass tourism: the tourism sector supply cannot cope with the current high demand, especially during the summer high season. Services and infrastructures are stretched to a limit and quality suffers;



3. Pressing Urban Expansion

Highly fluctuating seasonal demand: whereas demand exceeds the present capacity for services during the summer, in the winter hotels, commerce and services struggle for a regular activity rate;

Mass tourism / Reduced expanding areas: 20% of Municipal territory is protected nature reserves. The territory has about 60 km² of narrow space between the mountains and the sea. The areas for urban expansion are not very extensive.

7. Major Urban Development Plans and Projects in the Environment

- Upgrading of the village of Cacela Velha;
- Urban arrangements of recreational equipment in touristic areas;
- Plans and studies for the new Monte Gordo camping site;
- Upgrading of the Manta Rota beach area;
- Upgrading of the Northern access of Vila Real de Santo António;
- Upgrading of National Road 125;
- Algarve's Bike Route and several Bike Routes in Vila Real de Santo António;
- Urbanisation Plan of Vila Nova de Cacela.

8. Physical Description and Town Planning Predictions for Development of the Greenlink Pilot Sites

- I. Natural Reserve of Sapal. Nature area with streams. Low vegetation and swamps. Local fauna and flora. No accessibility. Multifunctional study on the usage of natural spaces within



4. GreenLink Master Plan

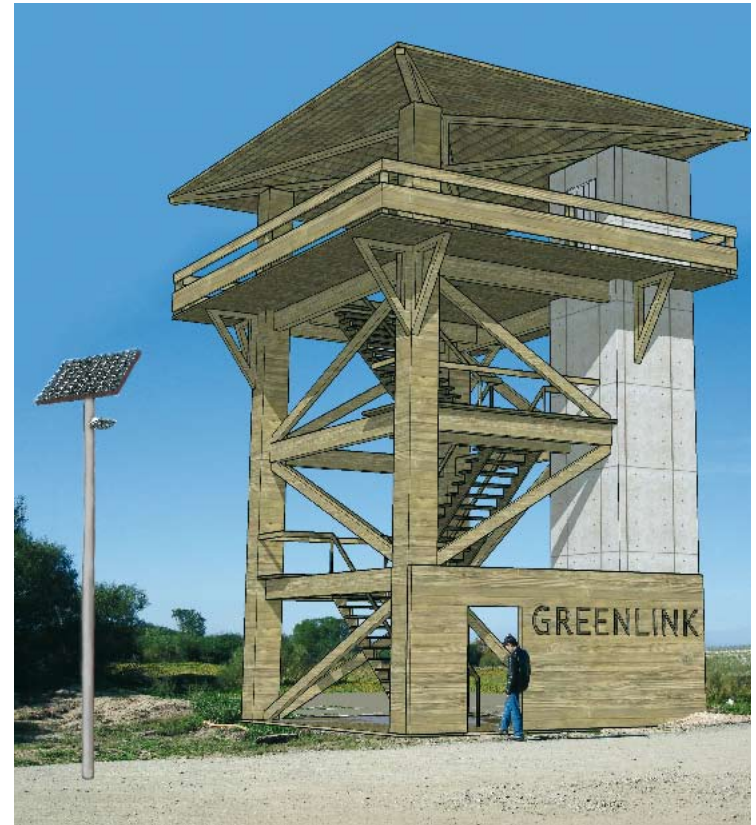
- the “Pólo de Lazer do Sapal”, an Interpretation centre, a Columbidae centre, an Equestrian centre served by paths and tracks with rest areas. An eco-road and nature observation spots will be created as well;
- II. Adjacent to the port area. No accessibility. The west borders on a natural area and river affluent. Study to minimize the impact of developing an area for an industrial centre. Landscape qualification, infrastructures for public use, nature observation spots and an eco-road will help to attract the population towards it;
 - III. Beach and forest areas. Greenways. Very sensitive local fauna and flora in fragile ecosystems. Study to implement beach accessibility, tourism and environmentally integrated sports infrastructures;
 - IV. Equipped forest area and greenways for leisure activities. Study to introduce the use of solar energy on greenways alongside the pine forest, nature observation spots and towers.



5-6. Observation Tower, Access by Ramps

8.1. Greenlink Pilot Sites Major Problems

- I. Lack of accessibility, equipment or paths. A dynamic of facility usage must be created since people do not traditionally consider this area for leisure habits. The problem of parking spaces must be overcome. The environmental balance demands innovative solutions in order to minimise impact. Existence of physical obstacles between the area and the city;
- II. To attract newly created companies to establish themselves in such a suburban area. Need to minimise environmental impact. The future residual water treatment station will also be located in this neighbourhood and could become a major drawback for “settlers”;
- III. Environmental sustainability and promotion of the correct usage of equipment by the local population and reduction



7. Observation Tower, Access by Elevator

- of the effects of urban vandalism. Creating the feeling of owning the equipment to be adopted by the population;
- IV. Predictable costs. Scarce know-how. Few companies in this area of expertise. Architectonic framing in areas of high landscape quality.

8.2. Greenlink Pilot Projects Innovative Objectives Resolving Exposed Problems

Population mobilisation towards the thematic areas – once the population creates a dynamic for the usage of the selected areas, not only stated particular objectives for each of the sites are fulfilled but also the risk of degradation for lack of interest or presence of people is reduced. Equipment tends to degenerate when it is not cared for.



8-9. Natural Spots

Use of high technology for the resolution of problems that cannot be solved by different means. For instance the energy supply in all pilot sites can be achieved by the usage of solar cells. The development of environment-friendly solutions for equipment installation will help to reduce the risks to environmental balance within the pilot project areas. Materials, landscape integration, intelligent space occupation are key factors for success in overcoming this sensitive issue.

Environment preservation associated with the urban experience qualification. Environment conservation embodies urban protection of landscapes, flora and fauna, associated landscape management, together with the maintenance and conservation

of natural areas. Environment preservation overlaps with heritage conservation and environment management by definition.

8.3. *Thematic grid prevalent correspondence of pilot projects, why? How?*

PP1: The use of this particular area, as an interpretation centre for environment study and knowledge is as unquestionable as its natural richness. The difference between the presented ecosystems is real and it would be very useful to see it used everywhere. The accessibility and remaining equipment are needed to make the best conditions possible available to visitors. Cultural events held on site will contribute to a



10. Aerial View of Vila Real

greater age-range of people. The theme context is clearly met;

PP2: The need for a location to install new firms from recent technological backgrounds. The perfect choice was this unused area near the port next to the natural reserve. Integration must be achieved in order to preserve all the natural characteristics;

PP3: The Municipality will undertake a study to guarantee an environmentally integrated group for accessibility to and equipment for the beach areas with an element of multi-functionality towards sport and tourism;

PP4: A full study on the usage of solar energy for all the equipment on the previous areas will be commissioned in order to diminish the impact of a standard network.

ZOGRAFOU MUNICIPAL ENTERPRISE OF DEVELOPMENT (DEADIZ) PREFECTURE OF ATHENS (Greece)

1. State of the art and local framework

The area of interest has been focused on *Zografou* (Athens Prefecture), a suburb in the eastern part of the capital city of Athens, and its metropolitan region (AMA) (3,500,000 inhabitants) which constitutes the main “gateway” to Greece. One third of the Greek population resides in the AMA which produces around one third of Greece’s GDP. Today, Athens and its region, Attica (including Zografos municipality), are going through a very dynamic transition period – old institutional structures still subsist, but integrated and strategic governance structures are emerging. New public infrastructures, complementing environmental and architectural assets, are radically transforming the region.

The western part of Zografou city is attached to the central area of Athens (five km from Athens city centre) and is surrounded to the north, east and south by natural open spaces dealt with in the present project such as Hymmetus Mountain and mixed natural/human environments such as Parks and the University campus. The Hymettus Ring (number 65), which is part of the Attiki Odos private superhighway network, separates the city of Zografou from Hymettus Mountain.

Historically Zografou was made up of farmland and some forests dominated the area. In the mid-20th century, suburban housing developments from Athens spread and eliminated the farmland, leaving an empty space in the northeast. The forests, consisting of pines, are situated in the south, southeast and east, and a small park lies to the north, now occupied by corporate buildings. Much of the municipality was covered by grassland and rocks which are part of the Hymettus range.

Nowadays the City of Zografou is one of the main Municipalities of Athens, consisting of 80,000 inhabitants and covering a surface area of 210 hectares of urban built-up areas and 240 hectares of suburban green areas.

In all, the green spaces cover nearly 2/3 of the surface area of Zografou, including principally the three suburban parks and Hymettus Mountain forests on the fringe of the city which

constitute the Greenlink pilot studies. In spite of the significant amount of green areas on the outskirts of the city, the Municipality of Zografou is a high-density populated area with built-up residential, commercial and service uses. Apart from the above-mentioned large open areas, green structures such as neighbourhood parks, green spaces along streets and in courtyards, trees and avenues are insufficient. Small areas inside the city and the distribution of open space in the urban area is limited.

2. Town planning tools, decision making process

Rural development planning as well as urban development policies have been the weakest link in spatial policies in Greece, due to the existing weak planning and regulatory frameworks that have resulted in land use conflicts, uncontrolled urban sprawl, landscape and environmental degradation in many cases.

The Structure Plan of Zografos Municipality is part of the Strategic Plan for the Athens Metropolitan Area and is overseen by a national government agency, the Organisation of Athens. The Structure Plan and Programme for the Environmental Protection of Athens was ratified by national Law (1515/85).

The fulfilment of the goals of the Structure Plan is achieved through a series of plans:

- the General Urban Plans (Master Plans) that are prepared and approved for the municipality;
- the Development Control zones that cover the entire suburban hinterland not included in the city plan;
- the Zones of Environmental Protection plans; and
- the Major Structural Interventions and Urban Rehabilitation Projects, which are of strategic importance for the spatial, economic and social development of the Greater Athens Area.

An inherent problem of the current system is that legislation is created, modified and superseded but not actually implemented.

The Organisation for the Planning of Athens is working in close cooperation with the Ministry of Environment, Planning and Public Works to ensure that the future replacement Structure Plan reflects

the new governance structure and becomes a strategic guidance plan for the metropolitan area, addressing physical, economic and social needs in the short, medium and long term.

In particular, the study of these areas within the Greenlink project focuses on environmental protection and promotion of the forested ecosystems (Hymettus Mountain) and archaeological areas as well as the creation of Metropolitan Urban Parks. The existence of a new Strategic and structural Master Plan is essential for the whole municipality, paying particular attention to the Protection of the Natural Areas and to Local Development.

One of the main issues is the decision-making process. For the planning process, the Ministry of Environment, Planning and Public Works is responsible for major decisions. When the forest areas are included in the Municipality of Zografos, the Ministry of Agriculture with the General Secretary of the Forest Division can be involved with the co-operation of the Ministry of Environment, Planning and Public Works. The Mayor and the city council are responsible for local but not strategic decisions. Therefore the lack of coordination between the different public sectors for Strategic Plans is the main issue.

3. Existing development pressures, values to protect, and risks

There is strong pressure in the city for:

- development (commercial, services, residential);
- infrastructures for mobility, services, logistics;
- occupation of urban open spaces for other uses (such as parking areas);
- public transportation in the city is insufficient (the nearest metro stations of the city are on the northern boundaries);
- action against air, noise and visual pollution as well as waste which are all increasing significantly.

The existing development pressures can have the power to protect by:

- balancing between built and open green spaces;
- improving the quality of land use;
- improving the quality of the urban relationships system;
- protecting the cultural landscape heritage;
- protecting forest and natural ecosystems;
- enhancing historic and protected areas;
- unifying Green Spaces.

The risk elements of the Strategic Plan are:

- intensive urban development;
- lack of general town planning for the overall site;
- lack of integrated planning;
- intensive urban development with lack of proper town planning;
- lack of coordination between town planning tools & environmental protection policies;
- lack of a long term strategy in town planning;
- lack of a long and short term strategy for the protected suburban areas;
- weak integration between central & local government administration;
- weak managerial systems between central and local government.

4. Weaknesses and strengths

The weaknesses are:

- environmental deterioration;
- worsening social conditions;
- urban policies;
- scanty maintenance and attention to green open spaces;
- minimal activities in green open spaces;
- lack of a clear policy for the unification of suburban spaces.

The strengths of the Municipality are:

- the privileged location (at the foot of Hymmetus mountain) in a unique undulating Mediterranean landscape;
- the important natural environment for protection (suburban parks and the mountain);
- the cultural heritage, especially in academic education training (close to Universities) for preservation (grottoes, monasteries and archaeological sites);
- historic, cultural and natural resources;
- the growth of environmental sensitivity on the part of the citizens (through several projects of the municipality);
- the existence of laws for the protected areas.

Another main issue is the maintenance, activities and legislation of green open spaces where there is no central association or institute dealing with the management of urban and suburban green spaces. The following table 1 shows the Strengths and the Weaknesses for the suburban areas of interest more analytically:

	<i>Strengths</i>	<i>Weaknesses</i>
Location	Privileged area	High density and improper town planning
History	Monument maintenance for relaxation	Monument decay due to delayed maintenance
Climate	Mild climate	Summer = heat, low rainfall
Ground	Very good subsoil	Traffic problems, building around and above streams!!
Water	Excellent Water Quality	Flooding due to overbuilt areas
Ecosystem	Important green lung	No easy access
Biota	Wide range of species & plants, caves & gulfs	Scarcity of flora and fauna, fire risk, grazing, illegal hunting
Outdoor observation	Footpaths	Sentient reduction, disturbance of wild species, noise pollution, unclear proprietary status quo

5. Major urban development plans and projects

Major development plans and projects connected to the GreenLink project:

- creation of the Hymettus cultural park with the introduction of leisure and cultural activities and protection zones for the monuments;
- upgrading of currently existing parks and unification by a network pedestrian system and at the “University Town” (a perimeter route between the technical university campus, the cemetery and the university campus area);
- updating of the Goudi park to a metropolitan thematic park and the creation of a green park with ecological quality and metropolitan character;
- upgrading of Ilissos Park with environmental educational activities;
- unification and creation of a pedestrian network connecting internal and suburban green spaces.

The municipality has already developed a pilot project for electrical energy-saving in Goudi Park and is planning to install photovoltaic cells.

6. Physical description of the GreenLink pilot sites, and town planning predictions for development in the GreenLink pilot sites

The main suburban areas in the pilot projects are:

- 1) the major campuses of Athens University and the National Technical University (collectively known as the “University Town”), situated in the south, as well as the private road linking Hymettus’ communication towers. Upgraded works have only been partially made;
- 2) Ilissos park which is located on the southern border of Zografou municipality. The park-like stand of pine trees, where the Forest Research Institute is located, in the area of Ilisia, is near the centre of Athens;
- 3) Goudi Park, located in the north-east of the Municipality and north of the National Technical University, includes three military camps, hospitals and sports facilities. Part of Goudi Park was one of the Olympic Venues in the 2004 Olympic Games and hosted both badminton and the five events of the modern pentathlon. Outside the Olympic Hall, work centred on upgrading and enlarging the swimming pool, and renovating and restructuring the hippodrome, including support areas such as the warm-up area, stables and locker room;
- 4) Hymettus Mountain. In addition to the above-mentioned three suburban large parks, Hymettus Mountain lies in the southern part of the Municipality, 280 hectares within the Zografos administrative boundaries. The mountain has a long history with several ancient tombs, ancient quarries of Kara marble and monasteries. The peak elevation is 3,366 ft (1,026 m), the 11mile (18 km) ridge is divided by the gorge of Pirnari into two small series of peaks in the southwest. Nowadays, it is one

of the few biotopes and places of natural amusement still left in the broader area of Athens. At the same time, the existence of important archaeological sites makes the mountain an irreplaceable part of our natural and cultural heritage.

7. *GreenLink pilot sites major problems*

The main problems of the pilot site area concerning the green spaces are:

- lack of continuity;
- inadequate open space to create a network pedestrian system;
- low maintenance;
- feeling of insecurity in some places;
- insufficiency of activities on the sites;
- lack of coordination between competent authorities;
- a low level of quality landscape architecture and urban environment, in particular a lack of social spaces;
- in some cases, a general lack of coordination and integration between various aspects, in particular in places with considerable economic interests and many stakeholders involved.

Additionally Hymettus Mountain has many environmental problems:

- built-up urban areas almost surround the entire mountain range of Hymettus;
- access to the top of the mountain is restricted to authorised vehicles for maintenance of the towers;
- a transmitter park for all major TV and radio stations is located at the top of Hymettus mountain;
- Hymettus mountain has been subject to many fires so the forest is undergoing natural and artificial reforestation
- recently (2004) the “Hymettus Ring” was constructed at the base of the mountain. This is a ring road connecting the Attiki Odos freeway with five interchanges beginning with Y and with many tunnels, and the Athens urban sprawl.

Inadequate protection from fires and high risk during hot summer days.

8. *GreenLink pilot projects innovative objectives resolving exposed problems*

The objectives of the Greenlinks pilot projects are:

- to increase green and open sites in the peripheral area of the



1. Part of Goudi Park, property of the Municipality of Zografou

- greater area of Athens;
- to join together and unify open spaces with the green area on Hymettus mountain;
- to create a network of pedestrian walkways incorporated in the unified green areas;
- to organise traffic and parking of vehicles, unifying the area;
- to remove specific installations and activities to create areas for public use or for welfare activities;
- to unify cultural activities and associate them with other related activities elsewhere;
- to establish conditions of unification and correlation of the total intervention with other significant areas of green, recreation and cultural activities in the Basin.

To be more specific the four pilot projects aimed to create different themes as follows:

Pilot Project 1: Hymettus Mountain

Theme: Creation of Hymettus cultural park

This can be achieved by the creation of several activities such as:

- establishment of activities such as *rock-climbing - caving sections*. Hymettus has a limestone composition and gentle slopes interrupted by vertical cliffs and many karst formations;



2. The views from Hymettus Mount to the “University town”, the National University of Athens, with Goudi Park in the background

- *visiting the Monasteries* of Kessariani, St John the Evangelist and St. George Coutalas as well as the monuments on the Taxiarchon and Ascension (Analipsis) Hills;
- *educational activities*, whether or not they involve schools, regarding the natural environment and specifically the fauna and flora of Mount Hymettus;
- *organised guided tours* to the Botanic Garden of Philodassiki when possible;
- keeping participant capacity at a standard level.

Pilot Project 2: “University Town”

Theme: Unification of the areas and creation of educational and sports activities

This can be achieved by:

- developing the green areas in the parks and their connection with suburban open spaces and the massifs;
- protecting the landscape of unique natural beauty;
- the ecological reconstruction of the area, the protection of forested land and the surrounding natural environment;
- upgrading particularly deteriorated areas;
- protecting the historic and cultural heritage;
- encouraging other activities such as walking, cycling, jogging etc.;

- creating environmental educational activities.

Pilot Project 3: Goudi Park-Metropolitan Park

Theme: Unification of the areas and creation of cultural, sports and recreational activities

This can be achieved by:

- renovation of the military buildings for cultural, educational and sports activities;
- creation of an environmental educational thematic park on energy issues (photovoltaic, Aeolian energy);
- creation of a network for pedestrian and cycle routes inside the park as well as urban transport connections to the park (the metro is already nearby);
- improvement of public access to the park;
- planning for improving the ecological role of the Ilissos river.

Pilot Project 4: Ilissos Park

Theme: Unification of the areas and creation of educational and recreational activities

This can be achieved by:

- increasing the green and public spaces of Athens;
- unification and connection of the urban and suburban green



3. The sudden transition from the forested green area to urban density



4. The “University Town” and the landscape surrounding Athens University

spaces (Hymettos Mountain and Tourkovounia hills) by creating a green axis;

- creation of a network for pedestrian and cycle circulation inside the park and connection with the other sites to the nearest metro station;
- creation of a natural science museum (plant selection of forest species) for educational purposes;
- improvement of access to the Forest Research Institute for the public with special tours round the laboratories;
- improvement of public access and involvement of researchers to advise the municipality on environmental problems.

8. *Thematic grid prevalent correspondence of pilot projects, why? and how?*

The Greenways Network System will:

- provide opportunities for recreation, fitness trails, educational and cultural activities;
- protect important wildlife habitats and promote the conservation of open spaces, forests and wetland areas;
- link neighbourhoods with each other and with parks and other community assets;
- educate the public on the importance of the natural environment of the Greenways System;
- redevelop and manage the pedestrian and bicycle routes as part of the Regional Bicycle and Pedestrian Plan, which will connect the Greenways and Parks System to communities with the region;
- support the conservation of river corridors.

The main environmental problem of the city is the lack of green or open spaces in the city and the difficult access to the suburban green spaces.

A high speed peripheral road cuts off direct access to Hymettus Mountain and the enclosure of the University campus obstructs the inhabitants of Zografou in visiting these areas. An overpass on the highway could solve the problem. Direct access to green areas is only available to Goudi and Kifissos Parks. Finally the connection of Kifissos park (Sygrou) with the “University Town” could be achieved by building an underpass with a pedestrian road on top at the entrance of Kifissos park (Sygrou).

REGIONE AUTONOMA DELLA SARDEGNA

(Italia)

1. Report on the state of the art and the local framework

For our area of interest we have focused on west central Sardinia, in particular the city and the gulf of Oristano, the river area and the damp zone between Sinis and Fordongianus which include:

- the damp area system;
- the agricultural area system.

These areas coincide with the Province of Oristano, which covers 88 municipalities encompassing a population of 168,000 inhabitants (10.3% of the Sardinian population), with a total extent of 3,040 km² (2.6% of the whole Sardinian territory).

Morphologically this area is flat with several damp areas: Omodeo Lake; Is Benas Cabrasa and Santa Giusta pond.

The Oristano gulf coastal area is delimited by the Montiferru region to the north, the Arci-Grighine orographic system to the east, and the coastal arc of Arcuentu and Capo Frasca to the south, a volcanic promontory south of the Oristano Gulf, bordered by bluff escarpments at the altitude of 80 m., presently a military zone.

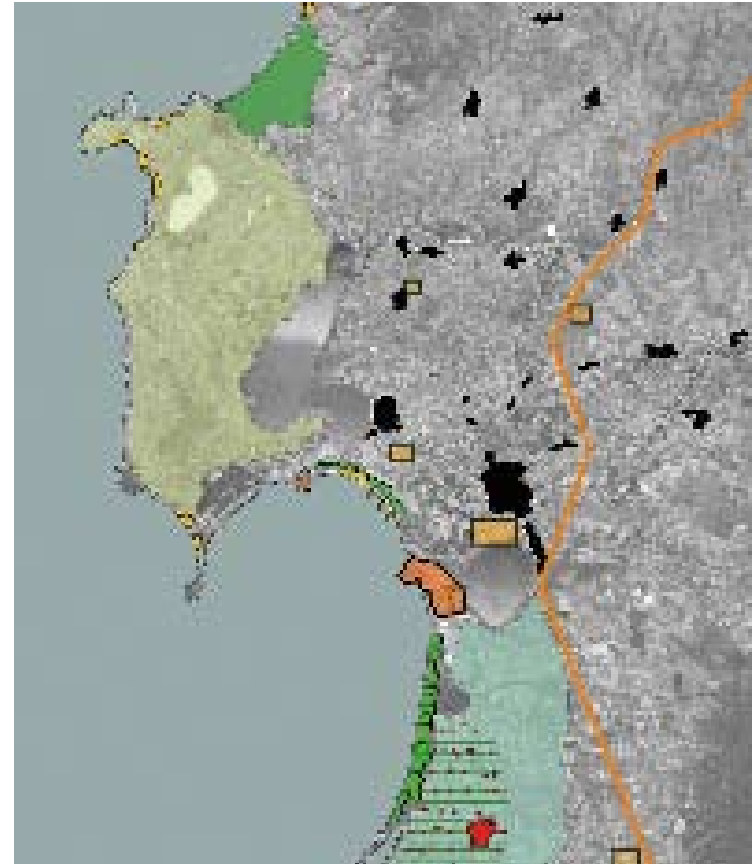
This area is characterised by the Tirso river, an important natural resource and the most important river in Sardinia, that flows from the Buddusò plateau, at an altitude of 900 m, through Goceano and Campidano to the Gulf of Oristano. The artificial Omodeo lake was created in 1923 to avoid hydraulic flooding damage due to torrent water courses.

There are fourteen protected areas covering 27,700 hectares, 10% of the whole surface, nine of which are damp areas of high ecological value, with unique types of vegetation and bird species, controlled by the Ramsar Convention.

These protected areas are:

- the ponds of Santa Giusta, Mistras and Pauli Maiori, Cabras and s' Ena Arrubia;
- the coastal areas of Mal di Ventre, Catalano and IS Arenas and the Sinis peninsula.

The biggest dam in Europe, called *Eleonora d'Arborea*, has been built along the Tirso river. This dam provides irrigation for the district of Oristano, Arborea and Terralba and also has hydroelectric and



1. Landscape components: mountain (compact wood); hilly country; rural country; intensive agricultural country; mono-cultivation agricultural country; marshlands (ponds, marshes...); coastline, Mediterranean; dunes

hydro-potable uses.

Rural landscape occupies a large part of the area along the Tirso river and the flat lands of Terralba and Arborea, with cattle breeding and arable zones for the cultivation of rice, artichokes, strawberries, melons, watermelons, tomatoes and rape-seed as well as citrus fruits, grape vines, olives and almonds.



2. Panorama of the present situation

Typical elements of the rural environment are:

- the rural settlement system in the countryside of Arborea;
- Arborea-Terralba flat land areas which have attained high economic value;
- agriculture using modern agronomic techniques;
- extensive cultivation of citrus fruits, grape vines, olives and almonds as well as woodland for firewood;
- cheese factory system and dairy waste treatment system (a very important economic and ecological aspect, because of the pollutant effects of dairy waste).

Regarding cultural resources, the Province of Oristano is characterised by a remarkable historic cultural heritage from all ages: from prehistoric times to the Middle Ages, from the Gothic period (San Francesco and San Martino church in Oristano) to the Romanesque and the Baroque (Cathedral of Oristano). The archaeological area of Tharros, an ancient centre of Phoenician origin is to be found on the peninsula of Sinis (Cabras); the Roman thermal baths of Fordongianos and the Nuraghe Losa are in Abbasanta. There are various basilicas and sanctuaries in Oristano and its surroundings (Bonarcado, Cuglieri, Santa Giusta, Santu Lussurgiu), still visited by the local population, particularly during religious festivities.

The elements of historic and cultural landscapes are:

- Othoca, Tharros and Neapolis: Phoenician archaeological harbours;
- Oristano's old walled town centre and small ancient town outside the walls, closely linked to land property divisions and rural activity;
- the religious settlement around San Giovanni di Sinis church

and the sanctuary of San Salvatore, a small village around a holy square, known in dialect as *cumbessias*, with archaeological objects found in San Salvatore church;

- the sacred path linking the San Salvatore sanctuary with the town of Cabras, famous for the race that pilgrims run barefoot every year during holy week;
- the horticultural system, walled boundaries and historic irrigation system of San Vero Milis;
- the water landscape, with ponds, channels, lagoons and bridges; the sites where local people work to make typical reed boats, named *Is Fassonis* made from bulrushes, and other products that come from indigenous plant species, such as bog grass, called *kiliru*, *setaccio* or *su canisteddu*, the name of a local basket;



3. Phoinix, Phoenician river park. Large scale general plan



4. Phoinix, Phoenician river park. Master plan

- the landscape character of Arborea town founded in 1936, after an important reclamation, with its rural houses and territorial order;
- the Santa Giusta pond, and Romanesque cathedral.

Natural and cultural resources, the long white beaches, the local wine and gastronomic products all attract tourists. This extensive area is crossed by important railways and regional highways, and is served by an airport and an industrial harbour.

Landscape transformation processes are often considered to upset natural balance. The result of these important transformations have left several landscapes, sometimes with very different characteristics, but all of undeniable quality.

2. Town planning tools, decision making processes

Planning tools are:

- provincial Town Plan (*Piano Urbanistico Provinciale*);
- Oristano Town Plan (*Piano urbanistico Comunale di Oristano*).
- Strategic Plan (*Piano Strategico*);
- Regional Landscape Plan (*Piano Paesaggistico Regionale*).

The Oristano Provincial Town Plan proposes a view of the city's territory and a project of an environmental-cultural park.

The Strategic plan and the Oristano Town Plan foresee the Tirso

riverside areas and the Torregrande pine forest as urban parkland.

The study of these areas within the Greenlink project focuses in particular on the environmental promotion of river and lagoon ecosystems, agricultural and archaeological areas.

3. Existing development pressures

The problems relating to rural areas are mostly connected to unauthorised settlement, expansion without any rules or connection with the context.

Coastal area planning is unsatisfactory, not based on any qualitative criterion.

Local partners involved in the development of the area are:

- the most important Municipalities: Oristano, Cabras, Santa Giusta, Riola Sardo, Terralba; some smaller Municipalities (with less than one thousand inhabitants);
- the Province of Oristano;
- local traders, consortiums and associations.

Basically, the values worthy of protection are:

- natural coastal and lagoon ecosystems;
- Phoenician and Roman archaeological areas;
- local cultural traditions;



5. One of the entrances to the Phoenician river park from Oristano

- local agricultural and fishing traditions;
- rural landscape with all those elements which produce a sense of territorial identity.

Risk elements:

- flood risk of the Tirso river and excessive water supply to the agricultural area;
- reduction of the self-depurative capacity of damp areas;
- reduction of some natural ecosystems caused by reclamation;
- deterioration of extensive coastal pine forests;
- poor attraction of local sites;
- lagoon system perceived as a barrier rather than as a valuable useful site.

4. Weaknesses and strengths

The weaknesses are:

- environment deterioration;
- worsening social conditions;
- mass departure of population from the areas.

The strengths are:

- close proximity to sea and river;
- cultural worth, especially in academic education training;
- historic/cultural and natural resources and their good conservation;
- living traditional intangible heritage.

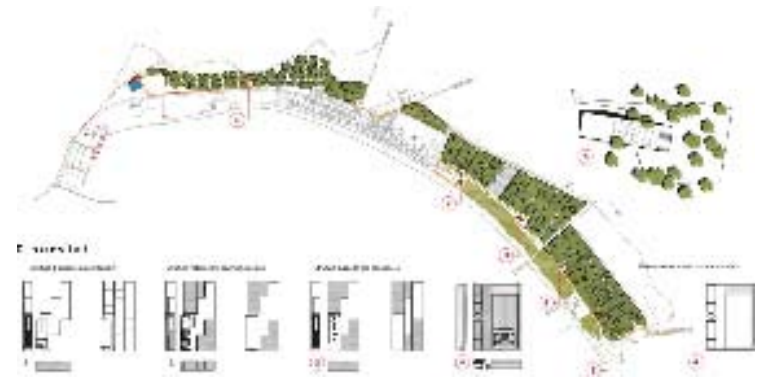
5. Major urban development plans and projects

Oristano's settlement system is mainly based in small rural centres, in close relationship with each other.

Projects involving changes are planned both in major urban areas and in small rural centres. The project of a fluvial park along the Tirso river involves all the urban areas along its banks, in an attempt to maintain the spatial continuity of the coastal area, the sea and the countryside.

The third main project in Oristano territory involves the urban area near the lagoon and the river environment, highlighting the relationship between the urban dimension and the "water element".

In another project, the Municipalities of Oristano, Santa Giusta



6. Social services at the Torre Grande settlement, localised along the sandy coast

and Cabras, connected by their Phoenician origin, have recently decided to strengthen Phoenician arts and archaeological areas through a new museum network.

6. Physical description of the GreenLink pilot sites

The *Ambito* structure is based on the three *Campidani* of Oristano and on the Tirso hydrographic system, the north *Campidano* of Milis, the Tirso river, between Milis *Campidano* and *Campidano Maggiore*, and Simaxis *Campidano*, from the coast-line to the Monte Arci hillside.

The structure of the environment and settlement systems is based on the Cabras pond basin to the north, on the hydrographic web in the centre and the fluvial basin of the middle and lower stretch of the Tirso river.

The area is crossed by mill runs, with high productivity, structuring the whole plain. The ecosystem shows an elevated degree of fragility: past choices (e.g. intensive farming on the Sinis peninsula) require rethinking today, building upon successful approaches and rigorously rejecting those that have failed.

7. GreenLink pilot sites, major problems

The main problems of the pilot site areas are:

- environmental crisis and corruption of ecological standards (hydraulic flood risk, high level of water pollution), because of past choices (e.g. intensive farming on the Sinis peninsula);



7. Agricultural country crossed by the Tirso river

- a low quality architectural and urban environment, in particular a lack of social spaces;
- effects of the impact of industrial and harbour development on coastal areas;
- in some cases a general lack of co-ordination and integration between various aspects, in particular in places with considerable economic interests and many stakeholders involved.

8. *GreenLink pilot projects, innovative objectives resolving exposed problems*

The following are the objectives which aim to resolve major problems identified in the area:

- revaluation of abandoned urban areas by local inhabitants, creating tourist attractions based on local traditions;
- promotion of attraction points for educational, cultural and artistic activities for inhabitants and tourists;
- creation of a natural path network;
- promotion of renewable power sources: bio-diesel production (cultivation of rape-seed); solar and photovoltaic panels to convert *light energy* into electrical energy.

In particular:

- the Oristano Municipality proposes the creation of a Fluvial Park to promote sports activities in green spaces and the Torre Grande coastal pinewood promotion with cultural, artistic and educational objectives;
- Local partners (the Municipalities of Santa Giusta, Riola Sardo and Cabras) propose the restoration of border areas between the urban centre and the pond system;
- the Province of Oristano suggests the creation of a Sustainable Energy Planning Agency.

9. *Thematic grid, prevalent correspondence of pilot projects*

The project has dealt with the four themes, without linking the single issue to any specific area. This approach allows a greater integration between the parts by focusing attention on the different themes within the same extensive area. For these reasons, the area involved in the pilot project has a complexity that requires a multi-disciplinary approach to manage the different problems and their potential solutions.

This seems to be a good way to guarantee the natural rules and the balance between natural and human environments.



8. Industrial zone. Weaknesses in the coastal ecosystem

AGENZIA REGIONALE PER LO SVILUPPO E L'INNOVAZIONE DELL'AGRICOLTURA DEL LAZIO (ARSIAL)

(Italia)

1. Town planning tools, decision making process

The project activity for the Pontine Plain and Terracina municipality should take into consideration the peculiar conformation of the place in its territorial and historic values. Terracina is a very small town at the end of a huge plain that was involved in massive land reform due to government action starting in 1931. This plain, enclosed by mountains and the sea, has to contend with a very difficult spatial situation for urban development that is strongly affected by the needs imposed by viability. Two high traffic intensity routes linking Rome to Naples (the Pontine Highway and the Appia State Road) run through the plain and are funnelled

onto Terracina's narrow shoreline. To say that Terracina is choked by traffic is not an exaggeration, because transit traffic combines with tourist traffic on the seashore during the summer. The last edition of Terracina's planning tools was approved in 1972 and still regulates the urban development of the town. Illegal building is very frequent and national laws often granted indemnity in the past, allowing private violation of zoning regulations to continue almost undisturbed. Decision-making processes should be conducted by Municipality and County Administrators, but these are frequently blocked by differences of opinion between political parties and by external pressures from private sectors. The formal way to take decisions follows City Council bureaucracy, but the most effective way is usually to arouse public awareness on some problem and then, with the aid of the mass media, to put pressure on local administrators. There is external pressure from political sectors to build a new highway along the Pontine Plain,



1. Map of the three shelter belts in the Pontine Plain



2. Map of the main values to be protected



3. The one existing narrow road leading to Campo Soriano

the so-called *Corridoio Tirrenico Sud*, and a new ring road around Terracina town, but these are fiercely contested by environmentalists and of difficult realisation due to lack of funds.

2. Existing development pressures, values to protect, and risks

Terracina's pressure on town development is due to the seasonal tourist flux in the coastal area. The residential population of the Municipality now amounts to approx. 37,000 inhabitants, but in summertime this increases to about 150,000. The Municipality covers about 136 km² with only about 10 km of shoreline consisting of approx. 0.3 km² of beach. The pressure of tourism on the coast is no longer sustainable in the summer.

Terracina's hinterland is occupied by 5.4 km² of Protected Natural Areas, with Sites of Community Interest (SCI) covering 19.2 km² and Special Protected Areas (SPA) covering 24.6 km². The total existing natural areas amount to approx. 49.2 km², that is 36% of municipal territory. These natural areas are of high interest but they remain mostly unknown to the average tourist in Terracina. These areas are at great risk due to the pressure of local private illegal building and land deduction. At the same time there is a degradation of the typical agricultural landscape all over the



4. Typical Mediterranean vegetation along the road to Campo Soriano

Pontine Plain near Terracina based on a massive tree shelter belt system set up in the '30s and '40s under the Public land reform. This system was the best way to ensure low impact environment conservation, with a delicate balance among natural and hydraulic elements and exploitation of resources in the area. From the '60s, due to strong human pressure, the natural values have been subjected to great risks of soil desertification and vegetation impoverishment. Moreover, cultural identity and traditional values are also in danger due to the land reform. Local administrators and public awareness are now focused on traffic and sanitary problems allowing too much freedom to unscrupulous people in the private sector to spoil the environment.

3. Weaknesses and strengths

The main weaknesses are lack of awareness in administrators and public opinion concerning issues such as: conservation of the very rich environment and of the natural landscape; evaluation of a different model of tourism directed to the hinterland; creation of ring roads and paths to link inland territories where nature areas are situated. This enables the private sector with few scruples to spoil the environment.



5. Map of the Terracina protected area

There is no awareness either of the importance of the possibility of exploitation of natural hinterland areas for production. Another weakness is the fragmentation of the Pontine Plain. This is evident at two levels: a) the plain is divided between five different



6. Recurrent fires are one of the major problems affecting Campo Soriano

Municipalities and b) the high presence of private properties (the average farm extension is less than three hectares). Fragmentation impedes common action for management of the area and preservation of the environment. On the other hand strengths can be found in the wealth and extension of nature reserves and protected areas, in the fact that a good portion of the tree shelter belt system is the public property of the Regional Authority and under the management of Arsiat. Moreover, Arsiat is not, like other GreenLink partners, a County or Municipal authority, but a Regional Agency for Agriculture and Forestry Extension and for Biodiversity Protection, which enables it to give a peculiar contribution to the general development of the project thanks to its institutional specialisations. Greater points of strength are due to the specific technical competence of Arsiat in planned actions. On the other hand, this gives Arsiat a specific weakness on the governance of the studied area and specifically to involve Municipalities and private people in proposed action.

4. Major urban development plans and projects

There are no plans for the urban development of Terracina. The last edition of Urban planning dates back to 1972. Two years ago



7. Tree belts are often damaged by private intervention

the detailed plan for allocation of new urban spaces was submitted for approval to the Regional Authority. This plan foresees two new urban areas: the first lies in the coastal zone C2, from Via Basilicata to Canale Portatore, characterised by tourist and reception oriented buildings. The second, on the North West side of Terracina near Via Appia and the railway station, is dedicated to development for small industry and artisans. Open spaces will be created inside these new areas for the extension rates stipulated by urban laws, but they are not yet planned. Worth mention is the experiment done with the “Parco della Rimembranza” in the historic centre of Terracina, where, thanks to the WWF and the Municipality, an archaeological and botanic path has recently been restored with signboards illustrating the ornamental and natural biodiversity and a little butterfly garden.

5. Physical description of the GreenLink pilot sites, and town planning predictions for development in the GreenLink pilot sites

a) Pontine Plain. This is a huge plain about 40 km long and 18 km wide, where State land reform action took place after 1930 on 180 km² with the creation of five towns, 200 km of irrigation channels, 500 km of roads and 1,200 km of tree shelter belts. This created a totally new landscape and environment that drained marshes and reclaimed land that was previously unspoiled but permanently subject to flooding and infected by malaria. The new environmental values that the land reform brought were strongly linked to the cultural values of the labourers and peasants who worked there, mostly from northern Italy. Even today the most obvious characteristic of the Pontine Plain is its massive tree shelter belt system. There are still about 1,000 km of tree belts composed of different species of Eucalyptus, Pine and Cypress trees. The belts are usually planted on the borders of roads or irrigation channels with a minimum width of five metres.

b) Campo Soriano is a National monument area and a Regional Park of about 972 hectares situated on the hills between the Municipalities of Terracina and Sonnino, 8 km north of Terracina. About 572 hectares of the park are situated in Terracina’s territory. It was established as a Park in 1985 and has peculiar geological and botanic characteristics with spectacular karst (calcium carbonate) formations. There are no town planning predictions for development in these sites, since the three shelter belts are Regional property and Campo Soriano is a Regional Park.



8. Terracina development planning predictions

6. GreenLink pilot sites major problems

The tree belt systems of the Pontine Plain, after the drainage works, are the major bulwark in the preservation of agriculture and nature in a hazardous environment where strong winds, drought, salinity, poor soil fertility and over-intensive agriculture concur with the risk of desertification. Thanks to tree belts the wind speed is notably reduced in an area twenty times the height of the trees. This is linked to a proportional transpiration index reduction of plants protected by tree belts with a notable decrease in the need for irrigation and a better growth index. Tree belts have other important values too: landscape, aesthetic and cultural values as a valid component of the urban system; as a filter for smog particles; an absorber of CO₂; filter for excessive soil nitrates at root level; host for small ecosystems and habitats for natural flora and fauna and as provider of combustibles or by-products such as pine-seeds in Mediterranean areas. However, private people often don’t understand the utility of tree belts and cut illegal gaps in the tree shelter belts and burn the trees, endangering the continuity of the belts and their safety.

The importance of tree shelter belts and of land reform action is not often considered by inhabitants and tourists. People give no value to the capital work done 70-50 years ago, and behave with



9. Untended and overgrown tree belts in the project area

disrespect and thoughtlessness regarding the problems of this environment. The historic memory of the land reform should be preserved and enhanced.

The Campo Soriano site has problems of accessibility and of advertising. It is not well linked to other green areas and is not known to the general flux of tourism that is directed only to the seashore. In general all the nearby open spaces are not well interlinked and risk seclusion and impoverishment of natural values.

Linked to these problems is the urgent question of climate change connected with risk evaluation in urban and extra-urban systems. These questions are worsened by a chronic lack of climatic monitoring in the sites.



10. Tree belts are the emblematic feature of the present Pontine Plain landscape

7. *GreenLink pilot projects innovative objectives resolving exposed problems*

It is important to stress the notion of economic utility of tree shelter belts. This could be done with a study on their productive properties as a source for renewable energy in green areas.

Another innovative objective to attract public awareness is the historic reconstruction of the changes in the natural landscape, in the environment, and in society. The selection of original documents and images should be done with the aim of activating a virtual museum on hypertext data in Internet. This could gather a historic and cultural heritage to be diffused in the MedOcc area where similar situations are represented.

A study to establish a link between the coast and hinterland nature areas, enhancing already existent tree belts as ecological corridors or as pathways for tourist fruition, along with a study for the restoration of old pathways made by shepherds in ancient times.

A study to give free accessibility in Internet to a remote climatic monitoring unit (weather station), along with a data collection system in a project site, could also attract public awareness to environmental and climatic changes, stressing the importance of nature conservation.

Decision making acceptance on the feasibility level of these studies will be easy, since concerned realisation will take place on Arisial or regional property. The feasibility of pathways along tree shelter

belts will be more difficult. In this case Municipal and Provincial Authorities and perhaps private properties will be involved.

8. Thematic grid showing the prevalent correspondence of pilot projects, why? and how?

Pilot project objectives correspondence with methods and effects (why? and how?) in the frame of the 4 Greenlink axes				
Axis Objective	Technological infrastructures and productive activities.	Renewable energies and biodiversity	Educational, cultural and artistic activities	Sport, leisure and tourist activities
<i>Tree shelter belts study</i>	evaluation of productive properties / potential impact on industry and services	enhancing renewable energy utilisation	awareness of utility of tree shelter belt systems	better quality of life
<i>Virtual museum</i>	potential productive impact on services sector	protection of cultural biodiversity	conservation of historic memory	encourage visits to the sites / better quality of life
<i>Internet climate monitoring unit</i>	data record for productive information (tourism, agriculture, etc.) and for scientific studies	importance for studies concerning the link between biodiversity and climate	awareness of the importance of climate change	information on local climate conditions
<i>study of pathways & ecological corridors</i>	reduction of traffic impact on the shore	avoiding seclusion risk of confined environments	education for a different way to utilise natural values	new places for open-air sports / better quality of life
Key:		Principal theme	Secondary theme	Less concerned theme

FUNDACIÒ PER AL DESENVOLUPAMENT SOSTENIBLE DE LES ILLES BALEARS

(Espanya)

1. *Town planning tools, decision making process*

1.1. *Palma de Mallorca*

Palma is the major city and port on the island of Mallorca and capital city of the autonomous community of the Balearic Islands in Spain. It is situated on the south coast of the island on the Bay of Palma. According to the 2005 census, the population of the city of Palma proper was 375,048, and the population of the entire urban area was estimated to be 517,285, ranking as the 12th-largest urban area of Spain. Almost half of the total population of Mallorca live in Palma.

Since the 1950s, the advent of mass tourism radically changed the physiognomy of both the city and island, transforming it into a centre of attraction for visitors and attracting workers from mainland Spain. This contributed to a huge change in traditions, the sociolinguistic map, urbanisation and acquisitive power.

The boom in tourism caused Palma to grow significantly, with repercussions on immigration. In 1960 Mallorca received 500,000 visitors, in 1997 it received more than 6,739,700. In 2001 more than 19,200,000 people passed through *Son Sant Joan* airport near Palma, with an additional 1.5 million coming by sea.

1.2. *Tools and Processes*

- General Plan / Special Plan ('Plan General' / 'Plan Especial')
- provincial/ regional urban plans/ land use (calificacion de terreno);
- Local plans ('Plan Parcial');
- Green area plans;
- Cycle-ways (mobility)/accessibility/sustainability.

Balearic regional independence from the mainland (how it works from the planning perspective – plan general / plan parcial etc. Urbanism versus environment/sustainability)

The green spaces are part of the environmental department's responsibility but the urban spaces fall under the town planning department's control – they are historically very divided due to the professional hierarchy and thus they have evolved separately.

The decision making process starts from an architecturally led planning department and revolves mainly around the needs of tourism.

There is great pressure from other European communities/groups.

Possible environmental intervention to structure urban fabric

2. *Existing development pressures, values to protect and risks*

2.1. *Pressures values and risks*

Political instability with very marginal differences in the strengths of the two main political parties means that change in governance is frequent. As a result the main political aim is to address the immediate whims of the local populace in the short term. This results in negligence of long term strategies in the fields of open space and sustainable transport.

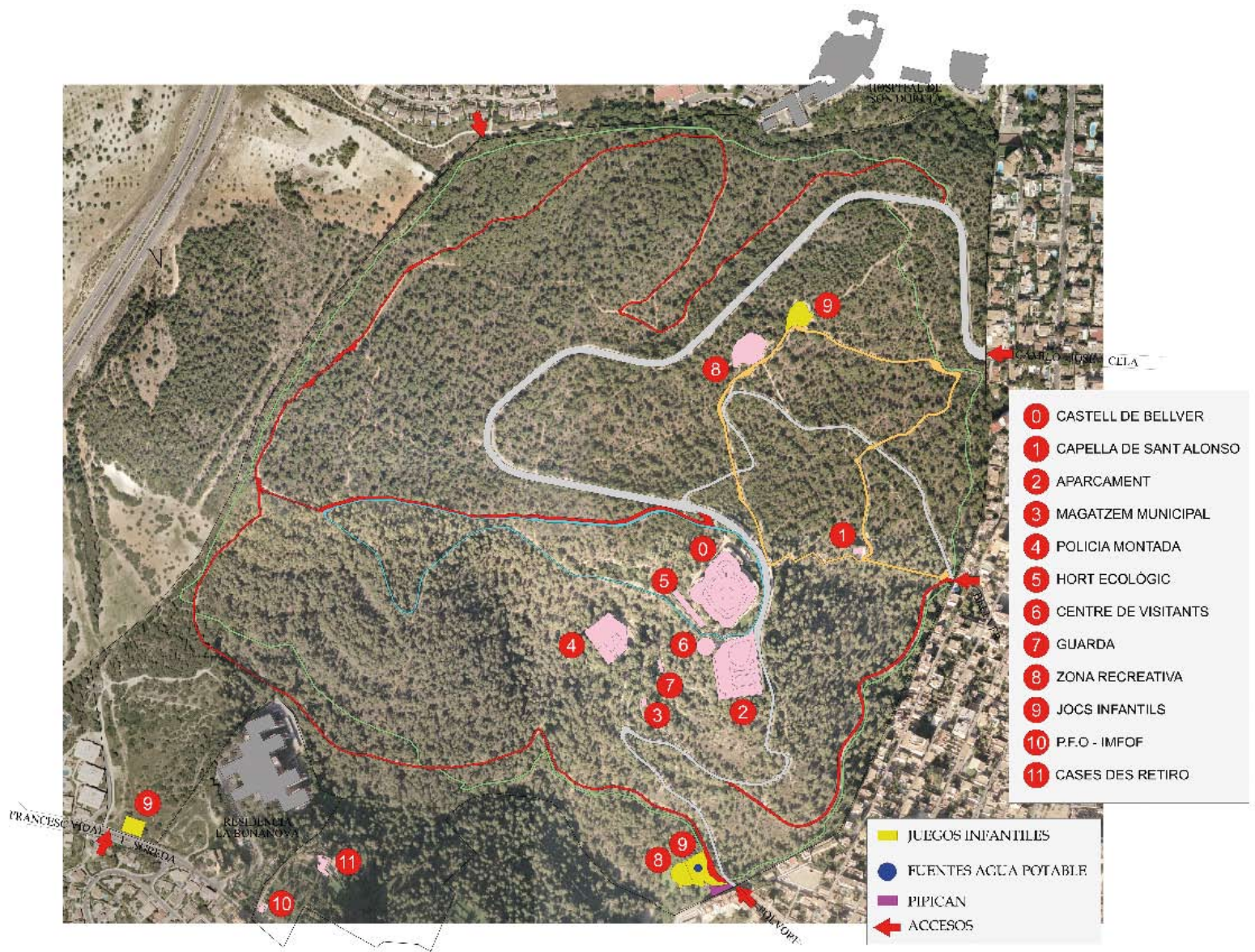
An inexistent strategic plan limits the planning capacity of the different governmental departments and this means that large open spaces tend to be excluded from planning strategies.

A wide population spread with insufficient public transport coupled with the third largest urban vehicular population content per capita of population.

Roadway sectional analysis reveals the dominance of vehicles over pedestrians, with limited spatial allowance for urban green space, and sustainable transport alternatives (pedestrian and bicycle). Urban greening tends to prevail in the central medians of wide avenues which are thus inaccessible to the population. Narrow pavements and large building overhangs are common and often restrict the viability of introducing urban planting (trees) as adequate crown development is limited.

Low self esteem and pride of the local population towards the city, with a very critical view of the current situation yet at the same time low commitments to effect change.

Increased focus of centralised tourism in the old part results in the abandonment of the interface between city and surrounding countryside.



1. Infrastructures and facilities in Bellver forest and their connecting footpaths and cycle tracks

Traffic strangles the city centre creating a physical/mental barrier between old and new. Concentrically focused urban core, integration of hinterland neglected – development typology – small intricate block size in historic centre to large block size

sporadically located. Mere conservation cannot defend the image of green space planning – a global integrated strategic plan needs to be drawn up to positively link and find innovative uses for these neglected urban spaces.



2. Aerial view of the Bellver city coastal area with the possibility of an ecoport

The value of these spaces is paramount in the rehabilitation of the global network.

The risks are that the car and tourism dominate the decision making process.

3. *Weaknesses and strengths*

3.1. *Weaknesses*

Lack of a clear structure of open spaces which serve to tie together/unify all of the major open spaces within the existing global city network. These can either be amenity natural green spaces within the city network or urban open spaces and the scale could either be characterised by large sweeping 'avenues' or corridors but at the same time include stepping stone spaces with easily identifiable through-routes between them.

A sprawling city which is growing beyond the well established city grid and consuming the surrounding landscape without a policy to ensure the adequate integration of new open spaces. Such

growth is unsustainable as it only aggravates the above problem by increasing distances between the existing open spaces.

The city of Palma is planned with a radial mobility structure which only has a bus network as a mean of public transport and mobility (no tram, metro or ferry transport systems exist). The existing transport network almost always radiates from the centre of the city with very few East-West connections. This means that to move from one side of the city to another you essentially have to travel to the centre in order to link with a connection to take you to your final destination, resulting in very long travel journeys. There are no alternatives apart from a single metro line linking the university. This line is experiencing structural problems and alternatives are currently being sought.

A number of existing large green spaces are inadequately integrated within the city. They are barely being used and are almost devoid of interactive content. As a result they suffer from very low levels of use and are inefficiently connected. These areas form part of the present proposals and include spaces such as: Bellver,

Torre d'en Pau, Es Carnatge, Parque Krekovic.

Developers have a poor capacity to promote integrated projects. Schemes are all too often self-centred and seldom seek to fit into the wider urban fabric. Provision of green spaces within these developments is uncoordinated without a long term strategy to form part of a comprehensive network.

Urban pedestrian fluidity is fragmented by vehicular traffic. A network of existing green spaces could be used to alleviate this and encourage sustainable local mobility patterns. Environmental impact analysis on new developments is negligible.

Urban strategy built on restoration of historic core and maritime links but ignoring global context and integration (urban and rural)

3.2. Strengths

There is a general awareness of the current situation and a will to effect change. A genuine recognition of the importance of green spaces within the city network for the wellbeing of the local population, and as an attraction for quality tourism:

- the calm, patient, and prudent nature of the local population;
- the linear presence of the sea / waterfront close to the city centre and the potential landscape value yet to be exploited;
- a strong cultural tradition for preservation and innovation;
- the sensitivity of the public to environmental quality;
- the availability of tools for environmental protection.

3.3. Opportunities

Concentric Greenways in the form of three concentric rings around the city centre of differing radii which will serve to connect the green spaces in the 1) the urban periphery, 2) the central corridor 3) the historic inner-city ring.

Two main radial Greenways (urban and natural) and minor radial links connecting a smaller network of intimate open spaces in the urban fabric.

The will to improve public transport infrastructures.

4. Major urban development plans and projects

4.1. Development and Projects

Attempts have been made to use the maritime strip as a connection for sporadic coastal settlements – but it is too linear and does not



3. Aerial view of rings 1 and 2 around Palma city, showing urban and transit areas

- link with the hinterland to close the system of required spaces:
- linear projects;
 - water course/riverbed being developed in sections/individual projects to restore an existing green belt for amenity use;
 - landscape bridging over existing railway;
 - maritime promenade;
 - convention centre.

5. Physical description of GLPS and town planning predictions

5.1. Description

Creation of 3 Green Belts concentrically distributed through the city globally integrating movement patterns from the outside to the core:

- B1. Inner historic “Parque de las Avenidas” – existing heavily traffic-congested ring road around historic core dividing natural pedestrian movement;
- B2. Central corridor - connection to Bellver from the coast – through urban traffic-congested streets / tertiary space left by ve-

hicular corridors and peripheral space in outlying suburbs;
B3. Outer – urban fringes delimited by the natural boundaries of dry river beds that act as storm water channels.

Coastal Innovation Strategy CIS – the eco-linking of 4 separate coastal pilot sites to the city as well as creation of nature “knowledge hubs”:

PS1. Bioclimatic centre

Bellver castle – and abandoned grounds surrounding the castle;

PS2. Corporate global sponsorship park

Parque Central Poligono Levante Parque Krecovic – park linked to zone designated for future convention centre. Symbolic site on coastal road to airport gateway to Palma;

PS3. Seawater investigation centre

Coastal site once designated for a botanical garden;

PS4. Centre for green transport strategies and sustainable mobility hub

Torre Den Pau – reuse of coastal tower/fortification.

5.2. Description

Projects which are supported within the overall master plan, level of commitment, and likelihood of commencement. The general Greenways scheme is very much supported by the Palma Town Hall. The project would need to have a clear phasing strategy. The various components will need to be analysed to ensure that the aims tie in with political aims and values. The following are punctual interventions within the overall Greenway scheme (both radial and concentric):

- *Bellver Castle*: 100% feasible. Funding already exists for this part of the Project. This sum needs to be boosted from other sources in order to commence the Project;
- *D'en Pau Tower*: Feasible project. Complex project which integrates other departments of the town hall (youth and culture). There is a certain amount of funding for this project. This sum needs to be boosted from other sources;
- *Krecovik Park*: 100% feasible. Funding from corporate sponsorship needs to be found as a means to boost private company carbon credits;
- *Es Carnatge Botanical Gardens*: Not a practicable project from a town hall perspective. This scheme would require a feasibility study and would need to be managed as a private enterprise. The idea is yet to be developed.



4. Aerial view of Bellver forest

6. Greenlink pilot sites major problems

6.1. Identifying the Greenlink pilot site problems

The problem of implementing the overall Greenway network is difficult because there is simply no strategy in place to support this global type of project. The aforementioned political instability is mainly to blame for this. The general public has a low perceived awareness of the problem. The transport/mobility situation remains poor with imperceptible improvements. The following problems relate directly to the sub-areas detailed above:

- *Bellver Castle*: Strong neighbourhood presence which is also very sensitive to any kind of intervention particularly with respect to increased risk of fire. There is a general feeling that this space is over-protected;
- *D'en Pau Tower*: Carrying out the work in relation to the differing typologies which will guarantee good acoustics and also identifying the poor state of the existing structures. Practice rooms, concert halls, spaces for alternative cultural uses and open air spaces;
- *Krecovik Park*: This space remains to be evaluated due to the level of funding that is required for this type of project;

- *Es Carnatge Botanical Gardens*. Already mentioned;
 - lack of continuation through political change or other economic deficiency / too little investment;
 - quick-fix development without global analysis;
 - dilution of ideas through too many interested parties/stakeholders;
 - interface with opposing administrative departments;
 - complicated set-up of CIS knowledge hubs.

7. GLPP Innovative objectives resolving exposed problems

7.1. Global Objectives

- Bettering the quality of life in urban fringes;
- Integrating green space into the urban context;
- Providing accessibility to open space;
- Using innovation as attractor and educator;
- Designing safe places;
- Connecting cultural resources.

7.2. Local Objectives

Creation of green movement belts

increasing accessibility/connectivity through the city resolving “concentrations”

Use of existing natural drainage corridors for movement

giving dual/multi usage to resolve potentially unsightly/forgotten features

Developing ecological transport systems

creating alternative systems that alleviate vehicular congestion.

Generation of local movement through periphery sub spaces

resolving ill-used/abandoned urban spaces and “turning the back on the hinterland” through measuring spatial integration/observing movement/analysing fields of vision/measuring gradients

Hierarchy of green land/open spaces

resolving integration between city and rural land

Centres created for investigation of bioclimatic innovations

explore water crisis through promotion of seawater greenhouse extraction etc

Link green awareness to corporate responsibility

close gap between two opposing worlds for greater cultural respect

8. Thematic grid prevalent correspondence of GLPP – why and how?

	High public realm quality in city centre and on waterfront	More sustainable transport patterns and improved air quality	Social and health benefits for local areas and communities	Improved local identity, image of city and sustainable tourism strategy (better way-finding)
Concentric green belts	**	***	***	**
Radial greenways	**	***	**	**
Natural corridors	*	***	**	**
Urban corridors	**	**	*	*
Coastal corridor	***	***	**	***
PS1 – Bellver / Bioclimatic centre	*	***	**	***
PS2 – Parque Central Pol. Levante Parque Krecovic Corporate Global Sponsorship Park	***	*	**	***
PS3 – Seawater investigation centre	*	*	*	***
PS4 – Centre for ‘green’ transport strategies and sustainable mobility hub	*	***	***	***

CONSORCI PARC DE COLLSEROLA

(Espanya)

The Collserola Massif, 17 km long and 6 km wide, runs between Barcelona plain, the Vallès basin and the Besòs and Llobregat rivers. Its peaks and hills are all under 500 m in height apart from Tibidabo (512 m).

Set at the convergence of three regions, Barcelonès, Baix Llobregat and Vallès Occidental, it includes parts of the municipal areas of Barcelona, Esplugues de Llobregat, Sant Just Desvern, Sant Feliu de Llobregat, Molins de Rei, El Papiol, Sant Cugat del Vallès, Cerdanyola del Vallès and Montcada i Reixac.

Collserola is the metropolitan area's main natural space covering

over 8,465 hectares, 6,500 of which are forested land. It is currently managed by the Collserola Park Consortium, a body which draws its membership from the Barcelona Provincial Council, the Mancomunitat of Municipalities of the Barcelona Metropolitan Area and the 9 municipalities with land inside the Park (Figure 1).

Collserola's management is conditioned by the considerable pressure exercised on the park by the three million inhabitants of the Barcelona metropolitan area. It therefore has to meet the challenge of both protecting nature and making it available



1. Three million inhabitants live within 10 km to the heart of the Park



2. Collserola, the main natural space within the Barcelona Metropolitan Area

for continuous mass public use. Unlike other parks, it requires intensive intervention and maintenance, helped by the provision of signed walks and welcome areas to deal with its many visitors. Clear regulations to govern its use, another essential requirement, have successfully met with the approval of the Collserola Park Statute.

Much has been done since the Special Plan for the Regulation and Protection of the Collserola Massif was published in 1987. Significant investment and rational but innovative programming means that Collserola Park is now one of the major benchmarks in the management of the natural environment (Figure 2).

1. Town planning tools and decision making

1976: approval of the General Metropolitan Plan which restrains urban development initiatives, gives the metropolitan area its structure, and defines the main spaces to be preserved and protected from urban growth.

1987: approval of the Special Plan for the Regulation and Protection of the Natural Environment, regulating the development of Collserola as a Metropolitan Park (PEPCo). Under the PEPCo, the preservation of the natural resources and ecological equilibrium



3. Pressures from municipal development

coexists with the provision of leisure and educational opportunities for visitors. The plan divides the park and its uses and activities into three zones: natural, semi-natural and agricultural, and establishes its road system. It pinpoints areas for specific attention (places in heavy use or that require more detailed organisation). It also regulates and limits building work and the use of space for infrastructures. Finally, it includes planning regulations to govern the park's uses and activities (Figure 3).

1992: Collserola Park was included in the Plan for Areas of Natural Interest (PEIN) approved by the Catalan Parliament.

2000: approval of the Collserola Park Statute, which details the park's public use.

Collserola Park is shortly to be declared a Natural Park, which will guarantee it maximum levels of protection and preservation. However achieving this declaration has been a difficult and arduous business. As well as establishing the road infrastructures in the park, all municipalities involved have been required to define park/city buffer areas, specially resourced to facilitate interconnection and continuity between the city's natural spaces and its urban, rural and protected environments. Finally, a regional overview has been required to ensure sustainability and maintenance of biological diversity.

The governing bodies of Collserola Park

The park's management comes under the Collserola Park Consortium, involving the Mancommunity of Municipalities of the Barcelona Metropolitan Area and Barcelona Provincial Council. Its operating budget therefore comes from local government. Decision making and approval of its annual budget is dealt with by the *General Assembly*, the Consortium's main deliberation and decision-making body. There are 20 representatives from the park's municipalities and the consortium bodies (10 from the Mancommunity of Municipalities of the Barcelona Metropolitan Area and 10 from the Barcelona Provincial Council) and 9 members representing each of the park's 9 municipalities.

The *Executive Committee* (with 21 members) has 3 representatives from the municipality of Barcelona and 8 from the park's other municipalities (1 per municipality), also representatives of the consortium bodies. The Executive Committee is the Consortium's operational body whose duty it is to follow up and establish mechanisms for implementing decisions taken by the General Assembly, and to bring a budget to the Assembly for its approval. The Executive Committee holds 4 ordinary meetings a year.

There is also a consultative body, known as the *Consultative Committee*, with 52 representatives from across the different sectors of society. Duties of the Consultative Committee include providing information, consultation and advice on the Consortium's Plan of Action.

The Consortium's work follows 4 key lines:

Environmental management: managing the effects of alterations to the natural environment and preserving its biodiversity; initiatives to improve vegetation and reinforce the different natural environments to preserve their biodiversity; enhancing the area's fauna; measures for fire prevention and detection in the Barcelona metropolitan area; forest ranger service.

Administrative management of heritage: guaranteeing and providing content for the regulatory and administrative development of the PepCo; acquiring land heritage; oversight of uses and activities; town planning reports.

Public use management: establishing a relationship between the park and its users; enhancing awareness of its natural values and their balancing function; providing opportunities to collaborate in its conservation.

Built elements management: preparing welcome areas for visitors' leisure activities; signposting; lookout points; restoring historic-architectural heritage; upkeep of the path system.

2. Existing development pressures, values to protect, and risks

The location of Collserola Park, set as it is within the Barcelona metropolitan area conurbation, exposes it to many impacts and pressures.

Pressures from municipal development

- Pressure for development on the fringes of the park, undermining essential park/city buffer areas (Figure 3);
- “Open” space for locating infrastructures such as the road system, power lines, etc.;
- NIMBY (not in my back yard) syndrome leading municipalities to set up industrial or socially unpopular activities in the park (dog kennels, cemeteries, dumps, quarries, etc.);
- “No-man’s land” syndrome, favouring uncontrolled dumping, illegal hunting, abandonment of pets and exotic animals etc.

Added value from protecting the park

- Green lung for the metropolitan area (Figure 4);
- Space for contact with nature, leisure and education for metropolitan citizens;
- Rich mosaic of Mediterranean landscapes;
- Significant biodiversity. More than 130 animal species live in the park including birds (78 nesting birds), mammals (24), amphibians (11), reptiles (12) and fish (4);
- Traditional crops under cultivation (Figure 5).

Elements of risk in the Special Plan

- Difficulty in getting rid of buildings not covered by the regulations;
- Vulnerability of the natural environment in the face of great pressure from infrastructures;
- Inability to act against occupations like illegal cultivation and rough housing;
- Location of major transport infrastructures;
- Lack of coordination or shared objectives between the different public administrations;
- Budget shortfall hampering continuance of programmed actions.



4. Green lung for the Barcelona metropolitan area

3. Weaknesses and strengths

Weak points (Figure 6)

- Human pressure: almost 3,000,000 inhabitants living within 10 km of the park;
- More than 50,000 vehicles cross the park every day;
- 1 railway line crosses the park;
- 1 motorway (toll-paying);
- 200 km of power lines;
- 4 regional roads leading to the city of Barcelona;
- Vandalism from the neighbourhood.

Strong points

- Every year, its 8,000 ha of natural vegetation emits 45 million cubic metres of CO² and produces 60 thousand tons of oxygen;
- Great awareness of natural protection and conservation among metropolitan citizens;
- Adoption of the park's values in the heritage of metropolitan citizens;
- Good state of conservation of the natural spaces;
- Diversity of landscape;
- Location less than 10 km from the metropolitan centre;
- 35.52% of the park land is in public ownership.

4. Major urban development plans and protects

One of the main lines of action of the Collserola Park Consortium is the creation of a continuous park/city buffer area as an eco-tone whose function is to absorb and filter urban pressure on the park. Each of these purpose-built areas is known as a “park cushion”. Examples of this are Canaletes Park in Cerdanyola del Vallès (Figure 7) and Can Cuiàs Park in Montcada, and work is currently under way on the Barcelona buffer areas involving strategic studies of the Barcelona side of the park. These studies should allow park boundary areas to be recovered for the city, leading to better environmental and landscape quality for residents and new opportunities for leisure and nature. The buffer effect should also be enhanced, thus avoiding possible impacts of the city on the park, and vice versa.

Objectives concentrate mainly on:

- Citizen mobility in the open spaces: defining interconnectivity and accessibility between the various means of public transport and the park's leisure infrastructures;
- Inventory of public heritage;
- Evaluation of natural heritage;
- Regulation of the landscape, taking Catalan countryside legislation as a reference;
- Proposal for projects to be carried out: parks; gateways to the park; pathways; new access ways; recovery and restoration of natural systems; etc.

The Consortium also has two centres offering educational programmes for schools and programmes with environmental awareness-raising activities for the general public.

4.1. Can Coll Environmental Education Centre

Set in an old country house restored by the Consortium. Contains a small rural life museum and an exhibition on the park's natural environment. It also has a small farm with market gardens and farm animals.

The centre runs the park's educational project, offering activities for school children aged between 4 and 14. The activities are included in the school curriculum and are carried out jointly with teachers. Nearly 15,000 pupils follow the centre's programmes every year.

On non-school days it acts as an information centre for the park. It offers a visit to the country house, the museum and the exhibition.



5. Traditional crops under cultivation

It also offers a system of signposted walks in the area and participative activities. It welcomes nearly 13,000 visitors every year.

4.2. Park Information Centre

Visitor welcoming and reference point. Its main functions are to offer information of interest, suggest activities for exploring the park and its values, and promote its educational and respectful use.

It is open seven days a week. Its programme of activities for the general public includes themed guided walks around the area, astronomy nights, etc.

For school children it has a programme of educational projects for exploring and making initial contact with nature and the environment.

Every year it welcomes 35,000 visitors, including school children and other users.



6. Major infrastructures are among the major weak points



7. Buffer area: Canaletes Park in Cerdanyola del Vallès

Data on the infrastructures provided by the Consortium

- 1 information centre and headquarters for the park's technical department;
- 1 environmental education centre;
- 1 biological station and rescue centre for native wild animals;
- 150 km of forest trails;
- 123 km of signposted pathways (1,250 signing and trail fencing items);
- 92 km of low-combustion buffer areas to prevent forest fires;
- 13 fire watchtowers;
- 9 picnic areas;
- 10 lookout points;
- 5 gateways to the park;
- 10 fountains with rest areas.

LESS KNOWN BUT WELL PRACTICED EXPERIENCES
IN URBAN FRINGE DEVELOPMENTS

European case studies

Planning and designing urban boundaries have been central to town planning policies in European cities for a long time.

The search for urban identity in city outskirts has created a variety of often contradictory actions and scenarios, giving rise to a series of thorny problems linked to urban renewal and city growth.

The GreenLink project analyses European model case studies in order to identify some significant suburban space designs to find immediate right answers to each problem, as well as results attainable after a series of coordinated, coherent actions.

The following summary of some pivotal cases in Europe presents opportunities for reflection, firstly on the organisation of the problems and solutions identifiable in each case study.

For this reason the selection of case studies deliberately covers the greatest possible variety, extending the suburban concept exclusively understood as threshold between city and non-urban open space.

The GreenLink partners have tried to overcome the single approach in understanding the problems linked to border space, considering connectivity and reticulation to be essential to a more contemporary view of the subject.

Hence, in the choice of case studies, the real questions posed assume a wider expression in themes, dimensions, scale and results obtained, extending the GreenLink approach beyond the connection between urban and suburban space, often understood as a quest for a new outline of structured, discernible urban boundaries.

Thus, the range covers cases with a more specifically urban value, (for example Lyons, which has used an extensive policy to improve the network of urban open spaces over the last decades), to cases in which territorial dimensions are more significant to planning (for example the San Rossore Nature Park in Tuscany), or where the search for a new identity and urban quality involves the reclamation of wide open spaces (for example Parco Nord in Milan, as simple in its structure as it is efficient in restoring social

identity and upgrading adjacent urban space).

Some of these cases emerge more forcefully and clearly, and can be summarised as follows:

- the vital rôle of water courses in the design of an articulated network of open spaces and places with strong urban and suburban identity;
- natural and semi-natural spaces as resource reserves, set to regulate urban imbalance and guarantee elements of wide-spread sustainability;
- networks of open spaces and areas of naturalistic value, as frameworks for the conservation and improvement of suburban landscapes;
- the reclamation and transformation of open spaces into great urban parks, with the objective of maintaining and increasing the connection with built-up areas;
- the organising nature of networks and urban open space systems, with different rôles and functions, as vital assets for renewed quality in European cities;
- the fundamental rôle of recovery of social relations in citizens' spaces, as an element of restoration and renewal of urban identity.

Clearly, the cases presented cannot deal with all the incentives, enquiries and questions of planners and designers of urban and suburban spaces.

GreenLink merely intends to offer a contribution to the general debate on the future of new landscapes in European cities, sharing the basic undertakings of the European Landscape Convention, especially regarding the importance of integration of landscape themes into town planning, cultural and environmental politics, in order to achieve objectives of landscape quality, as they are referred to in this Convention.

Andrea Meli

MUNICH

Riem Landschaftspark

Riem Park is the second city park created in Munich after a Garden Festival (the first was the famous Westpark of 1983), events which recur in Germany to present the latest innovations in the sector, but also to restore derelict land on the fringes of urban development. The site chosen for the BUGA 2005 was once the site of Monaco-Riem airport. It was designed by the German landscape architect Rainer Schmidt taking into account the project for the whole fairground city of Riem, an international competition won by the Frenchman Gilles Vexlard in 1995 with a typically French “essential” design, based on geometry and proportion.

The old airfield is divided into three parts: the fair, a residential quarter and the park. 130 hectares are equipped for exhibitions along a linear path where all the more significant events take place, such as the *Leaf Garden* at the entrance or the *Cell Garden*, where a theme garden is developed in each cell. These were dismantled at the end of the Festival though others remain along the path such as the *Parallel Gardens* and the *Perpendicular Garden*, which



1. The playgrounds



2. The layout of the lakefront



3. The Power garden



4. The central pathway



5. Riem Park

have become an integral part of the developing residential area of Messestadt Riem. The extensive lake (fourteen hectares), lawns and woodland also become permanent elements in a rational design linked to an innovative aesthetic language for a lowland landscape.

Bibliography

BIAGIO GUCCIONE, *Munich Buga 2005: towards the decline of Gardening expos*, in «Linea Verde», January 2006

Website

www.buga2005.de



6. Riem Park Plan

LYONS

Parc Gerland

Gerland Park is in the southern part of Lyons, in an area of particular historic and architectural merit, due to the presence of Tony Garnier's buildings, even though it is not in the centre.

It is also highly problematic because of its constant transformation, as suburban areas so often are.

The park was designed by Michel and Claire Corajoud and was inaugurated in 2000. At present it covers twenty hectares (the completed surface should be eighty hectares).

Its structure is deliberately simple, based on two balanced elements with different functions: one is a large triangular lawn with few trees on the banks of the Rodano, along which runs a

tree-lined cycle path, reuniting the city with its river; the other is a garden six hundred metres long, with rectangular flowerbeds, separated by footpaths, which contain four hundred species of herbaceous and aquatic plants and shrubs whose bright colours stand out against the monochromatic lawn.

The former is for unorganised sport and leisure, the latter is also educational.

The geometric regularity of the flowerbeds is reminiscent of traditional French kitchen gardens, but the allure of the "country" is also shown by the area set aside for allotments alongside the visitors' entrance to the park.



1. Aerial view of Parc Gerland



2. The theme gardens



3. The central pedestrian axis in the park

Bibliography

MICHEL DESVIGNE, *Strategie vegetali. Gerland, Lione*, in «Lotus Navigator», no. 8, June 2003, pp. 68-69

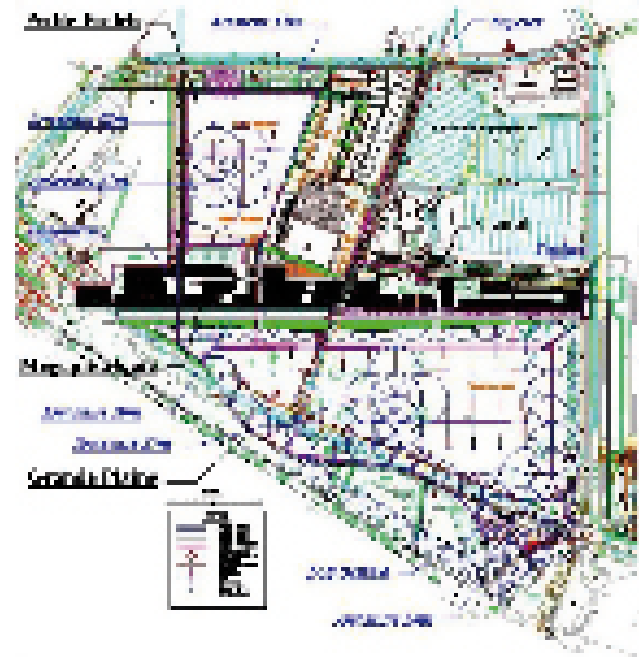
MICHEL DESVIGNE, *Eliminare ogni forma di "terrain vague"*, in «Il Giornale dell'Architettura», year II, no. 10, September 2003, p. 10

ALESSANDRA FORINO, *Paesaggi sull'acqua*, Alinea Editrice, Florence 2003, pp. 137-139

ANDREA MELI, *Rinnovo urbano a Lione: il Parc de Gerland*, "Giardino fiorito"

Website

http://www.lyon.fr/vdl/sections/fr/environnement/parcs_jardins/gerland_2/



4. Overall plan of the park

ROME

Prato Fiorito Park

The Prato Fiorito Park, in the eastern outskirts of Rome, is part of the programme “Suburban Landscapes and Identity”, launched by the City Council of Rome, to identify the processes of landscape transformation on the fringes of the city in order to safeguard natural and cultural resources and marginal agricultural areas. This programme, conceived by the Department for the Development and Regeneration of Suburbs, steers urban regeneration towards a city-country integration on the one hand, reviving the relationship that Rome has always had with its territory. On the other hand it aims to strengthen the ecological network which is currently considered to be an essential part of the development of the city.

A stretch of river was restored as part of the intervention of the municipal ecological network in an area covering seven hectares. The project by the architect Stanislao Cocchia, with architect Paolo Anella for the working drawings, coordinated by the Department’s chief architect Mirella Di Giovine, led to the creation of two squares, a series of footpaths and a park, reclaiming an



1. The vineyard facing Foglie Avenue in Prato Fiorito Park (Rome, autumn 2006).
Department XIX Archives



Area sistemata a parco pubblico
 Area da riqualificare tramite interventi pubblici e privati

Immagine da satellite Ikonos dell'area da riqualificare tramite interventi pubblici e privati

2. Plan of the renovation project for Prato Fiorito and the Fosso di Prato Lungo. Satellite photograph from the Atlante delle periferie. Pictures IKONOS © Space Imaging Eurasia - © Space Imaging Europa

area partly compromised by unauthorised development and improper use.

The park was inaugurated in November 2006, alongside more naturalistic areas (a little wood and a strip of marshland). There is also a “fragment” of productive countryside within the park, in the form of a one hectare vineyard capable of producing 10,000 bottles a year as well as bringing obvious benefits to the landscape.



3. The square and the fountain in Prato Fiorito Park (Rome, summer 2007).
Photograph by Justyna Pawlowska



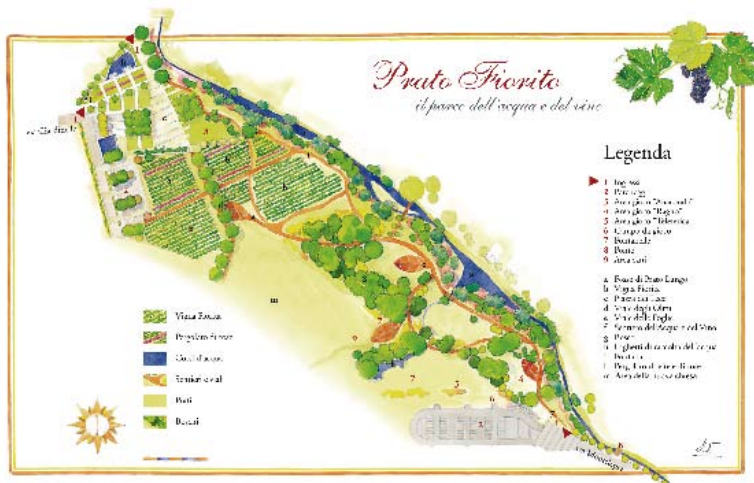
4. The vineyard facing Foglie Avenue in Prato Fiorito Park (Rome, summer 2007).
Photograph by Justyna Pawlowska

Bibliography

MIRELLA DI GIOVINE (edited by), *Roma. Al centro le periferie*, in
“Architettura del Paesaggio”, 15

Website

www.comune.roma.it/periferie



5. Map of Prato Fiorito Park. Watercolour by Daniele Ohnheiser



6. Vines in Prato Fiorito Park. Watercolour by Daniele Ohnheiser

ATHENS

Unification of Archaeological Site Project Upgraded network of pedestrian links to the archaeological zones

The unification programme aims to restore the historic continuity of the city, and to create poles of attraction for its residents, also providing a better quality of life in an overall space with upgraded environment and functions, including culture, where the harmonious coexistence of various city elements, associated with its cultural history but also with its modern growth, will highlight the historic features of Athens.

In this context, the particular goals of the programme aimed to:

- Organise and enhance the archaeological sites of Athens;
- Create an upgraded network of pedestrian roads linking the archaeological zones of Athens, restoring the patterns of traditional pedestrian traffic, as far as possible;
- Create public plazas and planted parks that will traverse and unify the various parts of the project. This will increase the public and green spaces along the pedestrian roads and new pathways created by the programme;
- Restore and maintain monuments and buildings (restore

façades, eliminate billboards, etc.);

- Draft suitable legislation including architecture regulations for the programme area;
- Reduce building density in districts that affect the character of the zones unified under the project;
- Draft traffic and parking regulations in conjunction with the public transport system. Create a tramway serving the central pedestrian roads.

The main project within the “Project for the Unification of Archaeological Sites” is the Grand Promenade which consists of the following:

- Remodelling Apostolou Pavlou Street. The project design gives the impression of smooth level changes along the street, instead of the dominant impression of the existing steep retaining wall. A panoramic view of the archaeological site stretching from the Acropolis rock to the temple of Hephaestus, and one of the three entrances to the ancient Agora from the street;
- Dionissiou Areopagitou Street. This intervention did not aim



1. Connection of new constructions with the Pichionis project



2. Details of the Pichionis project



3. New constructions: unification of Archaeological Sites



4. Details of Pichioni's constructions

simply to create a pedestrian road without cars, but created a recreation hub. Existing public and open spaces were redesigned. New plazas were created – new points of reference, spots for stopping and meeting other people: the open area in front of the new Acropolis Museum, and the Parthenis triangle.

The design challenge was to restore a sense of continuity by emphasising the linear character of the road and creating connector zones surrounding the archaeological site, defined by the antiquities themselves but also by attractive paths and by good viewpoints of the monuments.

Bibliography

J. GEORGI, R. EROTA, S. NIKOLAIDOU, *Planning / Social Parameters of the designing of Public Recreation Areas: Parks, Squares, Walkways. From theory to practice*, XVI Aesop Congress Volos, Greece, July 10-15 2002, 2002, p. 165 (Abstracts printed, copywriting 2002)

J.N. GEORGI, M. KAPNISTOU, *Landscape in Athens due to the Olympic Games*, International Federation of Landscape Architects (IFLA), Proceedings of Central IFLA Symposium, Prague, 2004, p. 35

Website

www.astynet.gr



5. Details of Pichioni's works

COPENHAGEN

The Five Finger Plan

- The form of the Five Finger Plan makes traffic and transportation of people and goods a much easier task.
- The Five Finger Plan has guided growth for almost 60 years.

The green wedges that followed the finger plan proposed (1947) do not have the same boundaries as those that are present today, but they still exist despite insufficient planning measures and an overall decline of open spaces. Today they constitute an important part of the regional plans and their land use has been developed from a recreational point of view. In the different plans produced by the authorities responsible great emphasis has been put on the importance of the existence of green areas and their accessibility. Despite the sometimes insufficient planning measures this focus has been maintained and enhanced since the 1947 plan for green development of Greater Copenhagen.

The goals of Copenhagen's Green Structure Plan are:

- to control urban development to ensure that people always have access to open space, parks
- undeveloped, natural areas on a regional scale.

The plan strives to weave new “green elements” into the existing mosaic of neighbourhoods in the city by means of the following key principles:

- urbanisation will develop within slender fingers;
- green wedges of undeveloped land will remain between fingers;
- finger development will follow public transport (esp. railways);
- suburbs will develop like pearls on a string;
- inhabitants will live in close proximity to green spaces.

The guiding principles of the Green Structure apply both to recreational possibilities as well as to the greater environmental context of the city. In developing their strategy, planners took into account cultural-historic and ecological concerns.

The Green Path (10 km of cycle and pedestrian paths) constitutes a new, environmentally beneficial alternative route for cyclists and pedestrians, making it possible for them to travel through the city in pleasant, traffic-free surroundings.

Physical planning is carried out in close correlation with demands



1. Albertslund, footpath



2. Albertslund, routes for bicycles and vehicles



3. Copenhagen, the five finger plan

for knowledge-intensive high-tech production. The planning will also ensure a wide range of possibilities and areas for potential business localisation and thereby cover the service needs of modern production businesses.

Bibliography

- J. JØRGENSEN, *Evolution of the Finger Structure*, from the publication *European Cities: From Helsinki to Nicosia Insights on Outskirts*, edited by G. DUBOIS-TAINE, Eleven Case Studies & Synthesis, pp. 187-197
- City of Copenhagen Municipal Plan 2001: Primary Structure and Framework*, published by the City of Copenhagen Finance and Administration
- O.H. CASPERSEN, C.C. KONIJNENDIJK, A.S. OLAFSSON, *Green space planning and land use: An assessment of urban regional and green structure planning in Greater Copenhagen*, *Geografisk Tidsskrift, «Danish Journal of Geography»*, no. 106(2), pp. 7-20

Website

Case Study on Copenhagen's Five Finger Plan

<http://www.inro.tno.nl/transland/Copenhagen.html>

<http://www.qub.ac.uk/ep/research/costc10/fin doc/cs08-cope.pdf>

Copenhagen Capacity. Website 2005

<http://www.locations.copcap.com/composite-8109.htm>

[http://www3.kk.dk/Service til dig/By og Trafik/By/Kommuneplan og Lokalplaner/Kommuneplan/Engelsk version/Municipal Plan 2001.aspx](http://www3.kk.dk/Service%20til%20dig/By%20og%20Trafik/By%20og%20Kommuneplan%20og%20Lokalplaner/Kommuneplan/Engelsk%20version/Municipal%20Plan%202001.aspx)

HUR Greater Copenhagen Authority. Transport Plan 2003

<http://www.hur.dk/117AFA2E-D434-4ED6-AEA8-31CB-803849DB>

Ministry of the Environment. Nature and Environment 2001-Selected Indicators

<http://www2.sns.dk/publikat/netpub/indikator2001eng/index.html>

http://www2.sns.dk/publikat/netpub/indikator2001eng/pdf/natur_miljoe2001.pdf

PARIS

Urban agriculture: Paris Municipality Main Verte example

The diffusion of urban allotments can be found almost anywhere, starting from the traditional examples of ancient towns in the Middle East. The example offered by the *Main Verte* programme of Paris municipality is particularly admirable for its high social, educational, artistic and productive values. Free plots are given to associations among citizens to establish common gardening activities in an urban network to enhance biodiversity and con-



1-3. Main Verte gardens map

4-5. Urban allotments in Paris have a strong social characterisation



6. Multi purpose effect in urban allotment

certed participation of inhabitants to garden life (planting, feasts, meals, exhibitions, projections, etc). The network provides methodological and technological advice and training courses, according to a convention ruling plot attribution. Associations have to give free access to the public and to organise open events in the assigned gardens that must have ecological management. 35 gardens were already opened by December 2007 and 6 more were planned. The programme also launched a contest for win-

dows and balconies ... or any empty place in the city, a network of educational gardens, and the planting of selected flowers around urban trees. The communication programme is impressive with monthly meetings, *Main Verte* days (swapping, *cafés-jardins*), several web sites, publications and selected bookshops.

Contact
main.verte@paris.fr

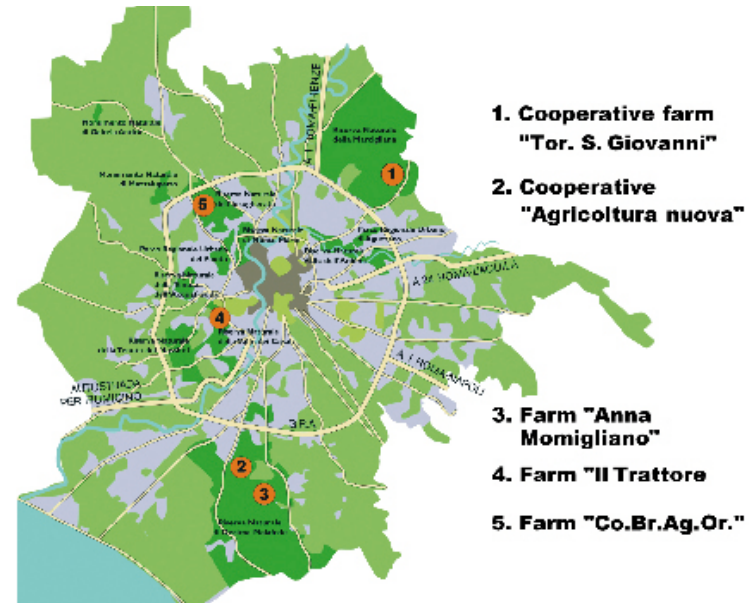
ROME

Urban agriculture: RomaNatura "Educational farms"



RETE DELLE FATTORIE EDUCATIVE DI RomaNatura

RomaNatura is a Regional Body established in 1997 to manage the natural green areas of Rome, presently 15 green nature reserves for a total extension of 14,000 hectares. The quality of its action is due to the success of the *Fattorie educative* system. These are five real productive agricultural farms, within Rome's boundaries that, thanks to RomaNatura, were enhanced for their educational and model values. Within the overall aim of conservation of nature and



2. RomaNatura "Educational Farms" Network



3. Valle dei Casali Park: a real farm in urban context



4. RomaNatura parks are a barrier against urban invasion



5. Marcigliana park preserved the typical Roman countryside landscape

biodiversity, the characteristic values of each farm were protected and restored to constitute a scenario of different agricultural landscapes: from the typical Roman animal husbandry farm, up to the modern pet-therapy and organic one. The system is oriented towards primary school visits, with a catalogue of programmes that involve more than 100 different items including productive, educational, cultural and artistic activities. Schools visits are conducted by the farmers themselves, properly and continuously trained by RomaNatura. In the last three years up to 25,000 pupils have visited the farms.

Future developments are planned with the “*Giardino dei frutti perduti*” (Garden of Forgotten Fruits) to restore traditional produce and lost fruit varieties.

Websites

www.romanatura.roma.it

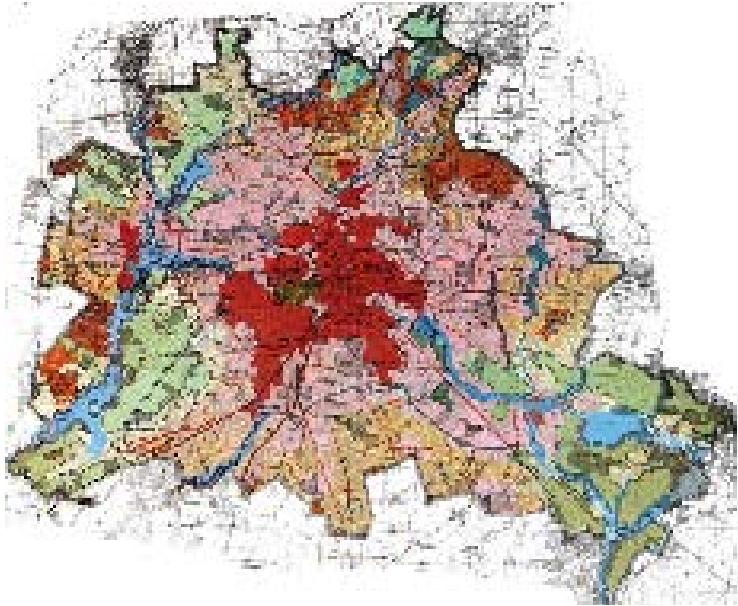
www.fattorieeducative.it

Contact

Antonella Lo Re: posta@romanatura.roma.it

BERLIN

Biotope Area Factor



1. Berlin biotope plan

Introduced in 1994, the *Biotope Area Factor* strategy aims to retain densities whilst developing the city's green infrastructure. Plans of existing habitat networks have been prepared covering the whole city, and dividing it into character areas which include:

- Central city (intense use and densely populated): maintain densities whilst retaining or increasing areas available to nature;
- Transition areas (mixed usage including residential, industry and infrastructure): provide habitats that can serve a wider area. Linkages are prioritised. Landscape elements (periphery of the urban area): ensure larger habitats with “fingers” penetrating into the urban area. These are valuable species reservoirs;
- The structure and extent of vegetation in urban areas can have a major impact on temperature, humidity and run-off. The



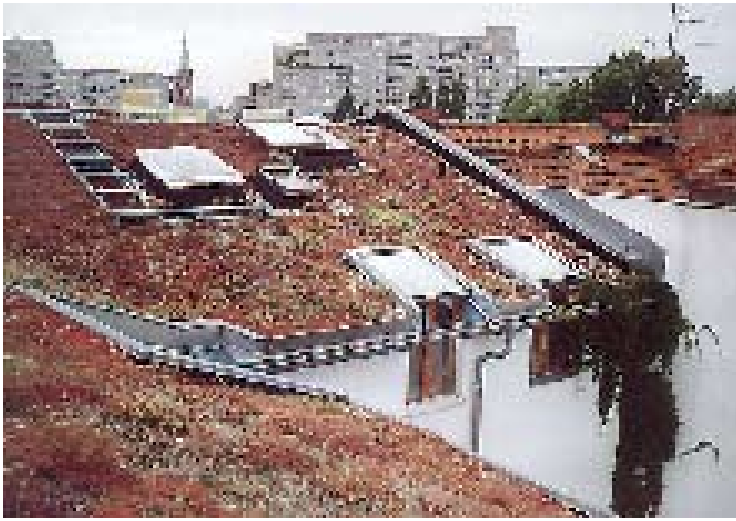
2. Traditional green courtyard



3. Façade can be covered with plants as an ecosystem and species preservation measure



4. Courtyard garden



5. Dealing with buildings classified as historical monuments (example 1)

Biotope strategy therefore seeks to develop a green infrastructure that delivers air conditioning, microclimate control and flood attenuation;

- The different climate zones within the city have been mapped, illustrating variations in air temperature, humidity and soil moisture. The city has been colour-coded into five broad zones, clearly identifying the moderating effects of green spaces;
- The strategy enables a city-wide perspective to be taken, allowing the identification of important linkages, mosaic patterns and species reservoirs. From a user's perspective, this shows how his/her involvement fits into the wider habitat network.



6. Dealing with buildings classified as historical monuments (example 2)

HELSINKI

Biotope Area Factor



1. Viikki Lakortano aerial view



2. Finland's first apartment building using solar electricity. Panels are located on balconies



3. Ecological experiments relating to the utilisation of solar energy and new ventilating systems

Introduced in 1994, the *Biotope Area Factor* Viikki's 1,700 home eco-district masterplan has served to enhance the residents' contact with nature:

- *Nature reserve*: Viikki is adjacent to a 250 hectare wetland bird habitat, with controlled public access;
- *Enhanced landscapes*: The Viikinjoa agricultural area has been enhanced to create a 34 hectare district park;
- *Green "fingers"*: Corridors of ecological planting bring nature into the housing areas;
- *Ecology park*: A special children's ecology park is being constructed following a design competition;
- *Environmental education centre*: "Gardenia" is an environmental education centre managed by residents;
- *Garden centre*: An advice centre has been established on the edge of neighbouring woodland;
- *Allotments*: A range of smallholdings including plots and greenhouses are available to residents.



4. Viikki Lakortano housing area from the south-east



5. Experimental area for timber construction apartment buildings



6. Incinerators for creating fertilisation composite



7. Viikki pilot projects of houses heated by using particular building design methods and materials



8. In Viikki's planning, green areas are considered to be an ecological perspective visible in the unbroken continuity of the overall open space entity. Pedestrian and cycle bridge over the Viikkinoja canal

CATALUNYA - TER RIVER



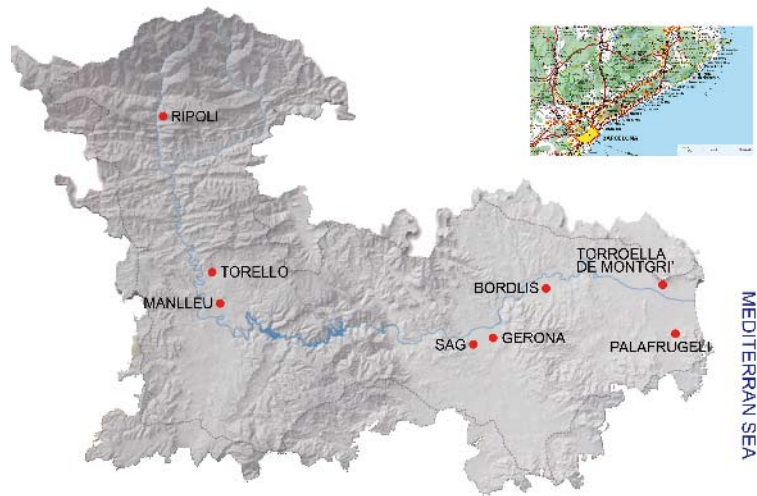
1. Ter River, Canal can Ramissa (Photo by Alba-Ter Consortium)



2. Ter River, Canal Caseta (Photo by Alba-Ter Consortium)

This project has been implemented by Alba-Ter Consortium to raise awareness on natural and cultural heritage. The consortium catalogued the structural features of the area that are proof of the richness and heterogeneity of water architecture (bridges, mills etc.) and industrial heritage (factories, colonies, turbines etc.). This heritage reinforces the identity of the Ter River as a central connection channel between the Pyrenees Mountains and the Costa Brava. The project aims to achieve two opposite objectives: a) restoring the cultural identity of river landscapes throughout Europe; b) suggesting a development model for sustainable cultural tourism through the discovery of resources, issues and itineraries associated with fluvial environment. The forecasted strategy is to enhance the economic potential of the area along the Ter River developing a sustainable tourism and promoting local resources. To attain this goal, Alba-Ter Consortium

launched a Tourism Promoting Plan for the Ter River, supported by many Institutions to stress out the River Ter as an attraction focus for tourism through a cycle and trekking route. The Ter Route links the Pyrenees Mountains to Costa Brava along 213 km with an amazing variety of landscapes and cultural elements, enabling tourists to enjoy different gastronomic traditions and to experience different accommodation options. The Ter River region has very high potential to consolidate the demand for inland tourism in Catalonia as a common cohesion point for the discovery of a very rich and different heritage. Moreover, this potential can further foster the development of economic activity in many of the towns located along the river. Therefore the Ter River Basin can play an important role in tourism and recreation, culture and environmental education through the development of the follows issues:



3. Ter River basin, map

- identification and adaptation of cultural and natural resources studying appropriate mechanisms for their use in tourism and recreation etc.;
- gathering of River Ter's different tourism-related, cultural and recreational resources all together under the same touristic trademark;
- promotion of tour packages and products that include the Ter River and its resources as a leitmotiv;
- creating itineraries along the river to develop different tourism offers. The project started in 2005 and will end in 2007.

Bibliography

La ruta del Ter. El plan de foment turistic del riu Ter, una oportunitat
The Alba-Ter Consortium. Nature, culture and local sustainable deve-
lopment in the Ter Basin

Web-site

www.albater.org



4. Ter River, Rentants Manlleu (Photo by Alba-Ter Consortium)



5. Upper-middle course (Photo by Alba-Ter Consortium)

ITALY - USO RIVER

“Uso pathways”. Historical, cultural and naturalistic park of the “Uso River and its Valley”

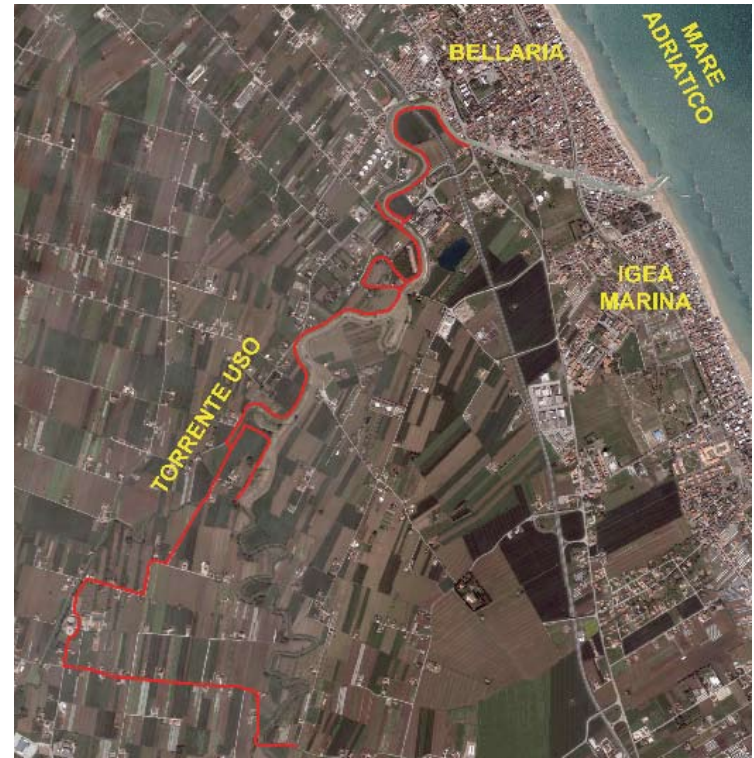
The Project was implemented in June 2003 and inaugurated in 2005, as the first part of a wider Area Programme called “City of the Coast”, funded by the Emilia-Romagna Region. It was carried out in the lowland fluvial area of the Municipality of Bellaria-Igea Marina and San Mauro Pascoli, with a series of projects focused on the tourist, leisure and educational-environmental development of some specific territorial elements.

The study considers the whole length of the Uso River for 49 km, its basin having a 141 km² surface, and the area of 8 municipalities stretching for about 370 km². The planning model is based on the real principles of the regional policy:

- sharing choices;
- sustainable development;
- integrated management of natural resources, landscape-environmental, historical-cultural and local accommodation facilities, with the purpose of achieving an harmonious coexistence between economic-social development, tourist dynamics and environmental protection requirements, considering the flood risk conditions existing along the Uso River.

The main objectives were as follows:

- defining actions of replanting along the river and the recovery of ecological functionality recovery;
- making the river area suitable for recreational and educational-naturalistic activities through a system of bicycle tracks along river banks with functional areas;
- linking scarcely known landscape-environmental, historical-cultural and anthropic potentials and resources in a comprehensive system;
- enhancing the local resources to increase the hinterland tourist attraction and to develop economically-linked activities;
- identifying the synergies applied to the relationship between the “river area and its surroundings” and the “hinterland-coast” and the possible actors and economic public/private resources.



1. Uso River. Focus on the project. Graph

The first part of the circuit, created in 2003, stretches for 10 km and it is 3 metres wide, partly on the river bed, and partly on mixed trail, and includes functional areas, parking lots and green areas.

The route takes in historical-architectural items, with precious traces of the local cultural identity (the “Pascoli” places, Roman archaeological sites, etc.), to be rediscovered by citizens, and to be discovered for the first time by tourists, as an added value to the traditional seaside tourism.

A suitable sign system with information totems has been set up along the route, in urban centres and along the coast, acting as a com-



2. The inauguration. Photo by Nerio Zanzini

munication tool which promotes and advertises the “Use pathway” as an alternative itinerary. This provides an easy and documented knowledge of the landscape variety and of cultural elements. The route gives access to green areas and the surrounding countryside along minor roads connecting different resort areas. The feasibility study envisages the creation of the second part of the route, planned for the next years, in order to extend it to the “Romagnola” coast.



3. Uso River. Rio Salto area, field. Photo by Paola Milani



4. Uso River. Villa Torlonia, entrance. Photo by Paola Milani

Bibliography

“Quaderni del Mobility Manager della Provincia di Rimini”, anno 5, n° 5 (marzo 2006)

Progettare i percorsi verdi. Manuale di realizzazione Green Ways, Maggioli Editore, Santarcangelo di Romagna, 2004

M. COZZI-S. GHIACCI-M. PASSIGATO, *Piste ciclabili. Manuale di progettazione e guida alla moderazione del traffico*, Il Sole 24 ore, Milano, 1999

Ministerial Decree of 30th Nov. 1999, n. 557

Città in bicicletta. Pedalando verso l'avvenire, Office for Official Publications of the European Communities, 1999

Operazione liberiamo l'aria, per una educazione alla mobilità sostenibile. Informazione educazione ambientale in Emilia-Romagna

GALLECS



1. Gallecs Aerial view

The urban sprawl across Barcelona's metropolitan belt threatens the existence of a high quality agricultural landscape. In the absence of regional planning of the remaining free areas, the integrity of many of these sites is endangered by urbanisation plans, with the consequent fragmentation and loss of the socio-environmental values of the area. In order to fill this vacuum, the Town Council of Mollet del Vallès (50,000 inhabitants) decided to promote the conservation of this land.

This is the case of Gallecs, with its 774 hectares of agricultural land divided between two municipalities, which has been the victim of attempts by different tiers of governments to urbanise the area for thirty years.

1st Stage (late 1960s-early 1970s): the public expropriation by state decree (during the dictatorship) with the aim of building a satellite town during the following decade with 150,000 inhabitants.



2. Gallecs Rural view



3. Urban Plan of Gallecs



4. Cycling in Gallecs

2nd Stage (1980s): the maintenance of public property transferred from the state to the region, resulted in land zoned for building with purely economic aims: locating industry and dormitory homes in the area in order to maintain the development of the metropolitan area of Barcelona. In the 1980s and 1990s, strong opposition grew up to the project's development.

3rd Stage (early 2000): maintenance of the area's public property and application of an *Urban Master Plan*, classifying it as specially protected land not designated for building. Ownership was passed to a Consortium made up of the six municipalities involved and the Catalan Government.

The Consortium of the Gallecs Rural Area manages the site with the aim of guaranteeing the conservation and improvement of its ecological, landscape and cultural productive values; its role as a biological corridor in the surrounding region; and also promoting the economic, environmental and social functions characteristic of this site.

SABADELL

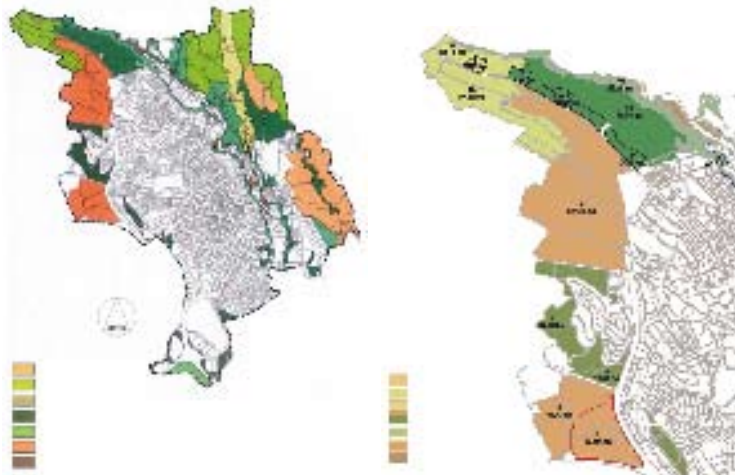
The Agricultural Park

The urban sprawl across the Vallès-Penedès Depression has caused the disappearance of high quality agricultural landscape. In the absence of regional planning of the remaining free areas, some local councils such as Sabadell have decided to protect their own land area. To this end, Sabadell, a town in the metropolitan region of Barcelona with more than 200,000 inhabitants, drew up a Master Plan for the management and development of the Sabadell Agricultural Park (2005), guaranteeing the sustainability and conservation of its agrarian-woodland for future generations. Together with other protection plans, this has led to the creation of a green belt – or “horseshoe” to be more precise – (encompassing rural, agricultural and woodland) which surrounds the urban land and represents 47% of the municipal area. The Agricultural Park covers 550 hectares.

The Master Plan determines the strategic direction of work and was drawn up by the Higher School of Agriculture of Barcelona Polytechnic University. This is a viable proposal for land use based on sustainable agriculture and its application in the suburban framework of the county of El Vallès.



2. Protection of natural resources



1. General Municipal Land Use Plan



3. Sustainable leisure in the Agricultural Park



4. The Agricultural Park covers 550 hectares

Its aims are:

- To protect the area's agrarian and woodland heritage and to guarantee the environmental quality of the landscape by:
 - Increasing the value of the agricultural land by means of awareness campaigns;
 - Protecting natural resources;
 - Economic viability;
 - Social equity;
 - Food safety;
 - Education and leisure provision
- To promote agricultural production based on ecological considerations
 - Creation of quality “brands”
- Agreed joint management between landowners (78% private) through the creation of a cooperative
 - Local trade
 - Agro-shops
 - Educational and leisure provisions

In short, this project is an example of land and environmental protection, applicable to metropolitan areas with strong pressure from urbanisation.



5. Signposted routes for rambles

PINEROLO (TURIN)

Strategic Plan "Landscape 2006"



1. Pinerolo and the Olympic zone. Landscaped analysis of the areas involved in the Olympic games Turin 2006 examining the knowledge and definition of the perceptive ecological values of the landscape in the four alpine valleys (Valle Susa, Val Chisone, Val Sangone, Val Pellice)

2. Map of the Olympic zone. The objective of the Turin Province is the creation of park areas and the upgrading of historical, cultural and tourist areas connected to the Olympic zone.

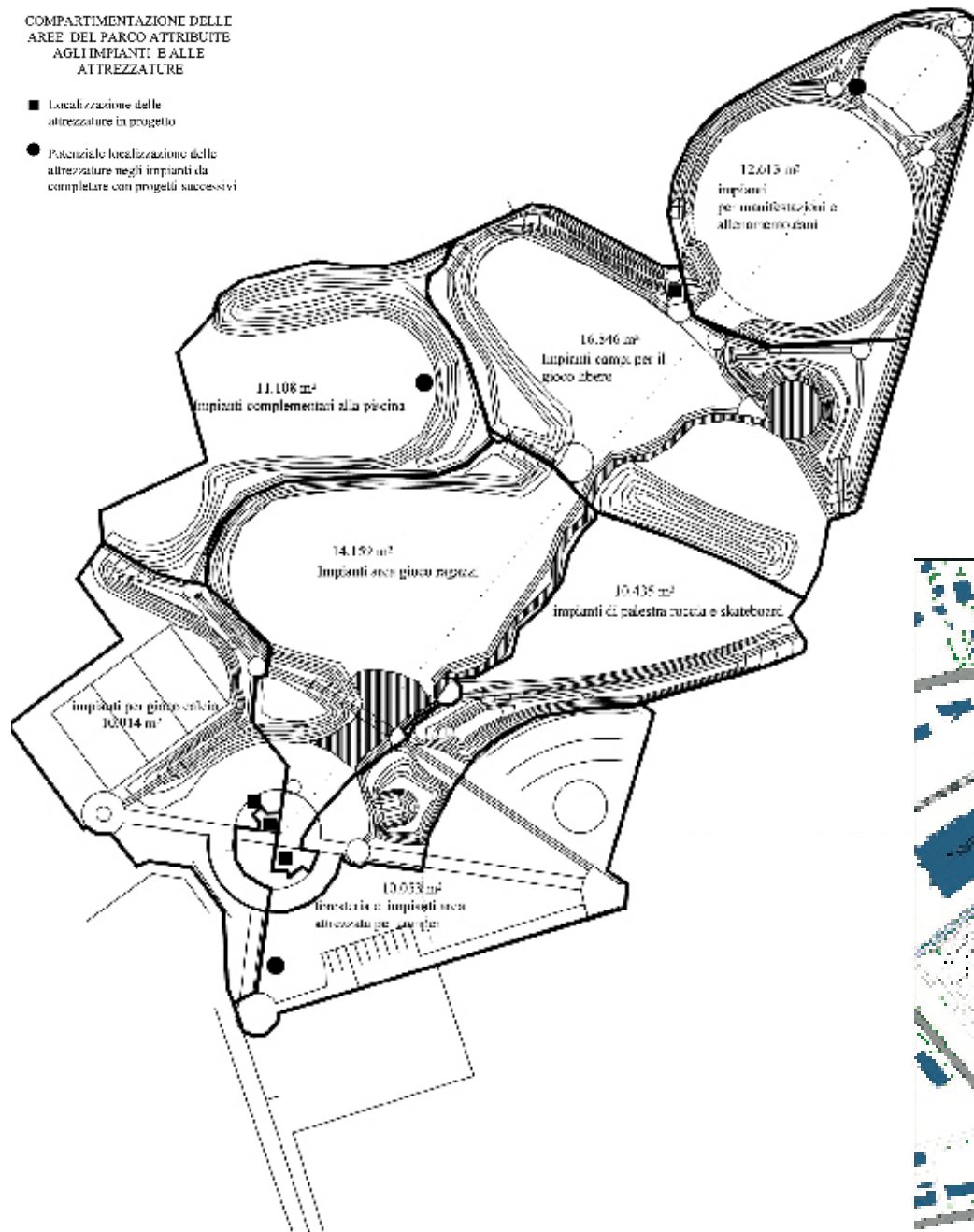
The Olympic public works in Pinerolo, Turin and its Province were the centre for the Olympic Games in 2006. In 2001 the Province approved the Strategic Plan "Landscape 2006", and obtained financial support for it and for the connected public works for the Olympic Games. Pinerolo is a cross-road for access to the Val Chisone and for the Piedmont passage to Val di Susa and the Cuneo area. Near the entrance to the city many public works are in progress regarding mobility and preparation for curling. All the entrances into Pinerolo from Turin have been redefined. The Olympic zone assumes an important rôle: a ten hectare park is planned beside the sports zone, a green space between the buildings, near the edge of the hill. The new Park is under the joint responsibility of Province and Municipality and also constitutes an "aulic" entrance to the Olympic area. Important complementary works are underway to improve accessibility to the area (with railway stations and subways, both for pedestrians and cars, as well as intersections) with the building of an interchange centre, crucial for the city also after the Olympic events.



3-4. 3D simulations of the Olympic zone

COMPARTIMENTAZIONE DELLE
AREE DEL PARCO ATTRIBUITE
AGLI IMPIANTI E ALLE
ATTREZZATURE

- Localizzazione delle attrezzature in progetto
- Potenziale localizzazione delle attrezzature negli impianti da completare con progetti successivi



5. Strategic project “Paesaggio 2006” – Landscape restoration in the Pinerolo suburbs for a park used during the 2006 Olympic Games, showing the areas dedicated to particular sports, services and facilities.



6. Project for the restoration of a green wedge in the Pinerolo suburbs, showing the rationalisation of the mechanised routes and the modelling of the land according to space and function

THE SACLAY PLATEAU



1. The 14 municipalities involved in the Master plan of "Plateau Saclay"



2. Map of the region, with a pedestrian path in evidence

The Saclay plateau is situated about 20 km from Paris and has a very particular landscape context and management structure. The plateau was split up between fourteen municipalities (now only ten with 96,387 inhabitants over 75.35 Km²), who created a community to manage their territory in a homogeneous manner since 1991. This done, the district imposed certain rules on itself to control and constrain the heavy demand for sites for building and to preserve natural and agricultural areas. The association of municipalities funds its economy on primary and also on advanced tertiary production. In fact, the Saclay plateau association and its scientific and technological industry are very important for Europe. Planning is part of its expertise: equipment, transport and road networks, housing, hydraulic networks, and so on; the community, composed of representatives from the municipalities, is responsible for drawing up the "master plan" and single sector plan, as well as the landscape plan.

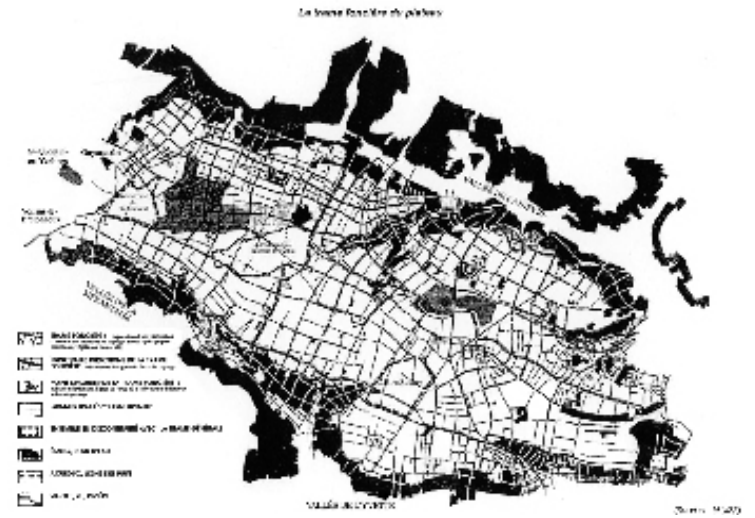
By means of the latter, the conservation of all the agricultural systems should ensure the balance of the plateau ecosystem,



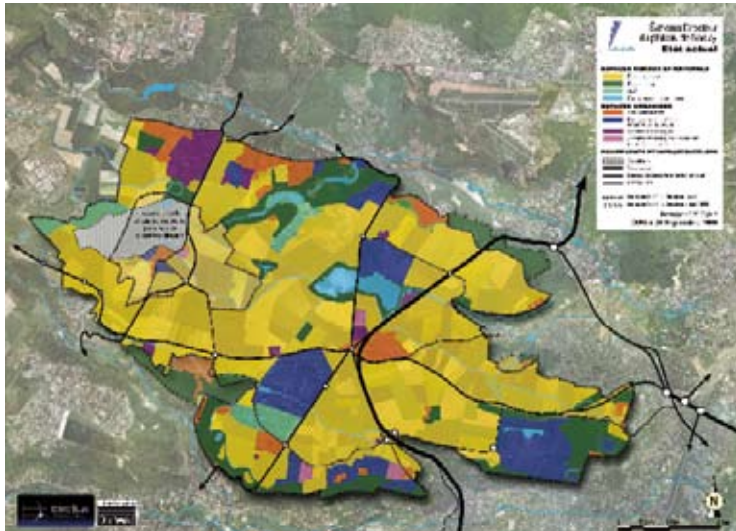
3. Hydrographic system



4. Landscape plan



5. Landscape structure



6. Present situation. Land use

defined by Pierre Donadieu as “urban agricultural”, due to its clear attitude to expansion and evolution of the urban system. The choice of rural activity is directly influenced by national and



7. Paris hinterland: position of Plateau Saclay

international trade and there is no form of economic help, as might initially be surmised.

PARCO NORD IN MILAN

This Park has been created on reclaimed industrial land formerly used by Breda Aeronautica and on uncultivated farming land. It is a large, metropolitan park within the city and hinterland of Milan. The areas that have already been redeveloped cover over 350 hectares of the total surface area of 620 hectares, of which 450 are public property comprising large forested areas, fields, a hill, lakes, tree-lined avenues and flowerbeds. The safety and beauty of the park, with its modern layout responding primarily to the needs of citizens, are ensured by daily cleaning, maintenance and surveillance. Parco Nord is unique in Italy and is one of the most successful examples of metropolitan parks in Europe. There are a number of secondary schools within the park as well as buildings of historic and artistic interest: Villa Torretta in Sesto San Giovanni, Alessandro Manzoni's "Villa di Villeggiatura" and park in Cormano, the Bassini Hospital and a civil-tourism airport.

The territory is well connected to the road network and has a large number of parking areas around the perimeter. It is well served by public transport and will be increasingly so in the future with the completion of the metrotranvia (LRT tramway) Milano-Cinisello Balsamo currently under construction. There is a network of cycle and foot paths linking urban centres and facilities such as the university, shopping centres etc. by means of large footbridges built to overcome the barriers created by the infrastructure. The building of a wide footbridge over the A4

motorway is seen as the means for linking the park to another green area, thus creating a "crown".

Institution

The "Consorzio Parco Nord Milano" is a state body founded for the purpose of redeveloping the districts in the northern suburbs of Milan. To achieve this, 116 hectares of industrial land were purchased from Breda and the first detailed plan also included the land on which the airport had been built. The preliminary plan for the Park was first conceived in 2000 as the piecing together of the areas already developed with those destined for the expansion of the Park, including the Parco del Lambro, which currently contains the Falk dumping ground. The facilities must be low impact and must also include bio-diversity, services and cultural facilities.

The aim is to develop natural and environmental quality. The current area of 620 hectares is a highly urbanised metropolitan context. The act of constitution provides for the management of the Park by a Consortium between the Province of Milan and the local municipalities concerned: Milan, Sesto San Giovanni, Cinisello Balsamo, Bresso, Cormano, Cusano Milanino and the Province of Milan.



1. The fountain rotunda



2. Clerici Pass

Headquarters and organisation

The operational headquarters are in Sesto San Giovanni, in the building complex known as “Cascina E. Ferrario” in the very heart of the park.

There are 50 employees and 120-130 volunteer workers. Specialist work is externally sourced, and the work attendance of outsourced employees is recorded in the structures of the park.

Description

Despite its limited size and the enormous population pressure, the territory of the Parco Nord includes areas of great natural importance.

The part of the River Po Plain on which the park has been established was once agricultural land, as the 1722-1784 Teresian Cadastre maps show. This meant that any areas of refuge for plant and animal species of interest were essentially those linked to water courses such as the River Seveso and the Villoresi Canal.

The reforestation work begun in 1983 has brought about not only the creation of a metropolitan green belt but also an improvement in the natural habitat. The fact that many of the plants within the reforested areas have begun to reproduce by natural dispersion is significant. The creation and development of dozens of hectares of thickly wooded areas has meant that in the space of one decade the bird population has greatly increased, both in terms of number and species.

Last spring two pairs of moorhens came to nest and the sight of these has greatly enriched the landscape of the wetland areas.



3. The oak rotunda

The fact that the number of endemic species is limited makes the presence of the plant and animal life we have mentioned even more precious. One of the features of the Parco Nord is its continuous evolution and transformation, both by human action and through the hand of nature.

Thanks to the introduction of a law on retail sale and crop limitation allowing for the cultivation of flowers on 50% of the surface area, the allotments built in the areas nearest to the urban centres have become highly valuable social instruments for both leisure activities and as a means of supplementing the income of the elderly.

Low impact facilities for sport such as bowling greens, foot and cycle paths, as well as a cycling track, permit the use of the park by all age ranges, as do the recreation and picnic areas, often used by the elderly for playing cards and families on public holidays.

Induced Effects

The redevelopment of the areas affected by the park has meant that the land value of the adjacent areas has increased and these residential areas of the city once considered undesirable have become much sought-after, thanks to their vicinity to the Parco Nord. Moreover, every function carried out in the park must be compatible with the characteristics of the neighbouring population centres and events are held on the basis of their quality and not on numbers of participants.



4. View towards the mountains

NATURE PARK OF MIGLIARINO, SAN ROSSORE E MASSACIUCCOLI

The park is situated in a heavily built-up area with heavy conurbation pressures generated by the settlement systems of the two main towns and the location of large, nationally important infrastructures such as the Port of Livorno, Pisa Airport, the Tuscany road-rail distribution hub, the A11 and A12 Motorways, the Florence-Pisa-Livorno Motorway, the Tyrrhenian coast railway, numerous ports and harbours, ranging from those of the size of Viareggio to smaller, local harbours, the coastal settlement structure with a strong vocation for tourism in continual development and the American military base at Camp Darby, with its own, particular functional requirements. The park extends into the municipalities of Pisa, Vecchiano, San Giuliano Terme, Massarosa and Viareggio. The forests of San Rossore, Coltano, Migliarino and Tombolo, the Mediterranean maquis of the Province of Lucca and the Lake of Massaciuccoli are all within the boundaries of the park. It features coastal, wooded and marsh areas of special interest, wide beaches, beautiful pine forests, mixed forests, ilex groves and wetlands. The park can be visited on horseback, by bicycle, on foot, by horse and carriage and by coach. However, not all itineraries are freely accessible: the territory of Migliarino, privately owned, is not open to the public.

The other areas of the park can be used freely including the bird-watching stations, canoe itineraries, cycle tracks, educational tours and boat trips. The public can also visit the Nature Museum and make use of the guest facilities. At Calambrone, Tirrenia and Marina di Pisa there are picnic areas, campsites, riding stables, beaches, riding schools, golf courses and farm holiday centres, offering eco-compatible packages including traditional, healthy produce such as pine-kernels and organic vegetables from the park.

The President's Estate at San Rossore is only open to the public on Saturdays, Sundays and public holidays.

The Regional Park of Migliarino San Rossore Massaciuccoli is one of the most important Italian regional parks.

The territory of the park includes "internal areas" and "external areas", which are functionally linked to the park and in which Park Plan laws are applied rather than local, territorial government regulations.

The headquarters are in the complex of buildings known as the "Cascine Vecchie" in the Municipality of Pisa. There are 94 employees of whom 47 work for the Park and 47 for the San Rossore Estate.



1. Interior of the former presidential residence at Gombo



2. Information boards



3. Wet woodland, an important nature reserve .



4. The great avenues of *Pinus pinea* in the San Rossore Estate

Description of the Park

The Park covers an area of 24,000 hectares and extends along the coast of the Provinces of Pisa and Lucca. Land reclamation over the centuries, beginning with the Medici family and continuing in more recent times, between 1920 and 1940, has defined the current geography of the territory.

Despite the vastness of the Park, it can be reached from several points. The area borders on the Airport of Pisa and is crossed by the railway line running along the Tyrrhenian coast, with a number of main and secondary stations facilitating access to places of interest such as Torre del Lago, Migliarino San Rossore and Tombolo. The Via Aurelia and the A11 and A12 motorways cross or have exits at some of the most beautiful parts of the park such as Migliarino and San Piero a Grado. Farmland accounts for 9,356 hectares of the overall area. Approximately 200 farms occupy 60% of the total surface area of the park.

The livestock farms are mostly situated in Coltano, Tombolo and San Rossore; 14 farms raise a total of 2500 heads of cattle and a further 12 farms raise 2500 sheep. There are 1400 horses and fowl such as pheasants, turkeys and egg-laying hens as well as rabbits.

Farming, observing the principles of compatible agriculture, produces corn, wheat, maize, crops for the food industry such as sunflowers for the extraction of oil, sugar beet, soy, fodder and pasturage. Vegetable farming is mostly carried out in the particularly fertile areas of the River Serchio and in the Padule Meridionale, or southern wetlands. Olives are grown on five hectares of the northern wetlands, where there are also peach trees, and on 70 hectares in the southern wetlands.

Habitats

More than one third of the Park area is covered in woodland. Pine forests were sown and still are today, often together with acorns from Holm-oaks (*Quercus ilex*) which are regularly thinned and cut back. The acidity of the soil means that the undergrowth is not very varied; in these areas species such as heather, false olive, myrtle, lentisk and wild asparagus grow.

Water plays a very important part and the wetlands, river, lake and marsh areas make up 3,000 hectares. The depressions behind the sand dunes near the sea, called “Lame” are wet areas where the salt concentration is high, affecting the vegetation which includes halophyte plants such as thrift, samphire and reeds. These areas, rich in insects, invertebrates and small molluscs, form an exceptional habitat for a large variety of water fowl.

Other features of the territory are the interior “Lame”, marshy areas in the woodlands resulting from the high water table or drainage problems, where the vegetation is typical of mesophyll undergrowth. Sandy shores and dunes make up the coastline for approximately 23 km from Calambrone to Viareggio. The shores, covering around 250 hectares of the Park, are exposed to the elements and the wind and tides leave a great amount of food for the many limicolous birds.

Activities in the Park

In addition to activities to protect, promote and supply information about the park environment, careful monitoring of the wildlife population (especially wild boar and deer) is carried out as well as the promotion of local produce; pine kernels, beef, game and special varieties of honey, such as helichrysum and the “beach variety”. Various types of tourism are available in the territory of the Park ranging from traditional hospitality, rural and farm holiday tourism to restaurant and conference facilities. San Rossore is home to the historic racecourse, of great importance to horse-racing in Italy; there are also several prestigious stud farms in Barbaricina.

The President's Estate at San Rossore

The San Rossore Estate, which extends to the sea west of Pisa, was once the hunting estate of the Medici and is today the property of the Region of Tuscany and part of the “Parco Migliarino San Rossore Massaciuccoli”.

A reception centre and tourist residence, due to be expanded, have been built in renovated buildings in Sterpaia.

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