Urbanistica n. 148

October-December 2011

Distribution by www.planum.net

Index
and english translation
of the articles

A tool for evaluation

Attilia Peano

The evaluation of the landscape is a field of ever-expanding activities: policies and plans for the landscape, the culture of evaluation in public administration. Both have received considerable impulse driven from Europe: the European landscape convention, the Strategic environmental assessment directive, but also the common evaluation of policies related to the structural funds (in particular those related to agriculture) are all in the direction of a greater demand for evaluative activities, within which both indicators are needed on the status and dynamics of landscape and on the implementation and effectiveness of policies, plans and programmes relating to him or which may have effects on it.
The theme is therefore in full development. To provide a tool for guidance, the urban and regional studies interdepartment (Diter, through its European centre of documentation on planning of parks and landscape, CedPpn) has carried out a research, Landscape indicators (published by Springer, 2011): from an extensive international review on the subject, is a classification of types of indicators provi- ding for each of them a framework on the conditions and limits of use, a series of fact sheets and, where possible, examples. Finally, the composition is exemplified by two sets of indicators, at the re- gional scale and local scale, analysing their applicability to a specific territory.
For the purposes of this research, the landscape was analysed according to these categories: ecological profile, cultural historical profile, land use, visual and social perception, economic aspects. The indicators chosen for each profile have been the subject of basic cataloguing information; a second tab, deeper, was applied to a selected set of indicators in relation to a specific case: the region of Piedmont. This table takes into account the practical applicability of the indicator with respect to territory and to the information available (databases, without excluding the implementation of ad hoc data collections), and its parameters of information management (significance, reliability, etc.).
The selection of indicators depends not only from the objectives of the evaluation and the intrinsic characteristics of each indicator, but also from the overall composition of the set and the evaluative model. Research has made reference to the Dipsir model, selecting a dozen indicators representative of each profile and all categories, deemed suitable for the situation (in the belief that an 'abstract' by a concrete context is incorrect). Two sets were made, one for regional scale (e.g., for use by a landscape observatory, or in relation to a landscape plan) and another for the local scale, that of municipal plans.
Research highlights that much work remains to be done, both to imagine new indicators, apply them and verify them over time.

Landscape evaluation using indicators, work in progress in Europe

Claudia Cassatella

In the last decade, some international researches attempted a compilation of landscape indicators used in different european countries. Comparative and methodological studies have been done in Italy too. Within the environmental evaluation frameworks, the landscape is a problematic, robs it of quantifiable and generalizable values. In practice there are two attitudes: reducing the complexity of the landscape to a single aspect, such as landscape ecology, or using synthetic judgements expressed by experts, such as 'quality of the landscape', obviously subjective, difficult to justify and monitor.
The derivation of landscape indicators from environmental explains some of the conceptual weaknesses easily found. In fact, most of the indicators listed are 'agro-environmental', aimed at evaluating the changes of rural landscape, separate with respect to the urban environment. This conception is unacceptable if it intends to assess all the landscape, according to the latest concept, enshrined in the European landscape convention. Moreover, in each country the issue is affected by the traditions of landscape studies, some more related to natural sciences and ecology, others closer to the humanistic tradition. The non-transferability of landscape indicators is a consequence. Meanwhile, however, the long lists of indicators proposed by the literature and on the web can be used unwise, as if you could choose at will.
From the existing researches some considerations relating to the setting of the set of indicators, landscape aspects concerned, methods of measurement, the reference scale, degree of implementation can be drawn. According to the purpose of the evaluation are indicators to 'structure, management, function, value', 'reconnaissance, evaluation, orientation'. Others prefer to use a division based on the functions of the landscape and the values attached to them: ecological function, social function, economic function; natural, cultural, and perceptive value. Many sets are mixed. The project Countryside quality counts focuses on 'indicators of change'.
In general, indicators to characterize the state of the landscape appear much more developed, and aspects relating to land use, which have the advantage that it can be analyzed using cartographic data bases, are preferred. Not much research makes the scale at which the indicators can be used. Yet, it is clear that it is extremely important, so as to affect the kind of observable elements. As regards the quantitative or qualitative nature of measurement, there is a wide variety of approaches. There is no doubt, however, that the determination of thresholds is often a problem, especially for intangible aspects and symbolic values. Determining thresholds not necessarily can be made by the researcher, and

may be interpreted by the decision maker. An important unsolved problem in the landscape evaluation activities is the passage from specialized disciplinary approaches, each of which proposes a series of indicators, to a synthesis, a single index, to be inserted into arrays in which the landscape is one of the components. There are at least two roads. The first is the choice of an indicator considered more significant than others. The second is the search for a method to compose the values of a selected number of indicators, through one of the possible evaluation techniques. One last consideration regarding the general application of the indicators found in literature: in many cases, when this is not theoretical formulations and proposals, the application was made only once. This is definitely a great limitation for the opportunity to assess the effectiveness and responsiveness to change. At present there are few experiences in monitoring and evaluation of the landscape that may be considered complete. Only ten years have passed from the sea directive (2001/42/EC): in very few cases you can analyze the complete monitoring process. Developing indicators for in itinere and ex post phases constitutes a prospect research still open. If the measurement of landscape values and of the acceptability of changes depends on the political and social sensitivity, due to the qualitative nature of landscape indicators, then explicit policy objec- tives appear to be fundamental. In this they differ from other environmental indicators and are somewhat similar to social indicators (Bertrand et al. 2008). Establish objectives, establish thresholds and in- dicators to measure the direction of change also means that we can consider the same indicators as guidelines to address the protection, management and planning of the landscape.

Proposal for a set of landscape indicators at the regional scale: an application for the Piedmont Region

Marta Bottero, Claudia Cassatella, Francesca Finotto, Angioletta Voghera, Mauro Volpiano

Several landscape indicators have been proposed in the scientific literature and in the real experiences pertaining the Strategic environmental assessment (Sea) procedure; however, further work seems to be necessary for developing a proper method for selecting the indicators which fit the analysis of the spe- cific problem under investigation. Several indicators have been explored in the Landscape indicator research, which consider the following profiles of landscape interpretation:
– landscape ecology; – historical-cultural heritage; – visual and social perception; – land use; – economic aspects of landscape. On the basis of the analysis of the available indicators for the different profiles, the research proposed a set of specific indicators for the assessment and monitoring of the situation of the Piedmont Region. The selection of the indicators has been driven by the following elements: – typology of application and final users of the evaluation tool; – characteristics of the territory; – social values that can be attrib- uted to the territory (i.g., assignment of weights to the different aspects of landscape); – requirements of the indicators; – availability of data and information. Mention has to be made to the fact that the proposed set of indicators consists of a limited number of elements to make them easier to use and apply. Secondly, the set was created to guarantee coverage of the Dpsir categories and also the interpretation of all five profiles in the study. Furthermore, in the choice of the indicators, great importance was given to the relationship with the characteristics of the territory in question. For example, the indicator related to the viewpoints reflects the importance of panoramic values in the Alpine regions and hill country; the indicator relevant to employment in the agricultural sector is associated with the rural character of considerable parts of the territory. The indicators were also proposed in consideration of the goals established by the Piedmont regional authority in the field of policies for territorial government, such as the valorisation of cultural assets and the tourists system or restricting land consumption. The structure of these sets of indicators meet requirements for the assessment and monitoring of plans, both on a territorial and town planning scale, as establi-hed in Sea procedures. Finally, the existence of some operational limits, first and foremost the availability of data, also influenced the proposal. In this field, for example, note the survey of panoramic views setup for the regional landscape Plan. With reference to the set for the regional scale, the considered indicators are represented as follows: – according to the ecological profile, as this is the most consolidated field of analysis, two

specific indi- cators have been proposed, namely evenness and biological territorial capacity, which represent the indicators that have been used in the Sea procedure for the regional landscape Plan; – in the analysis of the historical-cultural profile we favoured indicators that allow for the preservation of the historical and cultural assets and the promotion of actions for further knowledge of historical- cultural heritage; – for the assessment and monitoring of the regional landscape for the perceptive profile, indicators re- levant to the obstruction of panoramic views and fame were chosen; – from a land use point of view, the set proposes indicators relevant to land use consumption, degraded landscapes and landscape protection; – finally, the assessment of the economic aspects of the landscape is based on the observation of tourist flows and phenomena associated with employment in the agricultural sector and tourist trade, while more specific indicators (such as, local real estate market or recreational benefits) are indicated only at the local scale. In order to verify the applicability of the set of indicators proposed on a regional scale for the analysis of the Piedmont landscape, a specific in-depth study of each indicator was developed. This in-depth study, in collaboration with the Piedmont computer system consortium (Csi Piemonte), examined the operational conditions required for the application of the indicators proposed in order to test the real possibilities of use. The work done lays the foundations for a methodological proposal for landscape indicator systems. In fact, the themes dealt with and referred to in the summary table have made it possible to allow for real problems associated with the use of territorial indicators, doing away with common methods of approach to the theme of landscape indicators, which often result in lists that have not been duly verified in operating conditions.

Nature and landscape: coherences and conflicts within the concept of multifunctionality

Claudia Cassatella

Landscape multifunctionality has become an important planning issue. Its approach is being particu- larly developed in practice (and rhetoric...) of territorial and environmental networks, from biodiversity conservation to enhancement of historical landscapes. Beyond this, the issue of multifunctionality has come gradually to assume the role of a guiding-principle of different territorial policies: in particular, in agriculture and forestry, the principle of ‘multifunctional management’ of natural resources means to put in light ecosystem services that are not immediately converted into money, but that benefit humans.

For landscape planning, based on a more synthetic vision, multifunctionality is a strategic objective, giving operativity to the theoretical definition of landscape as a complex system of relationships between natural and anthropic system, spread by the European landscape convention. At this point, the main issue for planning is that, even highlighting conflicts between value systems, the multiplicity of objectives does not always allow an easy design synthesis.

The case of Hanover-Kronsberg, supported by the Federal agency for nature conservation exemplifies a virtuous process of planning of multifunctional landscapes, providing evidence to support many issues: the redesign of a periurban area, affected by settlement pressures and by intensive monoculture, is characterized by the desire to approach the different problems in a complementary way, not hiding behind each other’s conflicting rhetoric, but rather pointing out these kinds of problems and admitting to what extent it is necessary to adopt compromise: how to develop environmentally friendly farming, profitable, at the same time? How to reconcile the presence of habitats and species by encouraging, at the same time, attendance by residents? Issues of perceptive and scenic landscape redevelopment enters into a relationship with biological, economic and planning problems.

The following essays are part of this line of research of the Phd in Environment and territory of the Politecnico di Torino. A study period at the University of Hanover has allowed Bianca Seardo to learn more about the german approach and the method of planning, design and monitoring in the case of Hanover-Kronsberg.

In particular, the relationship between nature and landscape policies has been the focus of the research activities of the european Centre for natural parks planning (Ced-Ppn) of the Politecnico di Torino.

The implementation of a multifunctional-landscape project: the emblematic case of Hanover-Kronsberg
What is essentially a multifunctional landscape at a local level? From the case of Hanover-Kronsberg we can bring out more specific answers.
The landscape and territorial issues at Kronsberg are those recurring in many peri-urban landscapes in Europe (Rode 2005): intensive monoculture, urbanization, abandoned areas now interesting for energy production alternative sources, all this often at the expense of the preservation of traditional rural landscapes, visual diversity and tourist attractiveness. Nevertheless, the Kronsberg is still one of the highest environmental valuable areas sorrounding Hanover.
The Kronsberg (about 1,000 hectares) is maybe the area undergoing the biggest urban transformations at the metropolitan level: in the mid-90s, 15,000 inhabitants are espected and an area of 50 hectares is devoted to the creation of spaces for the Expo 2000, while a part of the site cannot be transformed due to its landscape and natural value. The concerns of citizen groups and academics for the use of land and loss of quality environments bring out a number of claims about the future site: maintaining the agricultural use, making open spaces suitable for recreation, preventing the impairment of habitats: long the council fails to transform the site, until a 'Test and development project' funded by the Federal agency for nature conservation gives the opportunity to define a multifunctional development of the area.
The project objectives are: the preservation of species and habitats and biodiversity; the development of the recreational potential; the maintenance of agricultural activity in the periurban area. The aim is to replace the monocultural landscape at the Kronsberg, introducing a number of diverse environments for biodiversity, recreation, tourism and profitable agriculture.
To understand in what way the landscape was designed in relation to multifunctional aims, one has to investigate how the main project components have been designed to meet different needs at once. One of the main elements of the project are new wooded strips (more than 60 hectares) located alternately to crops. In order for these to develop a high ecological value, they are designed like 'spots', consisting of dense cores of beech and ecotonal bands of variegated shrubs. From an aesthetic point of view, the regularity of wooded patches in the landscape is valued as an attractive feature, as clearings in the forest.
But these interventions can create inconsistencies in the results: for the identification and reduction of inconsistencies, the pilot project is supported by a process of monitoring of the development of diffe- rent landscape functions affected by the project: biodiversity, agriculture, scenery. Referring ti the woodland component, a series of interviews conducted for the purpose of monitoring confirmed that the formal outcomes reforestation are appreciated by visitors, but plant ecologists hi- ghlighted the negative trade-off with the objective of biodiversity conservation, due to their overly for- mal design of the wooded spots: this regularity does not allow for the spatial diffusion of beeches, as well as regular mowing of clearings makes genetic exchanges difficult, 'breaking, in fact, the potential ecological networks between the various islands of the forest'; while recreation within forest will not be possible for some years to facilitate the growth of trees. Moreover, a side effect has been the impetus to the market of wood, in continuity with the historical vocation of the Kronsberg.
By the German local multifunctional landscape project, some general conclusions can be drawn. First, the identification of the target landscape functions to be developed allows us to formulate more accu- rate and realistic actions addressed to each of them. In terms of predictions, it is also necessary to iden- tify synergistic effects can be obtained acting on multiple target functions, in order to enhance multiple effects.
Moreover, it is necessary to provide in detail aspects that will favor a land-scape function or the other: for example, in the case of a forest plant, it may be useful to wonder whether to give priority to a flori- stic composition that favors the presence of rare species, but perhaps of little aesthetic value, instead of beautiful foliage trees of high scenic attractiveness, keeping in mind that encouraging biodiversity does not automatically implies the creation of appreciable landscapes.

Conditions favouring landscape multifunctionality in German landscape planning system
The case of Hanover-Kronsberg proves interesting comments if we consider the and planning tools that constitute the framework of the Kronsberg project at a large-scale. Seen from this point of view, the case of Kronsberg forces to wonder if multifunctional landscapes re- quire ad hoc plans or whether they can be developed through good coordination between sectoral plans and programs (forest, agricultural, water, protected areas, recreation, open space, traffic).
In the case of Hanover, at a large-scale level, multifunctionality is not addressed by any specific plan, rather it emerges from the system of plans and programs not relating specifically to landscape: which are the complementarities between large-scale forecasts and local multifunctional project at the Kron- sberg?
The area Kronsberg is only a portion of the metropolitan greenbelt of the Hannover region, affectedd by a metropolitan program for sustainable agriculture, the program for outdoor recreation, the network of natural and landscape protection areas: multiple claims, not infrequently conflicting, but all shaping landscape quality. What makes such disparate scenarios converging toward a multifunctional horizon? The Programme for agriculture of the metropolitan region of Hannover offers a multifunctional development of the peri-urban setting to face the regional crisis of the agricultural sector: functions of rural landscape such as micro-climate regulation, soil protection and water quality, conservation and

maintenance of some biotopes local value, landscape diversity of high aesthetic value, identity and educa- tional value empaired by intensive agriculture have to be enhanced. Multifunctionality at the landscape scale is realized then through the diversification of activities of each individual farm. The role of Kronsberg local project is to shape these general addresses to the site's specific features, in particular to the natural ones: specification of plant species to use (old and local cultivars) and identification of historically present habitats. Even at the metropolitan level planning of open spaces for recreational activities of citizens is entrusted by a specific instrument, the Naherholungskonzept, suggesting a system management for the 58 'green islands' in the region of Hannover, the Kronsberg being one of them. Multifunctionality is pursued by considering every kind of open space as a potential recreational one: parks and gardens of course, but also buffer zones around protected areas, margins of cultivated, grazing meadows, riverbanks, abandoned mining areas, all landscapes are taken into account for recrea- tion. At this point possible frictions with existing activities have to be regulated: roads of access to forest or agricultural property must be made viable and also by visitors, recreational activities have to be di- scouraged or stimulated within and around protected areas. The local multifunctional landscape project at the Kronsberg has to face interactions between grazing and recreation on the same areas: pasture, in addition to being an economic resource in itself, must be done in favorable ways to maintain the arid pastures ecosystem and valuable open scenery for visitors. Referring to nature and landscape protection, the local project reflects those identified at a statewide and regional level, however suggesting the differentiation of protection measures addressed to different landscape values: the Nature protection zones, Natural monuments and their buffer zones, Landscape protection areas. Finally, two sets of findings are opened. First, landscape multifunctionality is essentially guaranteed by the presence of plans not specifically addressed to landscape, but rather adopting a landscape approach, focussing on vital relationships bet- ween territorial dynamics and functions, rather then single issues (Paolinelli 2011). In this framework, the local project has a double role of collecting, comparing and synthesizing large-scale forecasts, while connecting them to site-specific situations. Finally, the adoption of the concept of multifunctionality allows to overcome the illusion of being able to control the landscape acting directly on its appearance, putting in light the fundamental connection between exterior (landscape) character and (territorial?) dynamics and uses.

Neighborhoods as leverage points between urban planning and transport planning

Chiara Ortolani

Now all governments have acknowledged the existence and gravity of what are called 'the twin problems of oil': global warming and peak oil production. Both of which threaten the environment and the economy of our planet. The transformations necessary to create a strong and sudden change can be encouraged both by government policies, both by local actions that by changes in lifestyle of the citizens. The importance of local actions is that governments have the opportunity to act on the building, transport, urban planning but also on information and citizen involvement. Some european cities now offer a complex approach that takes into account all areas of interest. Instead in other cities, also italian, particular attention is paid to saving energy and reducing CO2 emissions from buildings. These actions, although very valid, however, does not affect the transport sector. This is, in Italy, the main responsible for CO2 emissions, as indicated by a study published by Enea, and it is the sector that consumes more energy, as shown by the statistics contained in the Iea report Energy balance from which they extracted the data published on the Post carbon cities. The european agency for the Environment has also estimated that cars represent the largest single source of emissions in the transport sector, accounting for about half the total. These data relate to emissions, for the most part, affect the urban environment. Infact, today, more than half the world population lives in cities and in 2030, according to some studies, the urban population will exceed 60%. The number of people living in cities is not as important as the way of life chosen for them. The mo- dern city was formed considering the private car as a key element and this has led to major changes in the urban policies and in the lifestyles of the people and the city began to expand into monofunctional areas. Because of this link between the modern forma urbis and the use of the car is necessary to think in complex ways to the theme of transport and the design of public space. And it is also important, as well as the urban and metropolitan scale, the size of the neighborhood because it is this scale that there is a profound ineffectiveness of the transport model based on the car. Numerous studies have shown that, in the large italian cities, the 30% of journeys made by car cover distances of less than 3 km and the 44% are shorter than 5 km. These short distances, corresponding to the extension of two or three neighboring districts, could be easily traveled by bicycle. What is striking is the significant discrepancy between the means used and the distance traveled. Once the road was public space par excellence, but in today's planning has been separated from the context and defined 'road space' and after it is been deprived of

its original social function. To restore this function in the road is therefore necessary to make choices that go in the direction of multimodality but especially that put in the middle the needs and possibilities of people. To act on issues related to the mobility of the district therefore has not the objective of the fluidity of motorized traffic, act on individual, social, ecological and energy unresolved dimensions. In this perspective, the districts may represent of the leverage points, 'areas within a complex system, where a small perturbation can be passed with major changes within the whole system', to make choi- ces that interest both the theme of the transport planning that the design of public space. The Plan of the development of transport in Freiburg, the project for the neighborhood Mirafiori in Turin, some interventions developed to Mestre or the Vauban district of Freiburg are interventions that highlight the importance of the small size and the importance of the unified planning of transport and public space at the district dimension.

Monte Netto: a Masterplan for one hill in a plain

Anna Richiedei, Maurizio Tira

This Plan exploits the environment of one of the few hills in the Po Plain. The area of monte Netto is famous for its agricultural and wine-producting activities, for its geomorphological features and for its red oak wood. The monte Netto is an oval-shaped clay mass. It was born in a recent tectonic uplift in the central Po plain, in the south of the province of Brescia, along the Mella river. The Monte Netto regional Park was instituted in 2007; the Masterplan of the park was adopted on 3rd february 2011 and is now in the ap- proval phase. Maurizio Tira and his team made some preparatory studies to develop the Masterplan of the Monte Netto park. The park covers an area of 1,470 hectares, crossing three municipalities in province of Brescia (Capriano del Colle, Poncarale e Flero) and the monte Netto lays over 1,155 hectares.
The main elements of the park, other than the monte Netto hill, are the Colombaie wood (known for its ecological and natural relevance) and the wine-production activities (for their value). Due to these features the Lombardy Region has classified the Monte Netto park as an 'agricultural park'. In particular, the Province of Brescia proposed to make the red oak wood of Colombaie a 'Site of community importance' (directive 92/43/Cee) in the framework of for Nature 2000 network; regarding wine-production, the 97% of the vineyard in this site is classified as Doc (Controlled designation of ori- gin).
So the Park targets are the protection and the improvement of primary productions and the encouragement of cultural, environmental and education-al uses for citizens. The plan identifies different areas in order to sustain the agricultural production, environmental protection and public fruition. On the monte Netto hill there are also some critical situations: a controlled dump in post-operating phase and a clay pit. In its northern side, the park is also crossed by the High capacity railway line (Tav connecting Turin and Venice) and by a stretch of the highway (Sp19) between Ospitaletto (A4), Brescia sud (A21) and Montichiari airport junctions. These communication lines make a clear break in the agricultural system and in the connection between the park and the city of Brescia (10 km far in the north). The Masterplan of the park is made of a cognitive frame, an integrated system of information and data necessary to understand the situation of the park nowadays and its future evolutions, some operative tools like maps and technical rules, and the Strategic environmental assessment. The next step, after the approval of the Masterplan, is the drafting of a management Plan of the park.
The park zoning required shared solutions between municipalities councilors and technicians, associa- tions and citizens and the conscious participation of all of them. The Plan proposes a zoning made of eleven homogeneous areas. The most important among them is

the ‘vineyard zone’: this area is relevant for its size and for the importance given to the wine-production. So, to define its borders, the team analyzed the type of cultures, the number and the size of farms in the park. In this area the technical rule requires that only farmer owning at least 5 hectares of land and with the 80% of it planted with vines, can build new houses, but with some limitations: a buildability index minor of 0.01 m3/m2 and a maximum volume of 500 m3. A new idea of public fruition of the park come from the requalification of the pit. The team proposed an educational laboratory about historical seismic, to be located in this site, after the closedown of the clay-pit.
In conclusion, the monte Netto Park has strong natural values and historical and cultural landscapes linked with the rural human activities.