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PER UNO SVILUPPO LOCALE AUTOSOSTENIBILE:
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Dipartimento Città e Territorio – University of Palermo
PIAZZA BOLOGNI 13 - 90134 PALERMO, ITALY

**The Hidden Landscape and The Identity of Places: Ecological Networks, Local
Communities and Models of Self-sustainable Development in Western Sicily**

BERNARDO ROSSI-DORIA, FRANCESCO LO PICCOLO, FILIPPO SCHILLECI

TEL/FAX +39 - 91 - 51 64 76 E-MAIL : BERNARDO@UNIPA.IT, FPICCOLO@TIN.IT, SKILLE@TIN.IT

“Writing from Sicily, how can we not imagine this extraordinary island made up of hundreds of towns, large, triangular, complete, as planet earth is compared to the world of stars and galaxies both known and unknown? How can we not try to describe it as such, and in this description not experiment with an idea, a project that is better than that of the peripheral, the marginal, the distant – according to the economic yardstick of GDP - which grips it and produces in whoever lives it and observes it, mistrust, fatigue, the desire to escape; in short, the lack of planning?

This large island is historically central to the Mediterranean, it is a place of frontier, or rather of innovation and potential, (...). Even recently, descriptive documents about this island are compiled with reference to approved indicators which are not pertinent and lead to the rather unacceptable conclusion that in the south (in Sicily) ‘there is nothing’, or even worse, that in the south there can be ‘innovation’ only where there is decay, innovation brought about by predatory individuals and, moreover, in limited areas. This brings us to the incapacity to plan a future for this South that has been declared sterile.

Thus, does there exist a representation of the South (of Sicily) that can show the place and its plans differently?”

1. Introduction: Images of places

Images of places, whether they are those of institutions or of individuals, include a prefiguration of a dynamic or transforming tendency, of an aspiration to become, of a resistance to accepting, of something which, in any case, derives from an evaluation.

The construction of an image of a place begins from preliminary or prejudicial evaluations. In any case reference is made to the “physicalness” of the place with all that there is in this physicalness that is represented in terms of the relationship with man, who has always been present. It contains in any case a future or an idea of future to which values can be attributed which are positive, negative, progressive or regressive. Above all, there does not exist only one future, nor one place (Rossi-Doria, 1998).

For each area a number of images can be constructed. One predominates, what we could call the ‘official’ image, and coincides with the future of the area in question, in the sense that it represents what is taking place. In general a prevalent image is not accepted by all. Those who do not recognise themselves in that image have no love for the place and would choose to alter it, or would wish to escape from it, pulled by the attraction of other images.

The interpretation of a place, with the many meanings that have been attributed to it over time, is an action which necessarily cannot be neutral, in that it is conditioned by two factors: on one hand there is the cultural framework of reference, on the other the aim of the interpretation itself, especially if it is undertaken by planners in the interests of

interpreting change to translate into coherent operative lines.

Confronting an interpretation of the landscape, as much in literary terms as geographical or ecological (or those of the planner), means looking at the relationship between the identity of the region - its image - and the physical and cultural “supports” on which it is founded, or rather its constitutive components, the relationships established and the activities carried out. In turn, to attempt to trace an identity we need to refer to the many images produced in an observer looking from the inside out and one from the outside in, as when one analyses the transformations of the support it is necessary to look at the complexity of the connections existing both within the landscape and “osmotically” with the outside.

The prevalent images are thus not the only ones possible. The intention of this paper is to reflect on the images of contemporary Sicily, from those constructed locally to those constructed in the context of Italy (the National Policy for the South) to those constructed more recently in the sphere of EU policies.

Is it thus possible to construct another image of Sicily that can lead us back to an idea that is settled, evolutive, distinct, autonomous, capable of inverting the tendency to passivity - passive to decay, and to create interactions that are active, additional in the overall national, continental, global system? This is precisely the theme that we need to confront. Which of the many images or possible futures have been ignored, on which we should instead be reflecting?

Looking for new images and possible futures, the paper means to assess the hypothesis considering local and regional identity as a resource, inside a renewed ecological development paradigm, interested to specificities and to differences. Individuation and management of ecological networks contribute to enhance and preserve local identities as "main resources". This process needs new approaches and theoretical frameworks.

2. Interpretations of insularity

On one hand, taking an approach which is both historical-literary and scientific-naturalistic, it is relevant to explore the multiple ways in which Sicily is represented: a place at the centre of the Mediterranean and peripheral to three continents, insular and distant and at the same time close-by and even, conceptually speaking, "peninsular"; a place that is substantially ambiguous and in this ambiguity, stimulating and intriguing.

Perhaps it is through the category of "ambiguity" that we can attempt to interpret the Sicilian landscape: the natural ambiguity that lies with being at the crossroads of three continents - thus not just Europe but not yet Africa or the Near East; of being an island of considerable size but not isolated; the cultural ambiguity of not being self-determining but of having always nourished a strongly autonomous identity; the political ambiguity of being at the centre of the Mediterranean and at the margins of Europe, pulled in one direction by the desire for autonomy and in the other by the dictates of dependency.

At first sight, reflecting on contemporary Sicily and recalling the history of the formation of the republican state immediately after the war (leaving aside for a moment all the claims that have weighed down this autonomy), we might have thought that "Sicilian autonomy", besides being an innovative institution that is alternative compared to the past, could contain an image, a plan for the future that is significant and intriguing; significant because, despite everything, it was the result of tensions and of a breaking with the recent, dark past; intriguing because it refers not only to a context which is characterised by the sediments of a thousand-year-old history that is "central" to western Mediterranean culture and thus able to offer considerable opportunities, but also to the image of 'modernity' of Palermo - the economic capital of the region in the pre- and post-unification 1800's - that was eclipsed in concomitance with the fulfilment of the unitary plan. In reality,

no contemporary image of the region has been fit to appoint itself as a plan able to incorporate what has passed and what is to come.

The autonomy which could well have constituted a 'local' pre-image full of achievable potential in reality has never revealed itself positively; the strong resource that is the Sicilian land is a hazy component of a prevailing image of civil and social fragility and physical degradation.

An overall interpretation of the Sicilian region and its most recent changes is a hard task, on one hand because of the few studies done on the subject and on the other as a consequence of the difficulty collecting the different existing images to form a unitary framework. The insular dimension - which of course is the dominant character and has always conditioned the evolution of the phenomena in Sicily and its government - is not enough to make a complete and exhaustive description, except in problematic terms.

In this light it is more convenient to refer to the various interpretations of the insularity characters, which are several and sometimes in opposition and which must take into account various factors and conditioning. As a result of previous researches¹, what comes

¹ In 1996-98 a team, co-ordinated by Bernardo Rossi-Doria and composed of Michele Di Rosa, Francesco Lo Piccolo and Filippo Schilleci, was involved in a research programme aimed at constructing an organic system of information and evaluation of the Sicilian region.

In the first stage of the research work, methodologies and categories were individuated. Following general research guidelines, the Sicilian local research unit adopted the following analytical and descriptive categories:

1. *I quadri morfologico-ambientali* (The morphological-environmental frameworks):

These are individuated according to the morphological characteristics which are invariable in the long term. Each component (geolithological, geo-morphological, climatic, agronomic, hydrological, hydrographical, bio-ecological) generates homogeneous local units. These morphological-environmental local units influence the birth and development of settlement systems, contributing to the characterization of different 'settlement environments'.

2. *I processi storici di trasformazione del territorio* (The historical transformation processes of the natural and human environment):

The results of these historical settling processes are the patterns of physical marks which have gained stability and continuity over a long time. They have role and function similar to the morphological-environmental frameworks, although the processes of configuration and

out - in its complexity and variety – is a system of relationships that is historically developed between places and anthropic transformation of the environment and urban settlements. The richness of the morphological and historic anthropic articulation of the region if from one side has prominently contributed in determining local identities extremely thick and strongly characterized, from the other side represents a strong obstacle to the definition of a unitary image of the region. It is not by chance that most of the existing studies - either historic or geographical - are centred on contexts of large dimension, even though they are always limited to parts of the regional territory characterized by their conspicuous identity and variety.

The Sicilian urban system appears - in long-term analyses - on one hand a cross-roads and place of transit and intersections of cultural, socio-economical and political flows, and on the other hand a 'settlement environment' able to - in different periods of its history - sediment and integrate different and apparently inconceivable values, cultures and identities. The density and complexity of the urban settlements represents a character of singularity, especially compared to other

characterization have in this case a historic-anthropic nature and not an environmental one.

They are determined by the patterns of agricultural cultivation, the infrastructure systems, the net of urban settlements, the productive activities and the political and administrative boundaries. To individuate and interpret these the adoption of historiographical methods is necessary.

3. *Gli ambienti insediativi* (The 'settlement environments'):

These are defined as sub-regional units or micro-regions characterized by homogeneous transformation processes, either in the physical or in the economic-social dimension. Each environment refers to a different settlement system, defining particular living conditions and uses of space, and is determined by a dynamic network of relationships between environmental frameworks, historical transformation process characteristics, urban morphologies and social structures (Palermo, 1996, pp.207-231). The settlement environments constitute the main datum-units for observing and monitoring the transformations of the region.

Following the research guidelines and results of the national co-ordinating group, the Sicilian research unit agreed on considering the 'settlement environments' identity a complete evolutive concept and not a constant: as we had the occasion to explain in previous studies (Lo Piccolo, 1995), identity is inclined to change and it is not at all steady in time, reflecting in each historical moment local specificities and characters.

insular contexts: in Sicily we have a typical condition of 'over-urbanization' characterized by the presence of a number of urban centres of medium dimension which, however, represent a weaker productive structure and a less qualified tertiary sector in comparison to other continental contexts. The reasons are several and some of them can be connected to the forms and times of the historical processes of settlement development. The long-term period in which settlement processes develop, the discontinuity in transformation rhythms which swing between long-term processes and sudden accelerations and the relevance in quantity and quality of urban centres which have marked the history of the island since the pre-classical age: all these appear as distinct aspects of the transformations of the region and prevent the automatic adoption of interpretative schemes that are easily and conveniently applicable elsewhere. In these terms some distinctions, such as those between internal areas and coastal areas, or between urban and rural environments, appear on the whole restrictive and useless for the analyses of the different local contexts of the island.

For analogous reasons an analysis of the urban systems of the island based on the adoption of the model of 'metropolitan area' and its 'satellite' centres appears inappropriate. The framework of the settlement system in Sicily in fact develops through a complex pattern of medium and small centres which only occasionally have direct links with the great cities (which at the same time represent the three Sicilian metropolitan areas).

Further elements of singularity can be gathered in the gap which in the last fifty years has developed between planning provisions and real transformation processes. A critical reading of the most recent phenomena which have characterized the Sicilian reality has highlighted the radical discrepancy which - here more than elsewhere - has been revealed between the planning will and aims and the real transformation processes, lacking a strong and precise political will in putting forward adequate regional actions of government. This analysis leads us to more general considerations concerning the development models adopted up to now and the inconceivable contradictions between these and a local context marked by a marginalised and underdeveloped economic system.

Comprehension of these recent transformation processes in Sicily cannot be

separated from a close examination of the role that, historically, the building industry and housing revenue have played in the economy of the region. If after the war in the rest of Italy the building industry played a leading role in the economic recovery, in Sicily, as in most of the south, this sector acquired an exceptional importance, as a consequence of the fragility of the productive and social systems in this region and the pathology that this fragility yielded. An analysis of the housing market, land prices and production costs reveals economic mechanisms which are in some ways 'anomalous' and are a consequence of the marginal and underdeveloped context as well as a building industry that is strongly dependent on the mafia system. What resulted was an attack of the most aggressive and brazen kind on the land (the "no man's land", in the almost literal sense of the term): land to be consumed and violated.

The indifference shown towards land regulations in the past, as with the overlapping of private goals and interests with the policies of the local government, contributed to producing a growth in urbanisation which was due only in part to satisfying the need for housing. This growth may instead be interpreted as a privileged opportunity for the production and distribution of income. In the absence of significant productive activities and adequate development, together with the presence of a predominantly assisted economy (Marcelloni, 1978; Guarrasi, 1994) the tertiary residential character of many towns and cities has given rise to urbanisation that is very little, if at all, regulated by planning instruments and actions. In rural areas growth in housing is less and less proportional to agricultural production - on the contrary it is dependent on a reduction in agricultural activity and the relative availability of non-cultivated, and thus available, land (Cinà, 1997). The legal and illegal building on countless areas of high naturalistic-landscape value, together with the density of residential housing has not only compromised the environment, but has staked a heavy claim on its future.

The aggression of the landscape and the violent changes to its structure are of a relatively recent history and emerge from the alarm signals from the interference in the ecological system, from the frequent occurrence of so-called "natural disasters" to the progressive decay of the environment and the land system. Illegal construction in the Valley of the Temples of Agrigento, which has transformed one of the most significant examples of historical and natural

landscapes into a symbol of the most extreme planning disorder, represents the borderline-case of this phenomenon.

3. Local decay and global development: possible alternative futures?

Developments and transformations in places and local settlements cannot be understood in isolation from fundamental changes in the larger organization of advanced economies. The last 20 years have seen pronounced changes in the geography, composition, and institutional framework of economic globalization. One of the important changes over the last 20 years has been the increase in the mobility of capital at both the national and especially the transnational level. The transnational mobility of capital brings about specific forms of articulations among different geographic areas and transformations in the role played by these areas in the world economy (Sassen, 1994).

Numerous observers have agreed that a common feature of the processes present in Europe is a strong trend towards globalization. Globalization concerns above all economics and finance, but also affects other aspects. As Dahrendorf observed, all local economies are nowadays intertwined in a competitive global market whose cruel games involve all economic processes everywhere; to renounce playing these games is impossible in practice, and the effects of globalisation are present in every field of social life (Dahrendorf, 1995). In reference to this, Sicily does not represent an exception.

At the origin of these globalization trends are several causes, and some of them are not entirely evident. More evident instead, are the territorial implications of these dynamics, as they give rise to new spatial relationships and forms of aggregation. The reorganization of global space that has been set in motion over the recent past by processes of international economic change has had (and will have more and more in the recent future) some important consequences for urban settlements and local communities. Within this context, which is less conditioned than in the past by local administrative differences and also considerably influenced by the great competitiveness of economic activities, planning implications are relevant, and in terms which are undoubtedly innovative.

The traditional national urban networks are changing: inter-regional or international networks of cities erase old barriers, redefine hierarchies on a continental scale, develop

stronger competition than in the past, and give origin to 'new geographies'. So, systems or sub-systems of cities are generated, assuming the characteristics of a network and crossing national boundaries (Brunet, 1989; Dematteis, 1990; Camagni, 1990). Most cities and places, however, are not part of these new transnational urban and regional systems. So 'new inequalities' among cities and places emerge (Sassen, 1994). Cities at the periphery will feel the widening gap with the newly defined and positioned geography of centrality. As a consequence of these processes, the identity of places is changing profoundly (Sassen, 1994; Castells, 1989; Roncayolo, 1989).

In Sicily, the current reality shows that while theories of agricultural and industrial development were the predominant object of local and national government attentions and were put into practice, they did not have the effect of enriching the overall resources of the region. Traditional Sicilian agriculture, citrus fruit production, is not competitive. Vineyards extend over vast areas along the coasts and on the hills that were previously used for cereal crops. Cultivation under glass is found in a limited form in the area around Ragusa. However, much of this is random and departs from the original image.

The towns and cities (in 1991, 104 out of the 390 Sicilian councils reported populations of more than 10,000 inhabitants), all of a historically identifiable form and image, have been blighted by the lack of any kind of policy that acknowledges any kind of role. They are ruined in their historical body. They are ruined in their extensive duplications and enlargements that are senseless and have been undertaken mostly illegally (but also 'legally', according to inadequate and unsustainable plans). They are substantially equipped with a civic infrastructure which is as inefficient as it is lacking, offering only inadequate and insufficient services.

The agricultural territory is today largely unproductive and, in any case, 'uncompetitive'. The industrial apparatus is almost all of a petrochemical nature and is either in disuse or in the process of being closed down. None of these images has been fit to constitute a 'future'.

Is it thus possible to construct another image of Sicily that can lead us back to an idea that is settled, evolutive, distinct, autonomous, capable of inverting the tendency to passivity - passive to decay, and to create interactions that are active, additional in the overall national, continental, global system?

This is precisely the theme that we need to confront. Which of the many images or possible futures have been ignored, on which we should instead be reflecting?

4. The identity of places: a form of resistance?

The interpretation of the transformational phenomena of the Sicilian land confirms what has been maintained by many for some time now: the pathology of local contexts cannot be traced back to a fault of modern times. If it is true that "it is necessary to reverse the point of view and start to think that in southern Italy modernity is not extraneous to the pathologies of which many think it is the cure" (Cassano, 1996, p. 3), as a consequence we need to create non-conventional developmental models. The innovative potential of the landscape resource suggests the necessity to abandon interpretational models of obsolete realities (Scandurra, 1997, pp. 109-131; Rossi-Doria, 1998), 'betting all' on "the possibility of reversing the relationship: not thinking of the south in a modern light but thinking of modernity in a southern light" (Cassano, 1996, p. 3). It is not a question of a claim, as aprioristic as it is proud, to 'diversity' (real or presumed) so much as a note taken (Urbani, 1996).

In all this, the 'resistance' of places to change (and of 'some' places in particular), their inertia, the imposition (or the simple establishment) of overly-long bureaucratic procedures can reveal itself to be not a simple rhetorical device but a true operative plan, a resource of no small worth, an element of wealth. Despite the violence that has been perpetrated on the landscape and on the land for over half a century, it is nevertheless necessary to point out how the particular specificities of local contexts have resisted to the globalizing processes of alteration of the landscape and destruction of the natural and human heritage.

Recently we had occasion to investigate the nature, characteristics and potentialities of the identity of places, paying greater attention to the urban dimension of this issue (Lo Piccolo 1995). Even if the theme may appear almost of a literary nature², it has, on the contrary, an important relationship with the transformation

² No doubt the literary and aesthetic dimension has an important role, as we can refer to many literary examples describing and analyzing the identity of towns; some even say that this theme has a great value from a literary point of view, and a small one from a scientific level.

processes interesting towns and regions³. The discovering of significant roles to 'give order' to places needs the individuation and attribution of a new, exact recognizability.

As already observed for urban quality (Indovina, 1992), it is easier to verify the lack of identity, than define it, specify its characters or find its elements and factors. The effort made has been to go beyond this 'negative' admission (the admission of the lack of identity), and to turn the question into a 'positive', avoiding generic and well-known statements, and try to understand the problem in detail. Wishing to go beyond a purely 'evocative' dimension and reach an 'operative' one, the first difficulty is in the meaning to be given to the word "identity". The word can refer to the physical, tangible and perceivable (that is, the historical, consolidated identity, together with the morphology of sites), or can be enlarged also to include the non-physical sides that are strongly interrelated with the life of places and their inhabitants (because there is some doubt as to whether the identity of places can ignore the relationship between these places and specific local communities). The theme of identity can therefore be the object of a double interpretation:

1) in the first, the identity of places corresponds to the identity of their physical form;

2) in the second, the identity is the extremely evident relationship between the economic, social, productive, cultural role that a place has 'chosen' within the territorial processes and its morphological structure.

If the identity of places is the complex and evolutive result of a lot of interacting elements, then the pure keeping of its physical components can certainly not be interpreted as a way of developing identity, even only according to the historical and cultural aspects. So preserving and recovering appear insufficient if separated from innovation (Gabrielli, 1990; Clementi et al., 1996). With regard to this, we pointed out an important phenomenon, that is, the rapidity of changes (and therefore the times of their

lasting and inertia). If it is true that identity changes in times, to have it we need changes that are not too frequent or quick. The risk of its loss is in fact due to the sudden acceleration given to the transformation times in the last fifty years. This is a topic which deserves to be discussed in greater depth in the disciplinary debate, which has turned more attention to the changing phenomena and less to the persisting ones.

Nowadays – in Sicily as in many other places in the world - there is a great risk of loss (or however of great variation) of local identity⁴. This loss is a *consequence* of a substantial homologation of places and sites, due to a great acceleration of the transformation processes. In this century, on one hand the change in the production system and on the other hand the great diffusion of models unrelated to the specific physical/environmental context, applicable anyway and everywhere, have certainly contributed to the levelling of languages, materials and forms. Moreover, planning is a discipline which has really aimed at homologation in many circumstances.

As we think that the theme of local identity can have an exact correspondence to the real transformation processes, it is interesting to study in greater depth the operative aspect of the problem. The question is whether it is truly possible to act on this essential side of places through planning, and how, looking for new ways to restore local identity.

If we consider planning in a very broad way, we recognize it as a complex action which is not only intervention to places, but also understanding, reading and interpreting them. So planning action is able to improve the degree of consciousness of all those who are involved in territorial management and transformation processes. In this meaning the contribution given by planning analyses is 'just' to become an instrument of knowledge: first of all the efficacy of planning involves its capacity to 'reveal' the hidden or manifest elements of the identity of places, thanks to its 'reading' and interpreting capacities. The achievement of the aim of keeping/increasing local identity necessarily depends on the acquisition of a rich store of knowledge of the urban and environmental transformation processes, and in consequence of historical processes. There is nevertheless the big

³ On the contrary to what it may seem at first sight, unauthorized building or 'squatting' (a typical phenomenon of southern Italy) and the waste of land are two concrete, real damages strongly connected to the theme of identity, or better to its loss. It is difficult to imagine giving back an identity to places without considering these problems. On the other hand an effective plan, able to control unauthorized building and the waste of land, giving back quality and dignity to places, must have, as its chief objective, to provide a new, strong identity.

⁴ See Gabrielli, B. (1990) *La nuova Carta di Gubbio e le sue finalità nel quadro europeo*, Atti del Convegno ANCSA - *Un contributo italiano alla riqualificazione della città esistente*, Gubbio 1990.

problem of how to translate this knowledge into practice.

This paper aims to assess the hypothesis that considers local and regional identity as a resource (economic property), within a renewed ecological development paradigm, interested in specificities and differences.

More and more often models of standardized development, foreign to local times and contexts or only aiming at the utilization and consumption of unreproducible resources, are not recognized as valuable and true. So, all that contributes to strengthen the identity of places (particularly 'unconsumable' goods, that is the cultural, historical, artistic and environmental heritage) can give an important contribution to the national and international competition among places. This competition must appeal to the local identification elements, which give the possibility to use local values and resources on a global chessboard. So, local and regional identity has to be considered as a resource (economic property), inside a renewed ecological development paradigm, interested to specificities and differences. Individuation and management of ecological networks contribute to enhance and preserve local identities as "main resources".

5. Ecological networks: a contribution to the enhancement of local identities

One of the first objectives is thus to understand how natural areas can be organised and managed following a conservation strategy based on models of "widespread environmental protection" and not the "crystallisation of areas" method and which proposes a compatible use of the areas, integrating them as much as possible with the surrounding environment, avoiding the creation of impassable barriers and moving from a traditional conservative-naturalistic strategy to a new eco-sustainable one.

The initial problem is to overcome the current fragmented state of these natural areas which, isolated from the rest of the territory, do not undergo the biological exchange of animals and plants necessary for the survival of these organisms. Methods need to be identified for connecting these areas to form one large system, using knowledge of the life cycles of these organisms to construct, or protect, ideal conditions, to improve local identity and to promote models of self-sustainable development.

One method for activating conservation in line with these principles is without doubt that of

forming "ecological networks", an interesting definition of which has been given by the UE: "a connective system composed of ecological corridors of varying size and character according to the scale in question and the specific ecological interactions to safeguard."⁵ M. Guccione maintains that "from a strictly ecological-landscape point of view only a recent conceptual proposal of integrated management of the physical space, by protecting the interconnections between habitats, permits movement of the genetic heritage of living organisms from one area to another. This is indispensable for the conservation of biodiversity and for sustainability, if we consider that one of the greatest problems of current land use is fragmentation."⁶

The study and design of such a network should involve the selection of a number of specific components, as follows:

1. core areas - areas with high values of 'naturalness'. The delimiting of a core area must conform to strict selection criteria which, at the EU level, have been set out with regard to every prevalent environmental condition, the presence of endemic or threatened species, the level of biodiversity and the role of the habitat for the species concerned.
2. buffer zones - with the aim of protecting the core areas from negative external influence. Strictly connected to the core areas, their definition requires a careful examination of the potential threats to the particular character of the area concerned.⁷

⁵ With regard to this network, defined "ecological network", in the 1990s a European ecological network was proposed under the auspices of IUCN, with the aim of co-ordinating biological diversity and providing greater protection for nature.

⁶ Matteo Guccione, landscape academic, works at ANPA (National Agency for Environmental Protection), public department of the environment – biotic component sector, where he is involved in research applied to ecological networks, co-ordinating study groups and organising workshops at the national level.

⁷ In the case of parks and protected natural areas these buffer zones may be assimilated into "areas of protection", which the relevant laws of the various European countries institute to "encircle the core and general reserve areas". In the case of Italy, for example, law 394 of 6 December 1991, regarding protected areas, article 12, paragraph 2, clause c lists the areas for protection. It is also interesting to note that the same law contains the definition and normative for the areas contiguous to the protected areas listed in article 32.

3. ecological corridors and stepping stones - to be created or recognised in all of the territory concerned and not only in the protected areas. In some instances a case-by-case study is required, with the aim of determining ecological interrelationships for what concern dispersal and migration.⁸ An initial definition is that offered by R. Jongman, who has written that ecological corridors are structures of the landscape of different shapes and sizes with an irregular or straight course which represent connections for the biological permeability of the landscape and which maintain or re-establish its natural "connectedness". For the most part these are multifunctional landscape structures. Today in many European countries many ecological corridors are the result of human interventions in the natural environment: hedges, dry stone walls, mosaic landscapes, with woods, canals and controlled bodies of water. Their spatial structure and density in the territory vary with the type of land use. Their connecting capacity is extremely variable and depends on their structure, composition, disposition in the space-landscape and their management. In a system of islands of naturalness, ecological corridors play a complementary role in the need for interconnections between habitats, which however varies according to their typology. Consequently, the approach of planning and landscape management to ecological corridors will vary depending on land use.⁹

4. nature restoration areas - for the creation of new habitats and the expansion of existing core areas, with the aim of improving the network. These are almost always represented by areas that cannot at present be considered true core areas due to the negative conditions of the habitats present. These have become markedly damaged by

⁸ The idea of ecological corridors is not exclusively tied to recent "environmental issues". A previous reference is that of the "Greenways" system in the United States, brainchild of P. Lewis. Already in the 1980's this system was developed to define the appearance of the natural and human landscape assuming, depending on the case in question, the function of connecting extensive protected areas, but also with a recreational, tourism or show function.

⁹ Robert Jongman, of WAU, Department of Environmental Sciences Land Use Group in the Netherlands has conducted in-depth studies on ecological networks and has had the opportunity to test these principles, at least in a theoretical application, in the Nature Policy Plan. Cfr. Anpa, "Workshop on ecological networks," Sintesi dei lavori, p. 8.

intense interference but possess the potential to become part of the ecological network.

The construction of an ecological network is thus seen to be a fairly complex operation, given that the components to be considered are strictly linked to the age-old problem of the relationship between man and the land, until now perhaps seen too much as a limiting relationship and not, as the use of this tool suggests, as a relationship to be safeguarded. The ecological network, when conceived, studied and then applied, may represent a tool capable of opposing the phenomenon of genetic erosion through the containment of habitat fragmentation. It may represent the ideal way to reconcile human needs and the conservation of biodiversity for the sustainable management of land.

"Constructing" an ecological network today, however, means neither starting from scratch nor detailing a completely new general working methodology. Almost all the components which play a role in this operation are already in existence. Discussion of areas or localised points should not mislead us into thinking that the protected areas that have been instituted or are soon to be instituted should be considered the principle components of the network. Some means of protection already exist for localised points, it is the more delicate linear components that lack any form of protection. However, it is precisely these linear components that allow us to talk about ecological networks and to create a system of protection of the land capable of guaranteeing the migration and dispersal necessary for the survival of species.

The creation of an ecological network must tend towards one main objective – that of safeguarding the most important habitats and ensuring that the relationships between these are maintained or increased where necessary. Such a "complex operation" may initially be summarised in four points: 1.) the selection of key areas to be safeguarded 2.) the development of a protectionist policy for the areas with regard to the influences that are external to these areas and thus negative. 3.) the determination of ecological relationships between the sites and the identification or creation of corridors for dispersal and migration 4.) the growth and management of the network.

As V. Giacomini, botanist, noted in one of his most recent writings, "what is coming to light now is the need for a new philosophy of conservation which does not limit itself to defensive and passive positions with regard to natural resources but is involved in all aspects

of the environment, with the intention of ordering, constructing and reconstructing, and above all planning and managing, without distinction, all the environmental assets in the frameworks of a complete equilibrium, directly involving individuals in active participation" (Giacomini, 1992).

Natural or semi-natural areas should be the principle object of conservation. To these should be added those areas that are found within urban contexts which, as part of a global vision of the land, can play a key role in the "health of the environment".

5. The system of protected areas in the Province of Palermo

In Sicily some experiences to build an ecological network were carried out, with the aim of implementing "Regional ecological infrastructures" (Gambino, 1997). In the official document "Guidelines for the Regional Landscape Plan of Sicily" ecological networks are considered the main strategy for the self-sustainable development of the island and for the preservation and enhancement of the Sicilian environmental heritage. To reach this goal, the individuation, "construction" and management of the ecological network implies the adoption of sectorial policies for the preservation/safeguard of its components: "blueways" (river and water systems), coast lines, woods and green areas, natural reserves, parks, historical agricultural landscape (Regione Siciliana, 1996).

Within this framework, researchers of the Department "Città e Territorio" of the University of Palermo carried out studies on the system of the protected areas in the Province of Palermo. The experience of the institution of some natural reserves in Western Sicily offers an interesting example of preservation and use of environmental resources, highlighting the natural and cultural complexity of places that host almost two-thirds of the biological heritage of the region and the most interesting geo-morphological and environmental systems of the Mediterranean basin.

The Province of Palermo manifests complex ecological characteristics which determine a great variety of environments. These offer innumerable habitats which give life and shelter to singular forms of plant and animal life. A physical and biotic nature that is both ancient and generous is hidden in some areas from the superficial observer while in others it rises to true grandiosity. In their spatial discontinuity these more or less extensive

areas document the natural history of a representative part of Sicily.

If we exclude the Madonie Mountains – the most extensive area of naturalist interest in the Province, instituted as a Natural Park in 1989 – a myriad of other areas have been identified as worthy of protection and have been placed under the constraints of a natural reserve. Twenty in all, they document the best of a natural environment that has survived the process of anthropization, a process which, in some cases, has had the effect of enhancing the value of features up to the point where they acquire the status of cultural-environmental assets. These areas have been placed under protection and certainly deserve to be made accessible so that in cultural and scientific terms they can undergo a rational exploitation.

This heritage is destined to increase the interest in environmental issues and in the natural beauty of the island. It must be protected not only for the sake of new and future generations, which show an increasing need to refer to environmental values in the search for psycho-physical balance, to recognise themselves as both an essential part of, as well as responsible for, the natural system, but also because it will contribute to stimulating compatible forms of environmental resource use.

The system of protected areas of the Province of Palermo – defined according to current regional legislation and, with particular regard to natural reserves, in the 1991 Regional Plan of the Regional Ministry of the Environment - is composed of a natural park, the Madonie, and reserves, some of which are aimed specifically at safeguarding small areas of geo-morphological and palaeontological interest. Until a few years ago these areas were submitted to a misuse which most certainly had the effect of compromising their characteristics and their value. Here we refer to the system of caves, in some cases inhabited in antiquity, which document the first human settlements of the area and hold historic and naturalistic interest. These should be considered true archaeological sites which today we can get to know and enjoy as part of a cultural, environmentally friendly tourism. In other cases we are speaking of areas of medium or large extension principally composed of forest or areas in association with other environments which together form complex systems.

6. Case Study: the Cave of Carburangeli

The integrated system of protected areas, natural reserves and ecological networks of the Province of Palermo has been slower to take off and to be fully implemented. Up to now, we can only register few “happy” cases of ecological and sustainable management of some components of the eco-net in the Province of Palermo. These few cases can be considered as starting points for a broader policy aiming at the construction of new alternative images and possible futures.

The case of the Cave of Carburangeli is one of these. Generated by the erosive action of drainage water and sea water the Grotta di Carburangeli is one of the best examples of karst present in Sicily.

The entrance to the cave is immersed in the kind of vegetation that typically takes over abandoned cultivations. The remains of a traditional canopy vineyard (“vigneto ad alberello”) leave no doubt as to the agricultural use of the land in the not-so-distant past. Also present is a dense group of ancient prickly pear bushes and almond and mulberry trees which partially obscure the entrance from view.

An ancient stone pine is the only ornamental tree to be found along the short path leading to the cave. All the other plants form a herbaceous vegetation that is resistant to the strong sun and typical of arid zones, with many of the plants completing their life cycle from germination to the maturation of new seeds in less than a year. Also present are numerous polychrome and perennial herbaceous plants, such as Nice mallow, wood sorrel and red birdweed.

The cavity, which escaped just in time from the aggressions of a local building boom, opens out at a height of 22 m onto a large marine platform and continues for about 400 m just below the ground. The cave can be reached through three easily located entrances at a short distance from each other, the largest of which is at the easternmost end. Inside the cave one can admire an exceptional multitude of micro- and macroformations that are typical of cave environments at these latitudes. Stalactites, stalagmites and pillars of the most bizarre forms are just some of the sights that make a walk inside the cave an atmospheric and fairy tale experience.

From the first, fairly vast room characterised by a vault and walls made smooth by the action of water, we proceed through mostly horizontal passages interspersed with small lakes, to reach the innermost parts.

Although the initial part of the caves has lost some of its original quality due to the efforts of

explorer-vandals, the innermost parts of the cave still bear exceptional and rare testimony to the patient construction work of water over the millennia.

The palaeontological findings from the Grotta di Carburangeli are kept by the Gemellaro Museum of Geology in Palermo, while other testimony to human presence are occasionally discovered in the reserve (terracotta objects from the Bronze Age etc.) or inside the cave, where on the left wall of the first room, the figure of a witch doctor is drawn in black charcoal.

As regards the fauna of this cave environment, the presence of *Vespertilio maggiore* is to be noted, a large bat with short thick fur of a light brown colour on its back and a wing span of around 40 cm, which forms notable colonies during the summer period.

To the “parks issue” discussed above, there has for some time now been added another issue - that of “local development”. Among the grounds for this reorientation of the scientific and political debate we cannot omit the theme of territorially defined socio-economic development.

The formation of a protected area, above all from the initial phases of the announcement and planning with reference both to the typology of parks and reserves, has almost always generated explicit, if not total, opposition. The development of local systems that accentuate “economic-socio-cultural improvement” can be put forward as a dynamic response to anti-conservationist dissent.

To achieve a more modern development of the protected area of the Grotta di Carburangeli from the viewpoint of “economic-socio-cultural improvement”, the approach of the protection policy needs to be changed. The insertion of the concept of the “system of protected areas”, not only as a straightforward listing of the areas concerned but as a real system of connections interwoven between themselves and with all the anthropic and natural components, would serve as the basis of this new philosophy.

To this end, the system of ecological networks is invaluable, applied following the principles previously described. In the case of the Grotta di Carburangeli, the cave would be identified as one of the nodes of the local network. Clearly this local network should be related to the more extensive regional network, already provided for in the regional landscape planning instrument.

As already detailed, the cave is located in a hilly area of the plain of Carini. Anthropoc

interference has had a serious impact on this landscape, greatly compromising its original appearance and breaking up the function of "intermediary" that it had in connecting the mountains and the sea. Today, this connecting function could be passed to the remaining green areas and the, now rare, "green corridors" which, in ecologically-oriented planning, could constitute the basis for the ecological infrastructure of this area. Moreover, the presence of a motorway impedes the connections with the coastal strip to a great extent, isolating a number of habitats and destining them to a potential "environmental death". Creating a system that provides for a linking up, through ecological corridors, of the Grotta di Carburangeli reserve with other natural areas, protected or otherwise, would serve to work towards a "local development" of the area.

Among the many factors to do with local development that must be taken into consideration, the primary role must go to acknowledging the local identity. One of the reasons why local people often do not accept the institution of a protected area is the lack of recognition of their identity in the grounds for, and successive management of, the area concerned. The task of the managing body is thus to involve the community and ensure that such involvement has a positive result for the relations between institutions and the local community and in the development of the reserve itself.

The managing body of the Grotta di Carburangeli, the Lega Ambiente (League for the Environment), from the start of the project has made efforts to involve the local community as much as possible in both the running of the reserve and in its activities. Taking into consideration the young age of the reserve, it cannot yet be said that such dealings have enjoyed complete success. Nevertheless a number of activities that have been carried out, such as demonstrations aimed at raising awareness and promoting the active running of the site, also for tourists, have yielded satisfying results¹⁰.

The experience of the natural reserve of the Cave of Carburangeli highlights the achievement of a mediation/equilibrium amongst environmental claims, participation and local community needs. On a larger scale, the experience of natural reserves and

ecological networks assumes a strategic role in the process of regional planning: the development of a wide system of natural areas and ecological corridors is necessary for effective self-sustainable development policies.

¹⁰ It should be stressed that the most positive responses have been obtained from local schools, while the desired relationship with individual citizens, who perceive these policies as "ecocentric" and offering no real opportunity for development, has been slower to take off.

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