MEDITERRANEAN LANDSCAPES

CONTRIBUTION TO A BETTER MANAGEMENT

A report commissioned by

Priority Actions Programme

Contents

Preface

During the last decades much has been written and published about *Mediterranean environments. However, the attention has mainly been focused on marine environments and coastal issues in connection with the explosive development of tourism. Also, a large amount of ecological research dealing with terrestrial vegetation and fauna has been produced. On the other hand, landscape as a cultural system was laid aside although it is precisely in this area that Europe is irreversibly loosing a substanital part of its unique historical heritage.*

The main objective of this paper is to point out to this cognitive shortcoming and emphasize the need to take some action towards a more efficient landscape management in general and, specifically, the safeguarding of at least some part of this unique ancient inheritance. Following such an orientation, this contribution is prepared in a planning rather than in a scientific diction.

Following the job description in the contract, the paper is dealing with several more relevant topics concerning the current state and development trends in Mediterranean landscapes. On the one hand this refers to a progressing deterioration of cultural landscapes which, in environmental treatments, is a too often neglected aspect. These processes, mainly the abandonment of agriculture and insufficiently controlled urbanisation, are articulated more in detail and examplified by photographs. Some are also illustrated by simulations which at the same time show possible alternatives for future development.

With regard to the above statements, we are not dealing here with specially protected areas (according to the denomination in the Barcelona and other conventions), particularly not with national parks and similar reserves because they already enjoy legal protection. Our main concern are other landscapes that could potentially be subject to any kind of active (construction, terrains for various sports, agricultural intensification et simil.) or passive transformation (abandonment of use, forest expansion). Point of departure for such orientation is in the fact that among the traditional rural landscapes there are many that display cultural features of a high but so far overlooked value.

However, the main objective of this paper is, to propose measures for a more efficient landscape management. The statements and suggestions are supported by photographs. In order to better argument the statements also some simulations are presented. Among numerous human activities that affect landscape the most, two were selected for a more detailed treatment due to their far- reaching impacts. These are agriculture and tourism, which generate

impacts that are not only most perceptible in the environment but also occupy large areas.
The report will in its concluding part suggest actions at several levels:
1.
A more efficient treatment of ordinary landscapes in land management, particularly by the provision of adequate procedures in landscape planning and design;
2.
Identification of oustanding cultural landscapes and adoption of measures that will guarantee their survival through a proper management, especially through cultivation and subsidizing;
3.
Formulation of models and approaches to be applied when the design of agricultural systems and improvement of agricultural productivity is considered; the same will be attempted for tourism;
4.
Actions in the field of advancing awarenes in public and knowledge in relevant professional spheres whose activities can directly or indirectly impact landscape management. Properly deviced workshops and seminars can play a special role here. Further suggestions will be made for preparing various publications,

In principle, this paper is based on two points of departure. On the one hand, the recognitions here are derived from an analysis of the existing situation and ongoing processes in the Mediterranean basin. The other source were information drawn from various resources, such as documents that directly or indirectly refer to landscape issues. A considerable part of information was collected from written material published in various publications, periodicals or conference proceedings that have dealt with landscape issues in this area.

Finally, a part of statements was derived from the author's experience in environmental planning which also includes the Regional plan for North Adriatics ih the 1970's in which he has taken part as a consultant for landscape aspects.

The contract has established the size of this paper to 20-25 pages. Although this volume has been exceeded, it was not possible to elaborate the material more in detail. As a consequence, statements are given at a priniciple level and in a form of methodic outlines.

Introduction

It would probably not be exaggerated to say that hardly any other geographical-cultural area in the world boasts such a concentration of various and important civilisations as this can be observed in the Mediterranean basin. This diversity is manifested both in historical layers through rise and disappearance of many civilisations as well as in their regional distribution between Gibraltar and Dardaneles. In that respect the Mediterranean represents a unique structural composite of geographical, social, ethnic and, above all, cultural features. Cultural achievements in this region justify the denomination Craddle of Western Civilisation. Obviously, such a characterisation also refers to material culture, especially in the sphere of both, the settlements as well as the cultural landscape. Whereas the old towns and other urban or rural agglomerations are appreciated as a valuable historical heritage, that is not the case with traditional landscapes. With all due respect to many efforts that have been made during the last decades towards environmental protection, it must be admitted that the assessment were not ballanced. Unfortunately, in spite of the growing interest in the public, the landscape has been largely underestimated. That is an important reason for radical changes in attitude and taking new actions.

Definitions

Landscape can be understood in a number of ways, depending on the kind of cognition we are looking for. The exceptional diversity of landscape interpretations is evident from a number of definitions that refer to various physical properties on the one hand and socio-psychological connotations on the other. We shall quote some of the most typical among them in order to provide for a better understanding of landscape importance in various aspects of our civilisation.

Landscape ecologist Forman (1) from Harvard University has given a purely naturalistic interpretation of the landscape as *"...a network of a number of interactive ecosystems..."*. The German geographical schol articulates the geographical substance in three ontological areas as has been formulated by Schmitthüsen (2):

1. Abiotic area containing the phenomena of dead nature; this is controlled by strictly functioning causality;
2. Biotic area with living phenomena on the earth including man in primitive cultures; and
3. Spiritually determined area which is based on the will of culturally developed man

A more holistic approach is to be found in the anglosaxon school of geography. Herewith an antropogeographical understanding which is well exemplified by Relph: "*Landscape is not just an esthetic background to life, it is rather a framework, scenery that at the same time expresses, sets conditions..."(3.)*

(1) Forman, R., *Landscape Ecology*, p. 11. NY 1976
(2) Schmitthüsen, J., *Der Wissenschaftliche Landschaftsbegriff*.Mitt. Florist.-soziolog. Arbeitsgemeinschaft N.F. – 1963
(3) Relph, E., *Place and Placelessness*, p. 122. London 1976

Meinig has listed ten possible versions of how the landscapes coud be perceived (4). They encompas a wide range which testifies to the great multitude of meanings that can be associated with the idea of the landscape:

Landscape as Nature
Landscape as a Habitat
Landscape as an Artefact
Landscape as a System
Landscape as a Problem
Landscape as Wealth
Landscape as an Ideology
Landscape as History
Landscape as a Place
Landscape as the Aesthetic

The well-known American geographer J. B. Jackson, a leading expert in the matter of the lansdcape, has made quite a different statement: "*landscape is the part of earth's surface that can be captured with a single view" (5)* which is, actually is a reiteraton of the 300 years old English lexical definition. Such an understanding is liberal and leaves much space for interpretation, e.g. in various applications, especially in conceptual manipulations such as land management. Landscape could also be not only part of the earth' surface, phyisical scenery but also "...*a way of seeing the world*" *(*6).

Action is imanent to management, therefore, in our opinion it requires a definition of the *landscape as an integral spatial system with implied natural and cultural connotations*. At the same time it must be pointed out that the cultural landscape is a dynamic system which comes to expression through two different processes:

- a natural dynamics of growth and change in all landscape constituents as well in biotic as in inorganic ones; and
- a dynamics generated by social actions and imposed on the landscape in various ways, generally by construction or cultivation.

The second paragraph of the above statement points out a feature that is essential for landscape management. In fact, it implies that the definition of the landscape is vitally connected with the objective of the action which we are going to take. In other words, the understanding of landscape is basically determined by a problem we are dealing with. Along this line it would be appropriate to see landscape as any part of the territory/land that is not covered with urban use and is predominantly determined by natural systems, no matter whether they are cultivated or in a primary natural condition. This concept seems arbitrary, yet it is an inevitable approach in decision-making procedures because here the caption area can only be properly defined according to the nature of the problem under treatment.

(4) Meinig, D. W., *The Beholding Eye. Ten Versions of the Same Scene.* 33-48. In: The Interpreetation of Ordinary Lanscapes. Oxford 1979
(5) Jackson, J.B., *Discovering the Vernacular Landscapes.* New Haven 1984
(6) D. Cosgrove, *Social formation and Symbolic Landscape,s.* 13, London 1998

Landscape management
is a complex set of actions and measures aiming at optimising the landscape structure. These actions differ largely as well in their character as in the chronological sequence according to which they appear in the course of the management processes which operate at three levels. These range from land-use decision-making to concrete design and finally to execution or maintenance and land cultivation:

- *Planning*
- *Design*
- *Implementation, Maintenance, Cultivation*

Considering this deduction from management practices in reality, the concept of land management as described in the European Landscape Convention is incomplete. This topic will be discussed in greater detail in the separate chapter.

Relevant conventions
Within this context it is interesting to see how the relevant international documents treat the landscape. As far as the definition is concerned, only two of them have made a serious attempt in this direction. Both of them provide a descriptive contribution - the Seville and the European convention. In continuation they will be mentioned and commented together with other documents.
The *Rio Convention 1972.* Although conceived ambitiously and with great expectations it did not offer anything specific about the landscape other than the Principle 4 which could indirectly be useful for better landscape management. It said:
In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it. With an appropriate interpretation this principle could contribute towards a more balanced development which would certainly yeald better landscape husbandry. In later development this turned out to be by far too general to affect land-use decisions.

The Mediterranean Landscape Charter (Sevilla Charter) goes back to the year 1993, and, surprisingly enough, it covers the specific issues of the Mediterranean landscape more in detail than any other document, except partly the recent European Landscape Convention. Most impressive about it is a detailed articulation of the situation of Mediterranean landscapes and also a large range of suggested measures for the landscape enhancement. It makes a very good point in making a general yet important statement, saying that "... *the landscape is a basic factor in matters relating to the environment, national and regional/spatial planning and the protection or management of the cultural or natural heritage...".* It also offered a comprehensive definition of the landscape *as "...the tangible expression of the spatial and temporal relationship between individuals and societies and their physical environment, shaped to varying degrees by social, economic and cultural factors. The landscape is, therefore, the result of a combination of natural, cultural, historic, functional and visual element's...".*

Barcelona Convention. As far as the sea environment is concerned, the Barcelona Convention leaves nothing to be desired. In that respect it is indeed a timely and well needed document, indeed. The early versions (1976 and the one revised in 1995) state that *"...Contractng parties shall commit themselves to the integrated management of coastal zones, taking into account the protection of areas of ecological and landscape interest*... (Article 4)". Orginally, it was lacking a more substantial reference to landscape. Protocol with pertaining annexes from 1999, however, has brought more coverage with formulation "...*specially protected areas and biological diversity in the Mediterranean...*". The annexes to the new Protocol include a list of common criteria which the Parties must respect when choosing which coastal areas are to be protected under the system of specially protected areas of Mediterranean importance. The annexes also list threatened or endangered species and include a list of species whose exploitation is regulated.

That was not a broad enough answer for such a complex phenomenon as the landscape is. Therefore, the Contracting Parties to the Barcelona Convention have made a step further and at their Ordinary Meeting in Catania in 2003 adopted the recommendaton to *"...undertake thematic studies with a view to developing relevant guidelines and action plans on the issue of coastal land and sea environment and the utilisation of its resources...*" which was meant to also imply landscape. This activity entitled "Landscape Management in the Mediterranean" is co-ordinated by the Priority Actions Programme (PAP/RAC), being one of the Regional Activity Centres of MAP. As the reality shows, the Parties did take some care about ecologically interesting areas, while the landscape was practically put aside. Also, there was not much attention paid to MAP Phase II Action Plan that has declared as one of the main objectives "...*to promote nature, and protect and enhance sites and landscapes of ecological or cultural values...".*

European Landscape Convention was the first international charter that has been conceived as an overall document with the general objective to ensure protection and better management of landscapes in Europe. In addition to that it covers almost all activity aspects needed for a sound landscape management. Under the Article 1, paragraph 38 the Convention proposed a comprehensive interpretation of the landscape: *"...Landscape is defined as a zone or area as perceived by local people or visitors, whose visual features and character are the result of the action of natural and/or cultural (i.e., human) factors. This definition reflects the idea that landscapes evolve through time, as a result of being acted upon by natural forces and human beings. It also underlines that a landscape forms a whole, whose natural and cultural components are taken together, not separately...".*

By signing the convention, European states' signatories have accepted an obligation to provide a set of measures for implementing this general objective. With regard to the objectives of this paper we find it appropriate to emphasize, the following points of the convention as most relevant:

- identification and legal protection of valuable landscapes,
- creation of land development policies capable of accommodating landscape into regional and urban planning.

The regulations of the Convention, if properly carried out, could bring a considerable shift in European landscape management practices, which is badly needed especially in the Mediterranean basin. Suggestions proposed in this paper are partly derived also from this Convention.

Landscape as value

Why is landscape justified to receive much more attention than it is given today? The general answer is because it, in contrast to urban entities, embodies allmost all important environmental features - water, soil, geomorphology, land-use patterns, vegetation cover, relationship to human settlements and, last but not least, it is an economic resource, especially to agriculture, forestry and tourism. A special mention must be made of the role of landscapes as bearers of identity which is manifest – most importantly - at the local or regional, and sometimes even at the national level. In addition, symbolic meanings are also often attributed to landscapes. Such a complexity of roles is too often overlooked, particularly the fact that the mentioned features appear simultaneously in the landscape as many layers of the same structure.

Like the earlier Conventions where until not long ago landscape was scarcely mentioned, also the international environmental projects have seldom dealt with it. The discrimination is clearly manifested in the fact that almost all historical urban agglomerations in the Mediterranean enjoy legal protection in one form or another but nothing comparable can be traced about cultural landscapes. Inter alia, this is well illustrated by the UNESCO's *World Heritage List* based on the *Convention on World cultural and natural herirtage* from 1972 which contains only outstanding natural phenomena and famous archaeological or historical designated landscapes. Although later on emphasis has been slightly shifted hardly any cultural landscape has been added. Such a situation clearly contradicts the ontological essence of the denomination "World cultural and natural heritage".

And yet, many cultural landscapes, especially those in the Mediteranean, date far back in history and even predate many of the sites that have qualified for the World Heritage. While dealing with the Mediterranean landscapes, two facts should be kept in mind:

- the cultural landscapes of this region possess not only unique values but also contribute the most outstanding identity to the European space; and
- at the same time, they are the most threatened landscape heritage of Europe.

Compared to settlements, be it cities or villages, landscapes also display much higher structural diversity and thus make substantial contribution to the experiential value of the entire environment. And, last but not at all least, it must not be forgotten that the Mediterranean cities have already largely lost their historical identity and that they are subject to further visual and structural deformation. In this perspective, landscapes have a greatest potential to maintain and even enhance the local and regional identities. In time, these will develop into environmental assets for both, local population as well as for the ever growing tourism.

Problems and objectives

Alongside the great richness and versatility of landscapes as well as of urban heritage, the Mediterranean today can be characterised by an abundance of land development and other environmental problems. Their origin can be explained only in the socio-economic sphere and the selection is listed in the following text.

Depopulation. For as long as more than one century this region has been notorious for its high rates of emigration. Rural areas have lost the majority and in places even their entire population, especially on some islands. People have either moved to towns, settled down in the coastal areas on *terra firma* or even went abroad. Unfortunately, this process did not stop while the comeback of the former inhabitants is an exceptional phenomenon. The devastating effects of this process are best visible in abandoned cultural landscapes and to the great extent also in partly or fully deserted settlements.

Landscape regression. The negative emigration processes had a devastating effect on both, settlements and cultural landscapes which, again, is most visible on the islands. Whereas settlements are gradually falling into ruins, the abandoned cultivation land is rapidly deteriorating: terraces are falling while fields and orchards are overgrown by wild vegetation. Very often on the abandoned land ilegal development, usually in the form of summer residencies, takes place. It is true, in the long term the natural potentials will be improved through succession. But on the other hand that implies an immediate loss of highly valuable cultural landscapes with a long history and unique structural patterns.

Insufficient public awareness. For several reasons the societal perception of these problems in the countries of the region is at a very low level. Just like elsewhere other environmental problems are in the focus of the public attention, such as air and water pollution, sewage problems, waste deposits etc. Without enlightenment in this field it will not be possible to achieve substantial progress in better landscape management. Therefore, speciall attempts will have to be made towards a higher valuation of cultural landscapes.

Objectives.

In order to be able to indicate a search for solutions of the emphasized problems, selected objectives will be elaborated later in the following chapters:

1. *To articulate the main problems of landscape deterioration in more detail;*
2. *To formulate suggestions for improvement of the current condition;*
3. *To propose structural models for development activities that will have the most bearing on the landscape;*
4. *To suggest methods for an efficient landscape management in all its forms;and*
5. *To point out some efficient awareness-raising activities and methods for promotion of knowledge about the landscape in general and public awareness in particular in the countries concerned and among the European public, too (workshops, seminars, short courses etc.).*

Cultural landscape – a brief typology

For a better insight into the problems of landscape regression it is necessary to outline the basic types of Mediterranean cultural landscapes and show the ongoing processes that generate their negative transformations. This is not a general and comprehensive typology. Instead, only the most relevant ones will be briefly presented and ilustrated by photographs. Under the same type, the deterioration examples will also be shown.

Agriculture – as a cultural system

This land-use system must be mentioned firstly due to its dominant role in the evolution of cultural landscapes in the Mediterranean. From the very beginnings on agriculture used to change in space and time depending on several factors which generally belong into two categories:

- natural circumstances; and
- socio-economic determinations.

In the Mediterranean, this was reflected in a specific way. Warm climate along with varying soil quality and relatively sufficient to scarce precipitations have enabled the growing of various crops, mainly those able to thrive in modest conditions. In some areas survival possibilities for people have been additionally improved by fishing as an additional source of food. Anyway, shortage of arable land has gradually led to overpopulation which has required extreme efforts to provide for living. The latter have materialised in two ways – on the one hand by introducing cultivation systems even on very steep slopes in the form of terraces. On the other hand, utmost hard efforts have been made to develop extensive grazing in rocky areas with scarce growth of grass and herbs for which mainly sheep and goats were the adequate domestic animals.

The second no less relevant detereminant was the primitive technology based on manual labour while market had until recently little impact. It is precisely this sphere that has brought about strongest impact on the physical structure of rural landscapes. A contemporary advanced technology, based on mechanised cultivation is responsible for revolutionary changes in rural agriculture and consequently for the rural world as a whole.

The cultural landscape types in the Mediterranean are grupped accordingly to the nature of cultivation. The latter was determined principally by availability of fertile soil and convenient topography according to which the landscape types have evolved.

Landscapes of crop fields

Two sub categories make this type: cropfields and cultivated sinkholes. Both are used for growing field crops and partly vegetables. Cropfields are situated in the valeys or on large karst fileds. Special phenomenon in this category are sinkholes. They vary in size and due to a deep layer of accumulated fertile soil they are especially convenient for growing more demanding crops, such as vegetables. This type (sinkoles exempted) is actually least endangered by abandonment. However, it is going to be under heavy pressure for modernisation by re-parcelling on a larger scale and thus be devalued in the sense of cultural landscape.

Gully landscapes

These are entirely man-made structures though they were initiated by erosion. In gullies and along their edges. Water currents would transport soil into lower positions where farmers captured it, usually in oval shaped walled structures. That is how such an unusual and typically downhill oriented sequence of plots came into being, which undoubtedly makes it a landscape of unique value.

Terraced landscapes

This is one of the most common landscape patterns in the Mediterranean and another demonstration of the fact how badly needed were the opportunities for food production. The land subdivision here is articulated by supporting dry walls assembled of stone. Terraces rendered cultivation possible, controlled erosion and at the same provided a better conservation of moisture. Naturally, they were adapted to manual labour and access on foot. The transportation was often possible only by carrying on man's shoulders or with smaller animals, like donkeys. This type of land arrangement was suitable for growing fruit trees (fig, almond, peach, apricot, olive trees, grape vine) and underneath the vegetables and similar produce.

Most precious agricultural land is to be found in flat plains or on large Carst fields. These areas were carefully subdivided and fully used as crop fields /Top, left and right/

Under extremely hard living conditions also sinkholes were made cultivated plots even at a great distance from the village /Bottom, left and right/

The gully landscapes display probably the most demanding way of preparing land for cultivation /Top, left/

Olive trees are grown in various systems depending on local circumstances. They can make large plantations in flat areas or are situated on rocky slopes /Bottom, left and right/.

Terracing was the only technique for creating cultivation land on sloping terrains often with impressive arrangements /Top, right/

As a rule, vineyards occupy sloping, often rocky sites, preferably exposed to sun. In combination with woodlands and rocky backgrund they make landscapes of high structural complexity /Center row)

Grassland landscapes

Rocky terrains with scarcely any soil where growth and regeneration after grazing is very slow were mainly used as pastures. These cover vast territories and in some regions present the main landscape category. As an ancient form of agriculture sheep farming survives until these day. It is still a relatively vital branch in many areas, especially on the islands. Being an extensive kind of land-use, it requires large plots which are often demarkated by several hundred meters or even longer stone walls. They contribute a very characteristic mark to wide tracts of the land. On this barren land only sparce trees are allowed, usually oak species (typically holm oak, *Quercus ilex*, on dehezas in Spain), and serve as shelter to animals during the sumer heat.

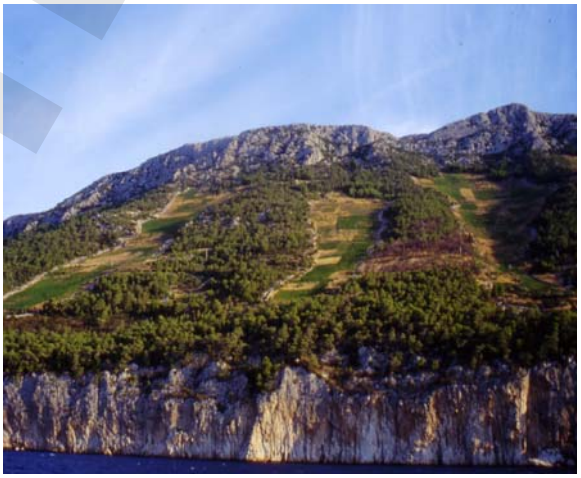
Another conspicuous feature on these grazing lands were developed, also as livestock shelter, called tori, tor. Their function is often, besides providing shelter from winds and wild predators, storage and accomodation for sheperds.

Wide expanses of land are kept barren by constant grazing. When grazing is abandoned, the second succession will take over /Top left and right/
Structures for shelter of animals, tori, *are another typical feature of Mediterranean pastures /Bottom left/*

Long stone walls as boundaries make a strong imprint on the landscape's image /Bottom right/

Once this region was almost entirely covered with dense forest, During millenia, however, they have been logged for construction or firewood and the region was transformed into cultivated lands or rocky terrains. Also, a large-scale devastation has been carried out in order to provide grazing lands. Large pastures were maintained by controlling forest vegetation. Since the rural areas are constantly depopulated, any kind of agricultural activity is vanishing and native vegetation is taking over. Broadleaved evergrens and conifers (*Quercus ilex, Q. coccifera, Arbutus unedo, Cupressus sempervirens, Juniperus spp.)* will be more and more apparent in the image of the Mediterranean lanscapes. Mention should also be made of the Aleppo pine (*Pinus halepensis)* which today dominates in large areas along the Mediterranean coasts.

Forests play an important visual role in two ways: as large dark plots projected against pale rocky surroundings or when mixed with cultivated land they are bringing more visual complexity into landscape structure. Unfortunately, the succession is very slow. Even, once there is no more logging and grazing, it will require long periods of time before forests recover.



Aleppo pine can form dense forest stands of high recreational value, especially when they are situated along the coast /Top, left/

A network of vineyards and forest patches makes an interesting linear landscape pattern /Top, right /

Bottom row: two views of the same scene photographed 30 years apart, the one on the left in 1972. It is impressive to note little difference in plant cover - so slow is the succession.

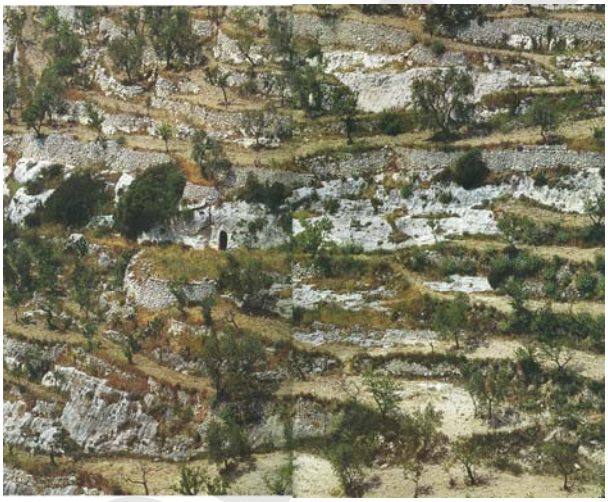
Landscape in the process of deterioration

The concept of deterioration implies a deviation from an acceptable or desirable condition. With regard to landscape this statement is generally interpreted in two ways:

- as a decreasing of natural potentials, usually manifest in a reduction of a number of organisms or disappearance of species, denatured water systems, loss of fertile soil, change of topography and alike, to put it generally and reffering to both, cultural as well as natural landscapes; and
- as a loss of cultural features (in cultural landscapes), for instance a valuable structural pattern or traditional subdivision, physioplastic qualities, excessive field uniformisation etc.

For the latter a contemporary advanced technology, based on mechanised cultivation is responsible. It has initiated revolutionary changes in rural agriculture and consequently in the rural world as a whole. These changes are reflected through two processes: abandonment and modernisation

Deterioration in agriculture by abandonment



As has already been mentioned, the main generator of negative impact on the landscape is abandonment of cultivation.

As technicallly most demanding and ecologically most vulnerable system, terraces are an easy subject to destructive effects of erosion and landslsides

Impacts of housing development and tourism

For an appropirate outline of landscape in this region, settlements must also be brought into the picture. Traditional settlements in the Mediterranean, either urban or rural, were developed not only as structures well adapted to man's needs but also as creations of high cultural quality. The latter is reflected in their settlements pattern and in valuable architecture. Especially rural settlements, villages and hamlets, used to display a high level of functionality, good shelter and traffic connections, coupled with a sympathetic allocation in the landscape.

The development of settlements in the Mediterranean follows either the coastline or is situated close to fertile land – to minimise the distance to the fields. After the big demographic shift towards the coasts, rural settlements in the hinterland were abandoned and are currently in a bad state of repair – many of them probably never to recover. On the other hand the existing towns and villages along the coast are expanding. Furthermore, on the undeveloped shorelines long stretches of residential and appartment houses are being built. This together with mass tourism, industry and transportation leads to a further deterioration of coastal landscapes, even those of highest quality.

Along the coastline

- urban sprawl in general, characterised by several negative aspects,
- long and dense stretches of development,
- spontaneous, chaotic residental development of single-family housing,
- development of high density tourist facilities situated on the very coastline, often beyond the landscape scale,
- construction of high-rise, oversized or voluminous buildings which is particularly detrimental in historical settlements with jeopardizing effects on the old valuable urban heritage,
- allocatiin of individal single or smal group of buildings in an undeveloped landscape which results in a damge of valualbe, often often unique littoral scenery,
- use of inadequate material or colours on the façades, especially on those facing the sea

Another aspect of the deterioration is that especially tourist dvelopment or uniform appartement housing completely occupy the water edge making thus access to water either unattractive, useless and difficult or even impossible. Similar processes have already taken place earlier along the coasts in touristically most developed countries of the Mediterranean. That is not only detrimental for the qualities of costal landscape but also depreciates development potentials for a more advanced tourism in such areas. The demand for construction land is high, and it follows the trend started in the second part of the 20th Century –the population move from continental areas to the warm seas as is best evident in Spain. Such processes are particularly dangerous in less developed countries of the eastern and southern Mediterranian where there are stil great potentials for tourist industry. In the pursue of faster tourist economy promotion these countries are more likely to become an easy prey of the unscrupulous capital searching for a fast return of its investments.

Deterioration by uncontrolled urbanisation

This section is primarily dealing with housing development which as a form of urabanisation takes the greatest extent. A large part of new constructions takes place with no regard to existing plans and ordinances, therefore, resumes a form of well known urban sprawl. The greates problem about it is the fact that it disintegrates historical settlements – urban and rural – or follows the coastal line.

Urban sprawl






Two negative features of this anti-urban phenomenon in the Mediterranean are particularly distinctive: the tendency of allocation on water and search for remote sites

Landscape deterioration caused by tourism

All examples above share a common feature in that they are oversized, especially because of their position close to the sea.

New approaches - improved management

After all that has happened in the environment of the region, it is obvious that the accumulated problems urgently require different treatment. The situation has worsened in all aspects which obviously points to new and more radical actions. The main activities will have to be concentrated on the management in all its facets. As has again and again been proved in practice, it is exactly in this domain that the future development will be determined on the strategic as well as on implementation levels.

Land management is understood here as a complex set of actions that take place at different levels and also at different points in the sequence of land development definition. This means that management includes actions from general strategic decisions about the future land-use down to implementation, construction and cultivation as is shown in the schemes bellow:

Table 1

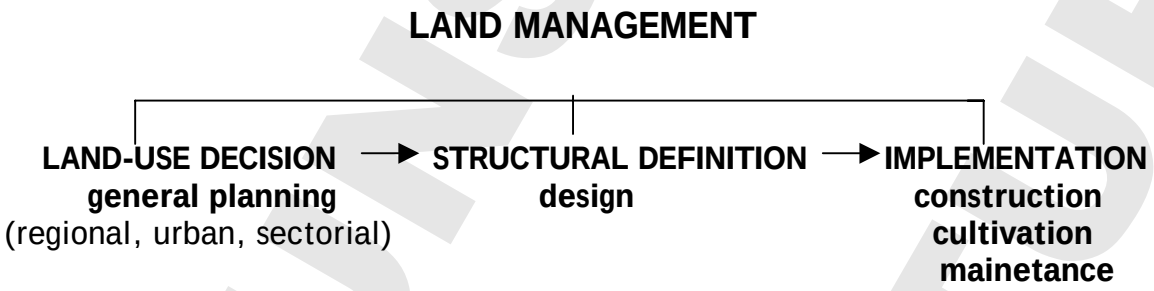


Table 2

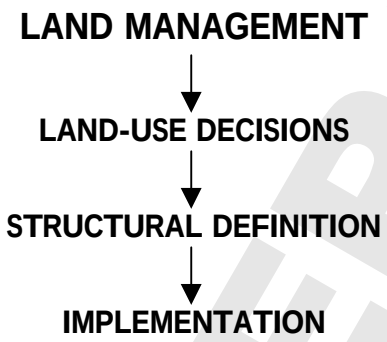


Table 1 above explains how land management is thematically articulated. The scheme in table 2, which is conceptually identical with it, shows the sequence in which particular operation takes place. It is important to notice that the sequence is of twofold character, *hierarchical* as well as *chronological*. Both schemes need to be elaborated further and in detail which will be done later primarily in relation to landscape management and will include relevant actions.

I. PLANNING

The land-use decisions are prepared within the highest planning categories, usually by regional, urban planning or, landscape planning schemes. These decisions are made at the beginning of any development, without them no further legal action can be taken. Therefore, this is the most crucial phase in any land development process, also when conservation is discussed (not to forget: protected areas are a land-use category, too!). Importance of these procedures is indicated by the fact that they always, implicitly or explicitly, also include solutions that unavoidably bear certain impact on the landscape.

The conflicting situations, inherent in any planning process, arise from confrontations between the planned activities and the existing environment. They can be reconciled only in an interactive planning process, in a dialogue between the development and conservation interests. The traditional conservation approaches based on *reservation principles* lack a needed flexibility and, therefore, did not prove instrumental here. They do not dispose of adequate planning techniques, hence are not able to generate alternatives.

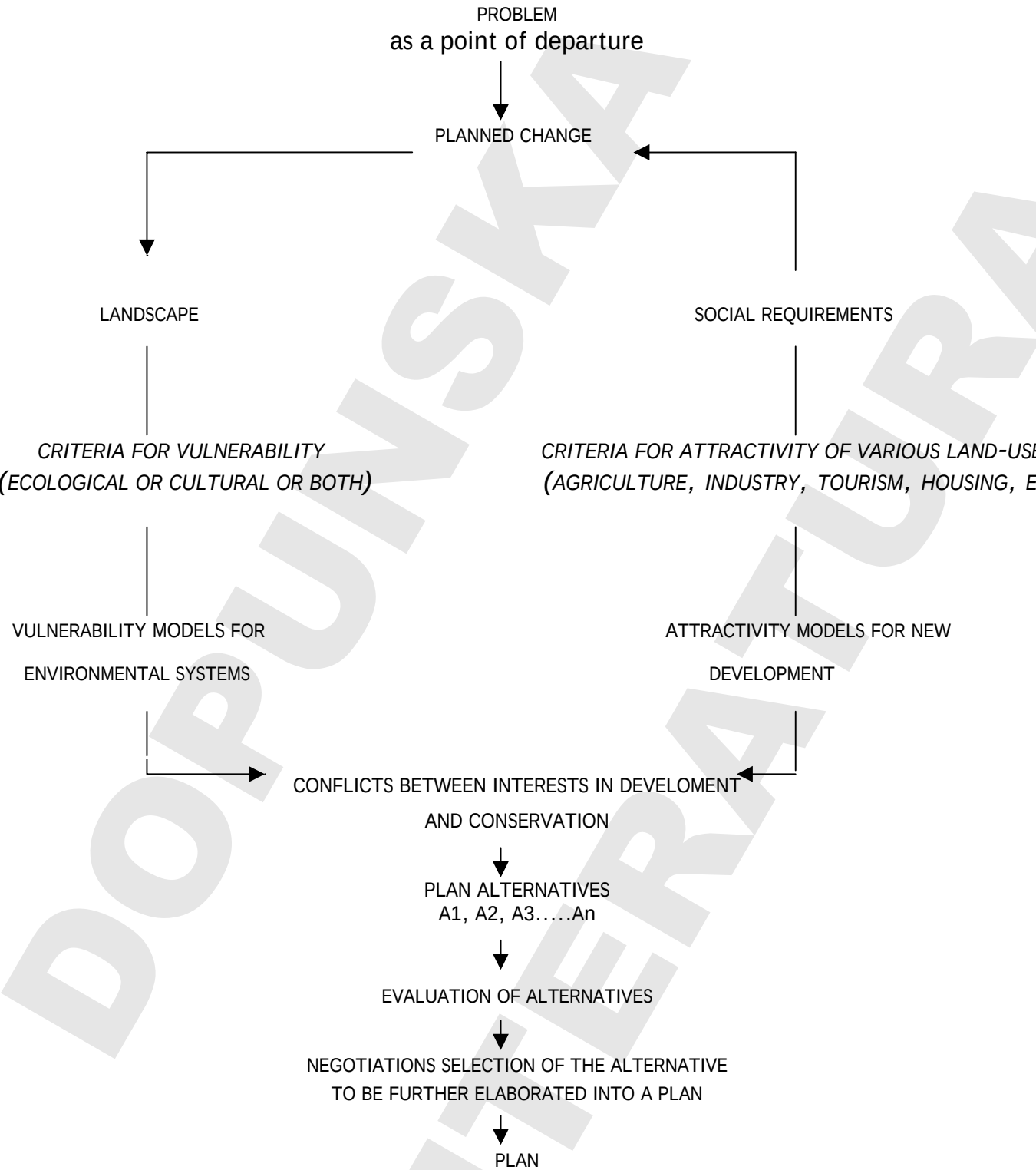
It is important to emphasize several features of such a planning method. The first one was mentioned already in the title – *integrated character* which means that all relevant themes are dealt with in one single procedure incorporating both, development and conservation interests. Secondly, the recognitions for decision-making are acquired *objectively, in an analytical way* and are thus not product of individual opinions. Further, criteria used in analysis and evaluations are open and, as a rule, *tested by public inquires*. No less important is the *transparency* – all motivations, choice of data, decision criteria and everything used as a basis for decision-making, all facts are available in the documents and *accessible to public*. Also, this method will alow a *return to any earlier stage* of the working process if corrections turn out to be necessary. And, most importantly, a number of *alternatives* is developed which to the public gives a correct insight into the scope and nature of the anticipated development and its environmental impacts. So thoroughly enlightened, the public has a more reliable basis for participation in the decision-making.

In traditional planning this used to be carried out differently - town plans would be presented to the public only when they were finshed. In that form only comments could be given and smaller changes made. Not to mention that during the elaboration of plan there was hardly any dialog landscape – urban development. And this used to be a case also with sectorial plannings. Today, every modern democratic society must make provision for their citiziens to be able to actively participate in making decisions about the future of their environment. Of course, such regulations must be accordingly reflected in the legislation about land managament and specifically about the planning procedures. Even more, these regulations should be implemented through public hearings as one of the important institutions for public participation.

For the overall efficiency in land management practices it would be of vital importance to develop sinergies between ICAM /Integrated Coastal Area Management/ as implemented by PAP/RAC and landscape planning as a specific facet of land management.

Table 3

LANDSCAPE PLANNING
A SCHEME FOR AN INTEGRATED PLANNING PROCEDURE



The planning scheme shown in the Table 3 is to exemplify an approach to landscape within any general planning, although it can be succesfully applied also in sectorial plannings, such as reconstruction of rural areas, agricultural modernisation, residentail planning etc. Basically, it is about a dialectical

concept where two opposite entities are confronted in a search for knowledge that would help optimise contradictory nature of development and protection. In this process the landscape is an excellent tool because it incorporates all important environmental systems, natural as well as cultural. An outcome of this working process are clear information about the *pro et contra* of the studied development idea (tourism, residential or highway construction, power dam etc.). A large amount of work is needed for such treatments, especially for the processing of the vast number of data which is nowadays facilitated by computer technique.

Basic tools in this method are models that on the one hand describe the suggested development activities and on other they stand for environmental systems. In that quality they at the same time also define a certain structural or functional system. Two kinds of modells are used:

- *atractivity* models are constructs that are able to show which sites in the planned area are most attractive for the activity we are interested in;
- *vulnerability/impact* models will detect sites where the environment would be disturbed to a lesser or greater degree by the envisaged use.

Both aspects are displayed on attractivity or vulnerability maps with different intensities depending on how much the individual site is interesting for development or sensitive for its impacts. One model for an example:

I. Attractivity model for a new vineyard on a sloping topography
Criteria for the identification of attractivity:

1. exposure to sun (grading 1-5 points, highest figure is best))
   south 5
   southwest 4-5
   southeast 3-4
   west 3
   east 2-3, other exposures not acceptable
2. Soil, articulated according to the
   quality of soil types from 1 - 5
3. Shelter from wind
   Dependent on wind character from 1 - 3
4. Existing communications 1-3
5. Distance to the winery 1-3

II. Vulnerability model for the same land-use analyses the area in a similar way, with regard to how far the environmental systems would be concerned.
Criteria:

1. Erosion 1-5
2. Transformation of the topography
3. Elimination of exisisting vegetation/woodland 1-5
4. Loss of the habitat for birds, small mammals and other animals 1-3
5. Change of visual qualities 1-4

In the continuation of the planning process, such analysis are produced for all models relevant for the investigated activity. The sites where the attractivity is high and vulnerability low can be declared as suitable for development, and vice versa. The final output is then shown as a map where the recognitions are

represented as zones or areas, which means two-dimensionally. The objective of the plan (at the general level) is to provide a land-use map as a firm basis for further articulations into physical structures which is implemented at the design level.

This concludes the first level of landscape/land management. As was already mentioned in the first scheme in Table 1, at the second level structural issues of the landscape are decided. Because both levels are often given the common name landscape planning (so does, e.g. also the European Landscape Convention) it would be useful to later display the actual differences.

II. DESIGN

As distinguished from general planning, design (or object planning) should be described as structural definition. The difference between both levels of anicipation is already testified by their output as is evident from Table 4. Also their working objectives are different: in planning we are after land-use optimisation which ends up in planar graphic output. Design must go further, it begins where the planning stops and develops three-dimensionally articulated tangible vision of the new structure. All main features of both techniques are shown in a comprative table on the following page.

Nedless to say – landscape design is not functional only in urban landscapes where it is mostly used. It can also make important contribution to the structuring of rural landscapes. If landscape designers would be involved in the reconstruction of degraded or in designing of new agricultural landscapes they could undoubtedly originate a better countryside. Alongside the good functions, the new landscapes would certainly contain more natural features and display more cultural image.

The land management concepts as described here and on subsequent pages were derived from the planning and design practices Europe-wide. Of course, some modifications were inevitably added, but the methods as outlined correspond to the approaches known in European countries. Yet, there is still much to be done in this area which particularly refers to the countries of the Mediterranean. They will have to bear the heaviest development pressures. To face them efficiently they will need an adequately powerful legislation and capable management in personeel as well as in methods and techniques.

Table 4

LANDSCAPE PLANNING /General planning/	LANDSCAPE DESIGN /Object planning/
Societal expectations: a. to develop knowledge about landscape values and integrate it into any kind of physical planning (i.e.regional, town, rural, agricultural, highway planning) b). to provide general ideas about sanitation or improvement of existing landscapes	*Societal expectations:* to structurally define, to elaborate plan for making the new landscape
Objective: basically*, to protect an existing landscape structure*. It evolves from the environmental conflicts generated by the envisaged changes, and attempts to minimize impacts and thus contribute towards an *optimized land-use plan.* The philosophy of landscape planning differs from that of design (or, is opposite to it) in that it is motivated with nature conservation goals and principally acts against any development	*Objective:* *to build a new structure, i.e. to* introduce a change on the land in the best possible composition while attempting to solve certain problem.T he driving force behind design efforts is thus meeting the social requirements
Planning process is largely influenced and in the last phases primarily controlled by the society	Design process is entirely under designer's control, is thus highly individualised, autonomous and completed along his personal criteria
Well prepared solutions on the same location normally differ little, when they are based on common criteria and verrified in the society Planning provides arguments, as a rule, through alternatives that are selected in the societal decision-making process	Practically unlimited number of solutions is possible as is manfest in design competitions In design, alternatives are usually a tool for an individual optimization, they are subject to designers choice and final decision
Planning output: Typically, two-dimensional, planar graphic presentation	*Design output:* Sophisticated, two- and three-dimensional graphic and model presentations
Working scales: 1:1.000 to 1:50.000 or even larger	Working scales: starting at 1:1 and not exceeding 1:500

III. IMPLEMENTATION

Building – Cultivation – Maintenance

Implementation could be used as a common name for the last phase in spatial or land mangament. The two preceding phases would make no sense if the formulated predictions (in planning and design) were not put into effect which takes place through implementation. A plan for tourist area and an architectural design for a hotel should be finalized by building. Likewise planned and afterwards designed landscape – either agricultural or urban park - come into being by execution. An important part of the third chapter in land management is also a continuining cultivation of existing fileds, orchards etc.

The Mediterranean landscape suffers its greatess losses precisely at this third level of land management. Countless fields, vineyards and orchards are in a hopeless state of repair. Not only will they in the long run be outgrown by forests, currently they are the main reason for recurring wide-spread fires. Earlier, while the fields were still under cultivation, little plant material was left behind on the fields and in orchards. Nowadays, on deserted lands low growth, composed of herbs and low bush, when dry, easily catches fire which then spreads to the macchia and woods. Ultimately, it also threatens the settlements. The most efficient way to prevent fires would be re-cultivation and prevention of further abandonment of agricultural land.
This last stage in the sequence *Planning (general) – Design (Object planning) – Implementation (Building, Cultivation, Maintainance)* concludes the chapter Land Management.

Sustainability and development models

Hardly any idea in the environmental discourse since the seventies in the last century has been as broadly received as the sustainability. It seems to have evolved into a general formula for all accumulated and predictable problems of the environment. Sustainabilty is, actually, more a philosophy of some new social conduct, a kind of general principle good for many purposes. However, most frequently it is launched into environmental discussions of any kind. When brought into practice it certainly can, directily or indirectly, contribute towards an improved structure and image of landscapes anywhere, particularly in the Mediterranean.

There is one serious problem with sustainabilty - it is hard to be translated into tangible, concrete principles or rules. It remains too abstract, hence many and very broad interpretations, sometimes even in situations where ti is hardly appropriate. In any case, there can be no doubt about the fundamental intention of sustainabilty which is to impose restrictions on the use of natural resources and to govern societal behaviour in the direction of minimizing environmental deterioration.

The conceptual uncertainty associated with sustainability can also be seen in the *Programme of the Mediterranean NGOs for Sustainable Development*

(called *MED Forum's Agenda 2000*) which was formulated as a group of following priority actions:

- integrated water management
- integrated and sustainable coastal management
- combatting desertification
- the protection of biodiversity
- sustainable tourism in the Mediterranean Basin.

Again, this is another rather general statement. To become operational it would require detailed articulation. In the pursuit of sustainabilty there are, according to our comprehension, two compulsory axiomatic points of departure:
First axiom
*Any approach to change is as moderate as only achievable under given spatial and socio-economic conditions*Second axiom

No change is conceived independently without considering also the natural and cultural context.

To take action, however, more clearer guidelines are needed. These should be sought in each branch separately, because the operational criteria can largely vary according to the nature of the individual land-use activity. There are several areas where sustainability could be succesfully applied, among them are certainly - agriculture and tourism. In our opinion the understanding of sustainability should largely coincide with the concept of optimal structural models for these two land-uses. Models will be explained verbally and demonstrated a little later.

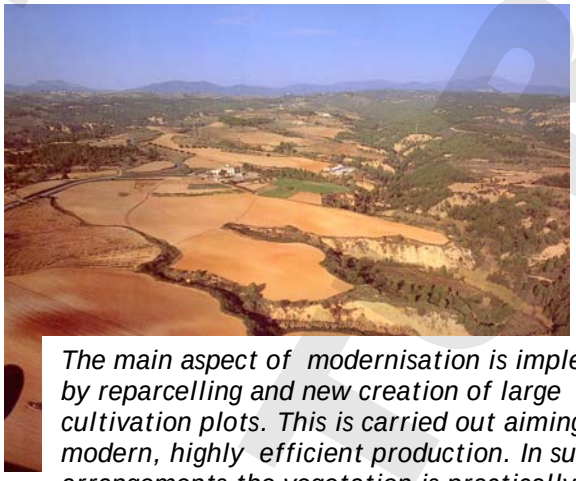
Modernisation of agriculture - resulting landscapes

A critical analysis
In the case of agriculture the most convenient opportunity is at hand when working on the rehabilitation of the abandoned, or, during the organisation of new agricultural lands. In any of these cases, when sustainabilty is in question, the structural model should comprise the following features:

- avoiding oversized cultivation plots and adapting them to the local landscape scale;
- integration with the topography;
- considering traditional subdivision field pattern whenever possible;
- restricting application of regular, geometrical subdivision patterns, especially on sloping areas;
- introducing various plantations and crops where appropriate in order to enhance as much landscape and biotic diversities as it makes sense;
- keeping irrigation at the minimum, and preferably choosing crops suitable for cultivation in semi-arid conditions instead of promoting so called integrated water anagement which leads to an increasing water consumption anyway; in agriculture of the countries along the northern shores this has reached enormous water intake rates already;
- allowing strips and other patches of native vegetation between the cultivated plots to serve as as ecological niches and factors of landscape diversity.

Beside the large areas of fallow land that are more or less in the status of transition to woodlands, the main generator of to-morrow's landscapes is going to be agriculture. The selection of photographs further down demonstrates the direction it is taking now. A trend of large production units is obvious. The new spatial organization shows no intention to continue the tradition of cultural landscapes from the past. Not all countries of the Mediterranean have reorganised their agriculture along that pattern yet. Those who are behind, still have an opportunity to carry out the modernisation on the basis of more ballanced models which we would like tu suggest here. Before doing that, a few examples of such globalised land patterns will be shown. For unknown reasons, some of them show re-parcelling at a very large scale that seems not to have been required by the technology neither motivated by some other argument.

Deterioration generated by modernisation of agriculture



The main aspect of modernisation is implemente by reparcelling and new creation of large cultivation plots. This is carried out aiming at the modern, highly efficient production. In such arrangements the vegetation is practically erased scale is consistently ignored, and so is often the topography /Top and bottom left)

The large- scale land reconstruction aiming highly efficient production. Obviously, the scale is consistently ignored, and so is often the topography

Even one of the most famous historical landscapes in the western civilisation has been subject to a nonscrupulous profit-oriented land reconstruction – at thesanctuary of Delphi

Models for reconstruction of agricultural land

The underlying concept for approach to renovation should always comprise:
Productivity – Sustainability - Visual quality - Ecological acceptability
For demonstration three examples from the continent are shown:

The traditional organisation of vineyards on small terraced plots along the river Rhine /Top, left/
Not far from there a provision was made for mechanised operations by organising large vineyard units. The result is undoubtedly a better economy of production but as a structure it is far from the sustainabilty concept /Top right/

The arrangement /Bottom right/ is also organised for modern low-cost cultivation and yet it represents a paradigm of agricultural landscape where neither productivity nor cultural-ecological quaities had to be sacrificed

The two following examples demonstrate a possible renovation or rehabilitation of the production land:

The karst field is originally parcelled into small crop fields inconvenient for contemporary mechanised cultivation

Simulated re-parcelllation shows a possibility for an organisation of a more efficient land subdivision. An effort to retain traditional pattern and to control the scale is evident

A half-deserted small village needs a rehabilitation of the basic activity -. agriculture. The other alternative is to develop into place with summer residences

The simulated new scheme envisages a reconstruction of olive plantations and allows for some additions in housing.

Development models for tourism

Tourism brings many more problematic aspects than agriculture. These are rooted in its manifold activities (on sea and on land) and in the fact that it is a land-use type primarily oriented towards sites as near to sea as possible. Out of such preference originate numerous environmental conflicts, especially in the realm of litoral landscapes which all lead to general deterioration. Optimisation in this sphere should be based on the following priniciples:

- allocation of built facilities avoid high quality landscapes
- building as distant from the coastline as possible, and not closer than 100m
- avoid dense settings of built structures
- provide compulsory voids between buildings which should be filled with tall evergreen vegetation; the same refers to the land between hotels and the sea
- as a rule, hotels should not be built higher than 5 floors (ground floor + 4); deviations are allowed only in exeptional case
- under no condition must the sewage water be led into the sea
- parking facilities are always situated behind the hotel (looking from the seaside)
- within the 100 m belt no roads for vehicles are built

A detailed reading of the above lists unveils a rigour that is not quite common in the approach to development practices all over the Mediterranean. The process of land invasion in this basin is powered by vast forces which will be difficult to get under control. And precisely that should be the motive power for efforts towards radical changes and new actions.

The following cases are to exemplify model solutions in both construction and allocation of hotel facilities. They all share the majority of the priniciples listed above.

A chain of hotels is situated behind the backdrop of Aleppo pine wood. It presents an optimal positioning of a constructed work in the woody landscape

View of the same group from the sea. Hotel g is no negative visual impact. Instead it is rather a discreet information

A sufficient distance between the hotel and the sea will, in the course of time, allow for development of an efficient screen of tall vegetation

The same view taken taken 30 years after the construction was completed2000. Thus, the meg structureno longer acts as a visual intrusion

Well designed and inventively articulated group of hotel facilities. The interpenetration of residual woodland was used as an additional tool for articulation and at the same for integration into the seaside landscape. The setback from the sea is very beneficial for the overall image and atmosphere

A complex landscape structure is achieved by situating the hotel into pine woodland, behind the existing olive plantation. The beach facilities are moderately present in the entire image which retainsa natural atmosphere

Outstanding landscapes – concept and protection

There is one category that somehow escapes classification under land management. In the present conservation practices almost exclusively national parks or natural reserves and some archeological sites fall under the category protected areas. However unusual, cultural landscapes are not involved. Yet they deserve a special mention when Mediterranean landscapes are considered. It must be kept in mind that they are the result of enourmous efforts by generations under most difficult circumstances imaginable for cultivation. As a matter of fact they present monumental, deeply moving achievements comparable to the greatest construction works, like medieval cathedrals and fortification walls. The purpose of this chapter is to point out the alarming situation where these unique landscapes, among them many of ancient origin, relentlessly perish without any prospect for revitalisation.

Therefore, we would like here to bring to attention a number of selected cultural landscapes in the Mediterranean that possess extraordinary structural qualities, as a rule manifested in a unique pattern. Paradoxically enough, they often display a layout that means an adapation to difficult growing, sometimes in extreme edaphic conditions. This landscapes are, hence, among the first to be abandoned. Owing to their difficult origin, it is highly unlikely that, after being deserted for a longer time, they would be recultivated. Therefore, it is an urgent task to do something about them, in the first place to make an inventory of such cases and thereafter take adequate measures.

General criteria for the status of the outstanding landscape are supposed to unveil following structural features:

- a unique or visually valuable structural pattern;
- the landscape demonstrates highl level of correspondence between the land-use and the original topography (physioplastic landscape); the new use did not destroy the natural land modelling but was integrated into it;
- the landscape shows ballanced relationship among natural, economic and cultural aspects; as long as the landscape integrity is preserved, it does not matter if one of these aspects prevails;
- authentic structure in terms of old land subdivision;
- presence of historical, memorial, archaeological and similar qualities;
- landscape and settlement are structured upon the common pattern;
- high landscape complexity in a harmonius spatial context;
- the landscape is a clear, legible imprint of certain social circumstances;–
- the landscape incorporates symbolic meanings;
- importance of the landscape for public education.

To declare a certain landscape outsstanding is only the first step. Equally important will be to ensure that they are cultivated as since were. And here a serious problem appears. This are small-scale landscapes, usually on sites of difficult access, and hardly or not at all possible to be cultivated by machines. Production costs are, therefore, incomparably higher than elsewhere which, of course, can not be rewarded on the market. Therefore, they must be treated as a kind of living musem which is not be selfsupporting but should be maintained mainly by subsidies.

Ancient, primitive form of growing grapevine. It may be considered a primordlal type and predecessor of modern vineyards in this region /Top, left/

Gully landscapes can come into being only under very rare conditions. They are created on gullies if on the upper sites and along the edges there was enough soil to be silted by rainfalls. They do deserve special attention /Center, left/.

Extremely rare are cultural landscapes of such an original layout along the coast /Top, right/

One of the most unique and exceptional cultural landscapes in the entire Medierranean. Photo on the right shows how fast the succession has taken over on the uncropped fertile land. This alarming image is a reminder for urgent action to be taken if we are to safeguard the remaining precious landscape heritage /Bottom/

SUGGESTIONS FOR FUTURE LANDSCAPE MANAGEMENT

1.
Acknowledge that cultural landscapes in the Mediterranean are the greatest heritage asset outside the historical settlements;

2.
Prepare a landscape survey at the national levels within the scope of the Mediterranean. Within that project a separate inventory and classification of outstanding landscapes should be made;

3.
Elaborate a detailed national strategy for landscape management in coastal areas;

4.
As an ensuing step a small number of outstanding landscapes should be selected and revitalized as promoting examples;

5.
Elaborate an articulated approach to landscape management that includes:

a) Special regime for litoral areas;
b) Apply severe control over illegal urbanisation of any kind;
c) Differentiate landscape areas that either do not qualify for special treatment or have deteriorated to the degree that recultivation is not at all or hardly possible and is preferable to leave them to succession
d) Introduce agricultural subsidy policy which will, coupled with production, market and social criteria, consider also a need for maintenance of the cultural status of landscapes engaged in cultivation – old and new

6.
Large-scale promotion of activities of various character hould be organised:

- seminars for various specialists who are involved in works directly connected with the landscapes (landscape specialists, agronomists, foresters, ecologists, geographers, town planners);
  recommended themes:
  - *methodology of landscape planning*
  - *integration of detailed landscape analysis into environmental impact statements with reference to the Mediterranean context*
  - *methods for identification and classification of outstanding landscapes in the Mediterranean Basin*
  - *integrated land-use planning with specific relation to landscape management*
  - *concepts of sustainable agriculture as a vital point of departure for development of cultural landscapes in the Mediterranean*
- campaigns for awareness-promotion in public at the national and regional levels with a special emphasis on schools;
- parallel to that organisation of several pilot projects to support the basic objectives of PAP

7.
Pay special attention to the most threatened areas of cultural landscape (areas with outstanding natural values have already been assigned protection status)

8.
Organise special workshops where landscape management methods will would be tested and further improved; these should take place in the form of case studies on different localities (islands, East, West, North and South, areas with highly developed tourism or agriculture, undeveloped tracts of the coast)

9.
Prepare various publications for enhancement of landscape awareness, such as landscape monographs of national or regional character, promotion brochures, atlases, posters and other materials for promotion of landscape perception at national, regional and local levels.

Finally, the last suggestion:

When considering the – hopefully - new philosophy of landscape management it would be advisable not to approach it on the basis of the dilemma

NATURAL -CULTURAL

In one way or another both of them should (and *via facti* will*)* remain to be constituents of the Mediterranean space.
The spontaneous development has already brought about an expressed hypertophy of the areas under second succession.
The real dilemmas should be located mainly in the realm of recultivation of lands in the process of abandonment where vast areas might be lost for ever.