Abstract: - This publication presents the findings of Genoa University researchers working in the area of coastal environments, in particular the effects of intense human activity, urbanisation, artificialisation and building development. It specifically refers to those processes of tourist development that have been amongst the leading drivers and principal causes of the transformations that have taken place in many littoral areas. It points out those particularly complex and critical problems and events that have occurred in the last fifty years, concerning the alteration of fragile natural environments and of the cultural identities of coastal landscapes. Moreover, it analyses the potentialities of an integrated approach to landscape, in order to deal jointly with the existing interactions between the active protection of the resources and policies for sustainable tourism.

The study refers to the principles and objectives of recent national and international Charters and regulations, which consider landscape as a living organism and a common resource, needing on the one hand, a continuous and sustainable project work and, on the other hand, the favouring of integrated policies, both in planning and in projects. The research focuses on several Italian littoral areas that differ in geographical location, specific morphological features, origin and extent of tourist development, past problems or recent interventions, impacts, dynamics, and new evolution trends. Several existing problems have been analysed, specifically the loss of biodiversity and of landscape identity, the impacts of coastal erosion and conflicting situations among coastal uses. Answers have been provided that, in future tourist areas could be useful to achieve sustainable development patterns and landscape quality objectives. Additionally, project work aiming at the recovery and requalification of environmentally degraded areas is proposed that complies the guidelines and regulations of official national and international documents.

Key-Words: - Durable coastal landscape; sustainable tourism; sustainable development

1 Introduction
This paper refers to research work carried out within the Course of Landscape Architecture at the University of Genoa. This body of work has for some time addressed the question (and related problems) of landscape as a common resource and a living organism which in the face of current territorial transformations requires new methodological approaches. These approaches ideally should be equipped to guarantee lasting development as well as identifying and applying appropriate ongoing and sustainable conservation, planning and management strategies in relation to the quality of landscape resources.

Two key terms underpin the present work – landscape and tourism – along with the adjective coastal which both terms have in common. In particular, we examine those processes of tourism development that have been amongst the primary drivers and primary causes of the transformation of so many coastal areas. Our analysis highlights particularly complex and critical problems and questions, most of which emerging over the last seventy years, which have impacted and which continue to impact the natural fragility and cultural identity of coastal landscapes.

We highlight the potential of an integrated landscape approach that captures the interaction between an active protection of resources on one hand and a policy of sustainable tourism on the other. The study focuses on several stretches of the Italian coastline, each differing in terms of geographical location, morphology, orientation and landscape and environmental features, and examines past and present problems of coastal tourist development that have contributed to shaping these features. The raft of problems analysed include the loss of landscape biodiversity and identity, coastal erosion, ever-growing building development, contraction of farming landscapes, and the conflicts regarding coastal use. The analysis seeks to identify guidelines to be followed in future coastal tourist settlements to improve landscape quality and encourage lasting and sustainable development.
Furthermore, we have identified scenarios aimed at the requalification of areas of abandonment and decay in line with indications and guidelines contained in major charters and documents on the question of landscape and tourism.

2 The area of research

This paper examines certain aspects in the development of coastal tourism in various Italian regions from the 19th century to the present day, bearing in mind the principles and objectives contained in key European documents concerning the issue of landscape.

The principal charters addressing the issues of landscape and sustainable tourism include [1]: the Mediterranean Landscape Charter, 1994 which recognize tourism as a "worldwide phenomenon" of significant importance for the socio-economic development of many countries and highlighted the need to implement "more effective policies for the protection of the Mediterranean landscape" and that "the development of tourism must be based on the criterion of sustainability", it must be "economically sustainable over the long-term, economically viable and ethically and socially equitable for local communities"; Declaration on World Tourism, Manila, 1980; World Conference on Sustainable Tourism, Lanzarote, 1995; the European Landscape Convention, 2000 (also known as "the Florence Convention") defined landscape as "an area perceived by people, whose character is the result of the action and interaction of natural and/or human factors" and identified three landscape-related actions, i.e. "protection, management, planning"; the European Charter for Sustainable Tourism, 2000 defined sustainable tourism as "any kind of development, management or tourism activity able to guarantee the protection and the long-term preservation of the natural, cultural and social resources, and to contribute in an equitable and positive way to the economic development and to the welfare of the people living and working in the territory"; the Charter of Rimini, 2001: Agenda 21 produced by the Rio Conference; "Conceptual Definition WTO", 2004, saw a redefinition by the WTO of its definition of sustainable tourism and established that "sustainability principles refer to the environmental, economic and socio-cultural aspects of tourism development, and a suitable balance must be established between these three dimensions to guarantee its long-term sustainability." The main principles and guidelines to be followed were also established: "Make optimal use of environmental resources that constitute a key element in tourism development, maintaining essential ecological processes and helping to conserve natural heritage and biodiversity. Respect the socio-cultural authenticity of host communities, conserve their living cultural heritage and traditional values, and contribute to inter-cultural understanding and tolerance".

We do not consider the marine coastal landscape simply as a place where processes of development take place. Instead, we view this landscape as a resource, as a collective good and part of a community's natural-environmental and historic-cultural heritage. The principal characteristics of marine coastal landscapes should therefore be preserved, valued and managed correctly over the long term so as to deliver a sustainable socio-economic development based on an equilibrium between environmental quality, economic activity and the needs of society. A coastal landscape is consequently one that has to be carefully analysed in terms of its values, identity and fragility across a range of differing environmental, local and regional situations where the onus is on avoiding the indiscriminate use of its resources.

The areas under analysis are those situated along the northern and central Tyrrenian Sea, which have different characteristics in terms of morphology, environmental characteristics, landscape values and identity. All are coastal areas that have either undergone tourist development in the past or that have been involved in more recent transformations. The first wave of tourist development of the late 19th century – for example along the Côte d'Azur, the western and eastern Ligurian rivieras, the Sorrento peninsula – considered the coastal landscape as a resource to be enjoyed, mostly by foreign visitors, for its natural beauty, climate and therapeutic benefits; in brief, a place where physical wellbeing and aesthetic pleasure came together. Such a vision led to the construction of hotels with extensive parks, villas with gardens and tree-lined promenades that took advantage of the climatic potential of the areas and modified the original characteristics of the coastal vegetation with new landscape developments.

The expansion of mass tourism in the mid 20th century saw the development of accommodation and entertainment facilities (hotels, houses, bathing establishments) that altered the character and identity of areas chosen for seaside holidays instead of conserving and respecting their specific environmental and cultural features.

In the more recent case studies that we have analysed, the coastline has been the object of extensive modifications which, significantly, have been authorised by planning controls contained in
landscape protection legislation. These changes consist in the building of tourist complexes along stretches of sandy and low lying coastline and bays that compete for the maximum number of tourist arrivals for the brief beach holiday season. In this model, sand dunes make way for bathing establishments, whilst on hillsides along the coast building developments have appeared that have little or nothing in common with the materials, style and socio-economic context of neighbouring coastal villages (fig. 1 and fig. 2).

![Fig. 1 - Peninsula of Portofino (photo Merlo).](image)

![Fig. 2 - Sestri Levante Ligurian coast (photo Merlo).](image)

The current development of tourism in the Mediterranean is a significant issue that regards the continuing and extensive change of coastlines in response to the demands of mass tourism for the 21st century. These changes illustrate a persistent lack of integration amongst urban, architectonic and landscape planning. Indeed, the significant transformations implied in such projects of coastal areas with significant or unique landscape and/or ecological features are typically uncoordinated, both in time and manner.

These are issues where the landscape architect in particular must be aware of landscape values and quality and he/she must address them in a correct and integrated way with the support if necessary of a multi-disciplinary approach. Four approaches can provide the support required: 1 - historic, to identify and assign value to signs relating to time and memory; 2 - ecological, to understand the importance of environmental systems, fragility and potential; 3 - perceptive, to raise awareness concerning the relationship between new settlements and landscape; 4 - socio-economic, to achieve compatibility between context and inhabitants.

In building development along the coast, there is however a widespread lack of attention to the values, quality and fragility present in the environment and landscape. This situation derives from disinterest and an inability to interpret and extract the elements that denote a coastal territory and which represent the key elements to be borne in mind in the elaboration of new projects.

The detailed analysis of certain Italian coastal areas has enabled us to identify methodological approaches and operating strategies targeted at sustainable tourism. It has also allowed us to establish how tourist demand can be met without altering or irreparably harming, firstly, the natural and socio-cultural resources that are not only important resources for the country as a whole, but which also represent a major pull factor in tourist demand and, secondly, the geological equilibrium and economic and social conditions of the areas developed.

Coastal zone: The coastal zone is generally defined as the interface between the land and water, which includes territories of differing width and depth depending on their geo-morphological and environmental features, the manner in which the area has been used by its population over time and the development of coastal activities. In high and rocky coastlines, for example, infrastructure and settlements are situated in the land immediately behind the cliff, where the morphology of the territory is more suitable. In low-lying, sandy coastlines, on the other hand, exploitation is made easier by flat lands that allow for changes to the dune landscape and Mediterranean vegetation and the drainage of marsh areas.

In the important study in “Méditerranée: les perspective du Plan Bleu sur l’environnement et le développement” [2] a coastal zone, particularly with reference to the Mediterranean and its 46,000 kilometres of developed coastline, is defined as “a set of areas and territories that are influenced physically, economically and socially by the marked interaction between land and sea. Ecosystems, societies and Mediterranean economies which are strongly subject to the presence of the sea can be also be defined as coastal zones.”

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The Plan Bleu stresses that the depth of the littoral, environmental, cultural, social and economic stretch varies according to the natural characteristics of the coast, its society and history.

3 Transformation of coastal landscapes

The main objective of the work is to identify how, following the construction of new tourist settlements and the creation of marine and terrestrial recreational facilities, the quality of the natural environment and the identity of coastal landscapes have been altered and compromised. Consequently, we examined transformations that have had a negative impact along the coast as well as those which have produced positive results following best practices established by the most important European Charters.

The transformation of coastlines in recent decades in the wake of constant building development in the tourist sector and entailing occupation of coastal stretches has determined alterations to the natural fragility and cultural identity of coastal landscapes. Consequently, these interrelated changes need to be addressed via an integrated landscape approach. The growth of tourism has brought with it the construction of hotels, holiday homes, car parks, roads, beach facilities and marinas, which have led to the elimination of dunes and Mediterranean vegetation (fig.3).

![Fig. 3-Viareggio total change of costal area (photo Merlo).](image)

Ever growing anthropic pressure produced by the creation of new coastal landscapes in response to the demand for marinas and mass tourism in general has impacted morphological features, existing environmental equilibrium and original landscape identities without taking into account coastline fragility and the fundamental requirements of sustainability, landscape quality, social fairness and the value of a particular location.

4 The impact of tourism on landscape

Considerable levels of investments are required to transform sites into areas with new, tourist-related uses and functions. Undoubtedly, such transformations may generate revenues, create employment and improve services and residents' standards of living. However, these changes may also at the same time have a range of environmental, economic and socio-cultural effects.

In ecological terms, coastal landscapes are ecotones, i.e. “interfaces or transition zones between land and sea” between land and marine systems. They are characterised by considerable diversity in phenomena and structure that is manifested in various geomorphological conformations and biological and expository situations. “The interface between land and sea is”, as Almo Farina pointed out, “a strategic point for the circulation of materials, organisms and energy and therefore its persistence guarantees the working of both systems.” The coastal landscapes suffer for an insufficient integration between ecological and social processes, and this doesn’t guarantee them sustainable and durable patterns. To preserve the ecological functioning of coastal landscapes, it is necessary to consider the relationships between ecological and social processes. Two types of uncertainty characterize such landscapes: the fast transformation of the rural systems into urban sprawl, and the born of new social models that have dynamics far from the environment-society coevolutive ontogenesis.

Despite the knowledge of the drivers acting in this scenario, new epistemological frameworks are requested to better understand geographical patterns, ecosystem processes and models of social development. The landscape ecology seems a science able to better intercept the social and environmental challenges of the present time, thank to an eco-semiotic approach associated to spatially-explicit methods of investigation.

If we examine the present condition of sizeable parts of the Italian coast, we can see that the multi-faceted nature of tourist development along with related infrastructures has determined marked discontinuity between the two systems and the isolation of one has led to crisis in the other. The construction of ports and breakwaters has significant effects on beach replenishment processes, dunal systems and the vegetation of these ecotopes. The effects of tourism on coastal systems have generated inefficiencies in how they work.

Appropriate strategies for tourism development at local, regional and national levels should integrate territorial, landscape and environmental problems.
with the aim of moving beyond development strategies based principally on short-term economic objectives. Indeed, choices based solely on short-term targets may trigger negative effects which, starting from environmental and landscape degradation, may over time lead to a drop in tourist numbers and the eventual loss of the destination's value (fig.4 – fig.5).

Fig. 4 – Ligurian coast of Cinque Terre (photo Merlo).

Fig. 5 – Dunes in Sicily

The lack of sustainable planning and an appropriate management of tourism development produces negative impacts, both environmental and socio-cultural, that can be alleviated only by adopting an holistic approach of the complexity of landscape problems that assigns accurately values to the quality and characteristics of coastal landscapes and environments and proactively conserves rural heritage and local economies, identities and cultures.

5 Conclusion

The principles and objectives contained in the most important national and international documents on the planning and management of coastal areas and related landscape policies underline clearly the need to recognise and enhance the value of landscapes chosen for development within the framework of sustainable tourism. These documents identify the criteria to be adopted in the requalification and recovery of degraded areas. Such a process has to establish the characteristics and qualities of the areas in question as well as understanding the various activities connected to it, such as those that consume excessive energy and water and produce waste and pollution.

To contribute to sustainable tourism development in coastal landscapes, the following key actions that have emerged in the literature can be summarised as follows:

- analyse and define the qualitative extent of the landscape, the elements that denote it and the system of relations that over time determine its specific values (intergrity, recognisability, naturalistic, aesthetic and socio-cultural values);
- identify how, in concert with the local population and local government, stakeholders and tourist industry operators, tourist demand can be managed without damaging an area's natural resources and socio-cultural sites, which are an important factor in generating tourist demand, and without compromising the economic and social interests of residents;
- raise awareness of the fact that coastal landscapes are the result of constant processes of change linked to the littoral's morpho-dynamic characteristics, to wind and wave features, to sea erosion and sedimentation in low-lying areas;
- assess critically measures implemented both now and in the past, their impact and results;
- apply appropriate study methods through the exchange and sharing of experiences in order to interpret the wealth of natural resources, the complexity of littoral dynamisms caused by multiple alterations which, in turn, were and are determined by differing modes and forms of anthropisation;
- select effective methodologies to govern the tourism-induced transformations of the coastal landscape with the aim of harmonising such transformations with the natural and cultural characteristics of the location;
- identify guidelines for the governance of changes and pressures generated by various forms of land occupation that move towards methods and forms of development that are compatible and sustainable with the location's characteristics and identity values;
- raise public awareness of coastal landscapes in terms of their geo-morphological, vegetational and positional variety; contribute to the process of...
understanding the human activities that have modified the characteristics and fragile equilibrium of coastlines; these activities include different forms of settlement and farmland development, land and sea infrastructures, suburban residential estates with gardens, coastal paths and promenades, beach and swimming facilities;

- encourage and promote the active involvement of local populations in the choices that will transform their landscapes.

References: