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Cultural Organization



World Heritage Convention

CCBP

Caribbean Capacity Building Programme

For World Heritage



Management of Cultural
Landscapes

MODULE

4

Module



4

Managment of
cultural
landscapes

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Cultural heritage management programme for the caribbea

The Caribbean Capacity Building Programme (CCBP) is a long-term training programme focusing on cultural heritage management and aiming to create a Caribbean **network** of heritage experts. They, in turn, can share knowledge, know-how and expertise on the *modus operandi* of the World Heritage Convention and on heritage management in general.

The CCBP was conceived to respond to the needs identified in the Latin America and the Caribbean Periodic Report (<http://whc.unesco.org/en/series/18>), which showed that most of the Caribbean States Parties still lack the capacity and expertise needed to enable full protection and management of the present World Heritage sites and to identify new World Heritage sites.

The CCBP was endorsed by the World Heritage Committee in 2004 as part of the Caribbean Action Plan for World Heritage.

The CCBP is composed of a core and mandatory training module on the *Application of the World Heritage Convention* and a **series of other modules focusing on the various aspects of management** (tourism, historic centres, risks and cultural landscapes). Each module lasts 30 hours and encompasses practical exercises, analysis of regional case studies and discussions.

UNESCO is pleased to present this first edition of the **Module 4: Management of Cultural Landscapes**, which have been developed with the contribution of Consultant Isabel Rigol.

In the Caribbean there are various types of cultural landscapes mainly related to plantation systems. The integrity of these sites is currently at risk: changes in the use of the land (traditional cultivation systems are substituted by intensive agriculture), socio-economical changes (migration from the countryside to urban areas) are just some of the threats that are causing the loss of these heritage sites. This module intends to provide a methodology for the identification, protection and sustainable use of cultural landscapes. It also aims at creating awareness of the potential outstanding universal value of many of these landscapes, for their nomination as World Heritage.

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Introduction

In the last few years, cultural landscapes, testimonies of the interaction between man and nature, have been defined in great detail thanks to the search for a more representative World Heritage List. It concerns a very complex heritage that includes different patrimonial expressions and covers, generally, great tracts of territory. At the same time it links closely with traditional forms of production, of life and beliefs of the people. Its consideration as a category has been assumed as an example of the advanced and dialectic character of the Convention on World Heritage.

In the Caribbean abundant examples of the different typologies of cultural landscapes established in Practical directives for the application of the World Heritage Convention are conserved, such as designed landscapes, those organically evolved and associative. The numerous slave owning plantations of all the Caribbean territory are exceptional evidence of the sub region as a melting pot of the Amerindian, African and European cultures as well as of the fusion of these with others like the Asian, Hebrew or Islamic. They are unique testimonies of a very important process in the history of humanity, like slavery. Nevertheless, a good part of the cultural landscapes of the Caribbean is threatened. They could still disappear, if urgent measures for their identification, recognition and preservation are not adopted. The greatest dangers must be the vulnerability of the islands as a result of their physical-geographic characteristics, the frequent natural disasters and a shortage of resources. Other factors, such as the abusive use of the herbicides and the contamination of fluvial or marine water, increase the risks. The absence of rational planning of the territory and the scant knowledge of the techniques of management on the part of the agricultural producers, the administrators and the technicians, the lack of awareness with respect to its importance as a form of sustainable life for many communities and as an attraction for culture, tourism and science also have an influence. This singular legacy still does not enjoy sufficient recognition on the part of many States Parties where they are located. Exceptionally, only two Caribbean cultural landscapes have been registered on the World Heritage List; the Valley of Viñales and the Archaeological Landscape of the Coffee Plantations, both in Cuba.

Module 4, *Management of Cultural landscapes*, sets out to train the people who make decisions on this type of heritage in the specifics of this category, their identification, protection and sustainable use. Also, it aims to create a consciousness of the potential exceptional universal value that many of these cultural landscapes present with a view to their nomination as World Heritage. On the other hand, the program also seeks recognition and protection for those landscapes that, although they do not have a significance that extends beyond the local borders, are important for a country or locality.

With this objective the program will study the essence of this heritage category and its typologies, the diverse manifestations of the tangible or intangible natural and cultural inheritance that they contain, its nexus with other disciplines or fields like geology and geomorphology, biology, architecture or archaeology. Also it will analyze the importance of Caribbean agriculture and its role in the sustainability of the communities. It will also approach, the principles and methods of an efficient management which allows the preservation of its values, integrity, authenticity and resources in favour of the development of the present and future generations. Through a visit to a local cultural landscape, an exercise will be undertaken to draft a management plan for the site. To conclude, the results of the practical exercises will be presented and discussed.

It is essential to clarify that the variety of subjects in this module is a reflection of the extraordinary complexity of cultural landscapes. They just try to offer to administrators of these sites, and other actors, an introduction to the diversity of disciplines that converge and interact within them.

Thematic program

Day 1	Day 2	Day 3	Day 4	Day 5
Opening				
1 Landscape, landscaping and cultural landscapes.	7 Abiotic components of the landscape (I)	13 Factors that affect landscape.	Visit to a cultural landscape. Exercise to draft a management plan	Presentation of the results of the practical exercise.
2 Designed cultural landscapes (I)	8 Abiotic components of the landscape (II)	14 Concepts and principals of management		
Break	Break	Break		Break
3 Designed cultural landscapes (II)	9 Biotic components of the landscape(I)	15 Management Plan Methodology (I)		Idem
4 Cultural landscapes organically evolved (I)	10 Biotic components of the landscape (II)	16 Management Plan Methodology (II)		Idem
Lunch	Lunch	Lunch		Lunch
5 Cultural landscapes organically evolved. (II)	11 Caribbean agriculture	17 Monitoring: fundamental definitions .	Idem	Closure
6 Associated cultural landscapes	12 Cultural heritage components in cultural landscapes	18 Explication of the practical exercise		

Lecture 1

Landscape, landscape gardening and cultural landscapes.

SUB TOPIC	OBJECTIVES
1.1 Landscape: general concepts and definitions.	To explain the meaning and evolution of the term to date.
1.2 Landscape gardening or landscape architecture: scope of activity.	To explain the meaning of the term as a rural technical science profession: scenic and environmental aspects, antecedents, general objectives and scope of activity.
1.3 Cultural landscape as a part of World Heritage. Antecedents.	To explain the origin, definition and extent of the term cultural landscape and how it is classified.
1.4 The current state of cultural landscapes.	To present the current state of cultural landscapes around the world, with a focus on Latin America and the Caribbean.

1.1 Landscape: general concepts and definitions.

The term landscape has different meanings. It often carries an artistic connotation: A painting or drawing of scenery; an expanse of land considered artistically. Other definitions are more technical or precise:

A territorial system made up of components and networks of different levels under the influence of natural processes and modification activities of human society in permanent interaction and development. This system has several elements that can be classified into three domains or subsystems, taking into account that they are interconnected:

The abiotic sphere includes the physical components that make up the inert, solid, liquid or gas substratum and involves the study of relief, climate, rivers and coasts, among other elements.

The biotic sphere includes the natural biological components such as animals and vegetation, the distribution of species, and the forms of association.

The anthropic sphere includes every aspect related to human activity.

Spanish geographer Fernando González Bernáldez defined: "Landscape is the information that man receives from his environmental surroundings." Another Spanish geographer, Francisco Díaz Pineda,

said: "Landscape is the multi-sensory awareness of a system of ecological connections."

In general, landscape is defined as a system made up of diverse components and networks formed by natural and anthropological processes in permanent interaction and development.

1.2 Landscape Gardening or Landscape Architecture: scope of activity.

The principal objective of this field is the synergy or integration of art and science in the control, planning and design of the physical and cultural surroundings, including uncultivated land, woods, urbanized areas and areas associated with buildings.

Landscape design is the conscious process of physically controlling, planning and modifying a certain expanse of land and designing, in detail, the surroundings. Landscape gardening is a multidiscipline practice that should be carried out based on a holistic, ecologically oriented, sustainable and participatory approach.

Landscape architecture is clearly an environmental vocation. Frederick Law Olmsted (1822-1903), creator of New York's Central Park, was the first to use the term Landscape Architecture. The term includes the following areas:

- The planning or regulation of the landscape in a rural or urban framework.

- The planning of the site or surroundings.
- The planning and design of landscape in different contexts of economic activity.
- The planning and design of landscape in engineering works: hydro-technical and road works.
- The planning and design of urban green areas: from large urban parks to tree-lined streets and urban agriculture.
- The designing of landscapes around buildings and architectural developments.
- The restoration, conservation and management of cultural landscapes.
- Works to protect against and prevent disaster risks.
- The restoration of degraded environments and landscapes.

1.3 The cultural landscape as a category of World Heritage. Antecedents.

The natural landscape is a landscape composed mainly of components and networks formed by natural processes. Carl O. Sauer (1889-1975), the father of U.S. cultural geography and founder of the School at the University of California, Berkeley, was the first to use the concept of Cultural Landscape as early as 1925. His definition is well known: "The cultural landscape is fashioned from a natural landscape by a cultural group. Culture is the agent, nature is the medium, the cultural landscape is the result."

Since its approval in 1972, the World Heritage Convention has dealt with both cultural and natural heritage. After many years of debate on the essence of cultural landscapes, the 16th session of the World Heritage Committee, held in Santa Fe, New Mexico in 1992, approved and launched this category. As such, the convention became the first international legal instrument to recognize and protect cultural landscapes. This unprecedented decision, with respect to such a complex type of heritage—focused on the interaction between nature and culture and, at the same time, so closely linked to traditional ways of life—was a testimony to the advanced and dialectic character of the convention. This new focus represented an achievement for both UNESCO and the World Heritage Committee as a contribution to sustainable development and community involvement.

Under the committee's recommendations and in order to make an overall analysis of the different kinds of cultural landscapes and their potential universal value as well as to include them in the Operational Guidelines for the Implementation of the Convention, a meeting of experts was held in Petit Pierre, France, in 1992, organized by the World Heritage Center in coordination with International Council on Monuments and Sites, ICOMOS, the World Conservation Union, IUCN and

other international organizations. As a result of the meeting, the Operational Guidelines defined these landscapes as follows:

"Cultural landscapes represent the 'combined works of nature and of man' designated in Article 1 of the Convention. They are illustrative of the evolution of human society and settlement over time, under the influence of the physical constraints and/or opportunities presented by their natural environment and of successive social, economic and cultural forces, both external and internal. They should be selected on the basis both of their outstanding universal value and of their representativity in terms of a clearly defined geo-cultural region and also for their capacity to illustrate the essential and distinct cultural elements of such regions.

"The term 'cultural landscape' embraces a diversity of manifestations of the interaction between humankind and its natural environment.

"Cultural landscapes often reflect specific techniques of sustainable land-use, considering the characteristics and limits of the natural environment they are established in, and a specific spiritual relation to nature. Protection of cultural landscapes can contribute to modern techniques of sustainable land-use and can maintain or enhance natural values in the landscape. The continued existence of traditional forms of land-use supports biological diversity in many regions of the world. The protection of traditional cultural landscapes is therefore helpful in maintaining biological diversity.

However, the large variety of cultural landscapes in the world required a classification for their better understanding and treatment. For this, the Operational Guidelines previously mentioned define the following three main categories:

- The clearly defined landscape designed and created intentionally by man.
- The organically evolved landscape, which falls into two sub-categories:
 - a. The relict or fossil landscape.
 - b. The continuing landscape.
- The associative cultural landscape.

Several other international and national institutions have made important contributions to safeguarding the values of natural and cultural heritage, parallel to those made by the World Heritage Committee.

The ICOMOS-IFLA International Committee for Historic Gardens met in Florence on May 21, 1981, to draw up a charter for the preservation of historic gardens. The Florence Charter was drafted by the Committee and registered by ICOMOS on December 15, 1982.

Similarly, the U.S. National Parks Service (NPS) published a 1996 document by the Secretary of the Interior entitled *Guidelines for the Treatment of Cultural Landscapes*, which defines Cultural Landscape as follows: “A geographic area (that includes cultural and natural resources, such as wild and domestic animals) associated with historic events, important activities and figures, which also contains other cultural or aesthetic values.”

NPS classifies cultural landscapes as follows: Historic Designed Landscape, Historic Vernacular Landscape or Rural Historic, Historic Site and Ethnographic Landscape.

For the purposes of this course, the definitions established by the UNESCO World Heritage Committee and presented in this sub topic will be used.

1.4 The current state of Cultural Landscapes

After establishing a definition for cultural landscape, the International Experts Meeting on Cultural Landscapes of Outstanding Universal Value held in Templin, Germany, in 1993, drafted an action plan that would help the States Parties in the identification, assessment, nomination and management of these properties for their inclusion in the World Heritage List. In the same year, the World Heritage Committee approved the plan, emphasizing the need for the inclusion of cultural landscapes in the lists.

Soon after, the first inscriptions started to occur. The associative cultural landscape of the Maori sacred mountains in Tongariro National Park, New Zealand was the first site inscribed. Between 1993 and 2007, more than forty cultural landscapes were designated as World Heritage sites.

The three established categories —designed cultural landscape, organically evolved cultural landscape and the associative cultural landscape— are all represented on the list, with the majority of sites in Europe, although there are some from other parts of the world.

Interest is on the rise. With the aim of discussing and better clarifying the essence of the new heritage category and to identify landscapes of outstanding universal value and to understand the specific perils and threats they face, several experts meetings, seminars or workshops organized by the World Heritage Centre, ICOMOS and other related entities, were subsequently held in Europe, Asia-Pacific, Latin America and the Caribbean.

Latin America and the Caribbean have retained many of the different typologies of cultural landscapes. Nevertheless, the majority have yet to receive national or international acknowledgement. The Viñales Valley, a Cuban evolved continuing landscape related to tobacco

farming was the first cultural landscape from this region to be included in the World Heritage List in 1999. To date, two other cultural landscapes have been included on the World Heritage List: the Coffee Plantations in Southeast Cuba and the Quebrada de Humahuaca in Argentina. Several experts have noted that some of the World Heritage sites inscribed on the list prior to the development and approval of the concept of cultural landscape fit the category perfectly.

As of 1998, several meetings sponsored by the World Heritage Centre have addressed the topic of cultural landscapes in Latin American and the Caribbean. Among these are: a 1998 Workshop on the Cultural Heritage of the Caribbean and the World Heritage Convention held in Martinique; a 1998 Thematic Meeting on Cultural Landscapes in the Andean Region held in Peru; a 1999 Thematic Meeting on Cultural Landscapes of the South Cone, Argentina; a 2000 Thematic Meeting on Cultural Landscapes in Mesoamerica, Costa Rica; a 2001 Regional Expert Meeting on Plantation Systems in the Caribbean, Suriname.

The 25th Session of the World Heritage Committee, held in December 2001, in Helsinki, Finland, analyzed the conclusions of the Suriname meeting. The session recognized that an important achievement of this encounter had been that “the concept of cultural landscapes adopted by the Committee in 1992 was suggested as an answer to the complexities of the Caribbean heritage and specifically the plantation systems.” The Committee also recognized that “it was emphasized that the cultural landscape categories in the framework of the World Heritage Convention are of great interest when trying to come to grasp with heritage as complex as that of the Caribbean.”

For the first time, the World Heritage Committee linked the idea of Caribbean heritage with cultural landscapes. The *Dominica Document*, an outcome of the Training Course on the Application of the World Heritage Convention in the Caribbean and its Role in Sustainable Development, held in Roseau, Dominica in 2001, called for the “preservation and conservation of Caribbean heritage as an expression of identity and a basic resource for sustainable development.”

In 2005 and in accordance with this principle, the Meeting of Experts on Cultural Landscapes in the Caribbean: Strategies for Identification and Protection —organized by the UNESCO Regional Office for Culture in Latin America and the Caribbean— was held in Santiago de Cuba to thoroughly investigate the repercussions of this subject in the sub region. The meeting produced the *Santiago de Cuba Declaration*, which established a far-reaching plan of action for the acknowledgement and protection of these Caribbean landscapes.

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Lecture 2

Designed cultural landscapes (I): Historical evolution of gardens and landscape areas.

SUB TOPIC	OBJECTIVES
2.1 The creation of garden landscapes or parks throughout history, from Antiquity to the Middle Ages.	To explain the origin of gardens or landscapes intentionally designed and created by humans as a subcategory of cultural landscape and their subsequent evolution.
2.2 Development of gardens from the European Renaissance to the early 20th century.	To briefly present the development of the European gardens in Italy, France and England, from the 16 th century to the beginning of the 20th century.
2.3 The gardens of Eastern cultures and other regions of the world.	To present the general characteristics of Eastern and Islamic gardens of the south of Spain and their subsequent influence in the colonies of the new world.

2.1 The designed landscape. The creation of landscape areas or parks throughout history, from Antiquity to the Middle Ages

This subcategory is thought to be *perhaps the easiest to identify*. It includes gardens and parks created for aesthetic reasons, which are frequently (although not always) tied to buildings, groups of buildings, groups of monuments, religious buildings or other types of construction.

The first outdoor construction built by primitive man was the rustic barbed fence to keep out wild animals. The need for shade and water led to the addition of the tree and fountain to the primitive enclosure; thus meeting the needs of protection and defence, shade, drink and rest. The construction of the first gardens was defined by the physical environmental conditions, social relations and owners' needs. At times in history, gardens have represented idealized outlooks of the world and the aspirations of society. Following is a brief explanation of the most important periods, from Antiquity to the Middle Ages.

Egypt: 2500 BCE. The history of Egypt is the history of the Nile Valley and its cyclical changes. Weather and vegetation have been closely linked to geographic conditions. In this context, the development of domestic gardens within stately homes was characterized by the presence of an area completely isolated from the outside, enclosed by high walls and pillared façades. Inside could be found groves of dates, olives and sycamore (*Ficus sycomorus*), vineyards, and ponds with fish and aquatic birds.

Middle East: 1100 BCE. In Babylon, the famous hanging gardens of the palace of Nebuchadnezzar II were built up over terraces supported by high columns. They are one of the seven wonders of the ancient world.

Greece, Rome: 700 BCE – 200. In slave owning societies, outdoor public and private areas were used to carry out multiple activities of social exchange. The houses in the cities featured an open area in the middle of the house, isolated from the external world, which was surrounded by galleries with columns that

led to the rooms. These courtyards were filled with ornaments and few plants. Citizens met in the cities' tree lined squares to debate and hold public activities. In Rome, the wealthiest families built up suburban villas with wide gardens, ponds, fountains and sculptures.

Middle Ages. Walled areas were characteristic of this period. Lands outside the walls were cultivated by farm workers at the service of feudal lords. As defensive facilities, these areas required wide and clear views of the surrounding area, as well as obstacles to prevent an enemy's entrance. Inside, were small landscaped areas where herbs and spices were grown, geometrically arranged around a well.

2.2 Development of gardens from the European Renaissance to the early 20th century

Beginning with the European Renaissance, gardening became the activity of designers, painters, sculptors, architects, poets and philosophers interested in understanding its essence and perfecting its practice. These gardeners had the support of sponsors, men of state and monarchs.

There are three main stages, coinciding with three countries and three centuries: 16th century Italy, 17th century France and 18th century England.

16th century Italy: Gardens form part of buildings and towns, generally located in high areas and hillsides with open and panoramic views. In Rome and Florence, the fields are undulating with slight hills. Some of the interesting aspects were the construction of terraces and staircases connecting areas at different levels; geometrically lined avenues using diagonals; the use of pergolas and porches; containers, flowerpots and sculptures; the use of moving water in waterfalls, streams and bubbling springs.

17th century France. Gardens were determined by topographic factors such as the northern plains. After the rise to the throne of King Louis XIV, the absolute monarch, they were also determined by political circumstances. The French chateau was the permanent residence of sovereigns and nobility. Their principal features were strong geometrical designs, demonstrating mankind's will to control nature; carefully arranged views; elaborately designed parterres with shrub-like plants, herbs, gravel and coloured stones; and *compartment de broderie*, a parterre forming a large vegetal embroidery that formed the centre of the garden. An important figure of this time was André Le Nôtre, creator of several gardens including Vaux le Vicomte (1650), the Versailles Palaces, and the palaces of Clagny, Meudon, and Chantilly, among others.

16th, 17th and 18th century England, first stage (Beginning in the mid 16th century): In the beginning, the emerging bourgeoisie adopted continental models. Examples of this were Nonsuch and Hampton Court, which incorporated Renaissance elements without adopting a single concept in its entirety. During the 17th century, appeared the "patte d'oie" or junction, a semicircle close to the house from which five avenues split off to far away meadows. The focal point was the stately home, observable from different angles of the landscaped area.

18th century: The Gardening Revolution. The mid 18th century marked the beginning of a significant change in peoples' tastes and in concepts in relation to gardening. Weather conditions and social habits were determining factors, but the main cause was economic. The most significant aspects were a rejection of the complicated parterres, now replaced with simple herb gardens and pebbles; a rejection of geometrical designs and straight lines for slight curves and natural shapes; a move away from terraces, balustrades, complex hydraulic and statuary works; the removal of visual limits; and integrating gardens to the surrounding deer parks through the construction of a ha-ha or continuous trench with a hidden fence. The following figures, in succession, stand out for their contributions: William Kent, Lancelot Brown, Sir William Chambers and Humphrey Repton (19th Century gardening in the Victorian Era). During this century, the predominant style was the so-called 'gardenesque', an eclectic model that allowed for the development of the garden in any direction. John C. Loudon was the great craftsman of this style. In the last decades of the 19th century, William Robinson and Gertrudes Jekyll made their mark with their contributions to the concept of the "wild garden," open to the possibilities and tastes of each individual and according to the available resources: water, rocks, diverse herbs, wild flowers, etc. The garden became a sanctuary —a place to carry out gardening. At the same time, in the United States, Frederik Law Olmsted (1822-1903), from the mid 1800s, was laying the groundwork for the field of Landscape Architecture, calling himself a landscape architect. His most important works were New York's Central Park (1857), Prospect Park in Brooklyn and the network of parks in Boston known as the Emerald Necklace (1861). He also designed parks in Chicago, Montreal, Buffalo, Rochester, Louisville and several other places. Public and private organizations today expend great effort to preserve his gardens, keeping his design ideas alive. Other important landscape designers during the second half of the 19th century in the United States were Charles Eliot, Warren H. Mannin, William le Baron Jenney, Jacob Weidenmann and Horace S. Cleveland.

2.3 The gardens of Eastern cultures and other regions of the world.

Gardens in the Far East, China and Japan were based on philosophical and spiritual concepts founded on two contrary principles: repose and action, Yin and Yang. Their spiritual guides were Lao Tse, who taught the tranquil philosophy of Taoism; Confucius, who preached a life of moderation in all aspects; and Buddha, who preached the achievement of tranquility, contemplation and freedom from desire at a mystical level.

China. The scenery of remote areas of China served as the inspiration of gardens modeled after these venerated landscapes. The Chinese developed a love for nature and the emotional states it awakened. They were known for creating a space designed for contemplation in accordance with a series of well-calculated and protected positions. They also employed a code of symbols to achieve a certain natural effect using a set of established resources. Works with stones played a fundamental role. **Chinese gardening had mainly a symbolic nature; for instance, a small-scale replica of a favorite natural scene.**

Japan. The Japanese fully adopted the principles and ideas of Chinese gardening, reducing the way Chinese people used the elements of the natural landscape to rules. From the 5th to 16th century, six different types of gardens can be distinguished: island, water, paradise, rocks, the teahouse and walking gardens.

The premise of the **Islamic Garden** or "**Desert Garden**" was to create a fresh and quiet space in the midst of severe environmental conditions. The space isolates itself from the external world, visually increasing its dimensions through reflections produced on the surface of water. The gardens are located within domestic areas and are of shade, fountains, water mirrors and scents. Quintessential examples of the Islamic Garden are the Alhambra and the Generalife, in Granada, Spain.

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Lecture 3

Designed cultural landscapes (II): contemporary gardens, established patterns and development tendencies of landscape architecture. Case studies in the insular Caribbean.

SUB-TOPICS	OBJECTIVES
3.1 Gardens and contemporary landscapes.	To present the development of gardens and landscapes associated with modern architecture and urbanism, as well as their creators.
3.2 Patterns of designed cultural landscapes beginning with the development of landscaping in recent years.	To expose the wide variety of designed cultural landscapes of patrimonial value within the field of contemporary landscaping.
3.3 Conservation tendencies and potential prospects for designed cultural landscapes.	To show current tendencies in the preservation of designed landscapes and landscape architecture in the insular Caribbean.
3.4 Designed cultural landscapes being preserved in the insular Caribbean.	To present some outstanding designed cultural landscapes preserved in the insular Caribbean.

3.1 Gardens and contemporary landscaping

Continuing the process begun in the United States at the middle of the 19th century, Frederick Law Olmsted and other outstanding figures (such as Jens Jensen, Charles A. Platt, Beatrix Farrand, and Elbert Peets) excelled in the field of landscape architecture in the first half of the 20th century. Likewise, remarkable work was carried out between 1933 and 1939 by the successive administrations of President Franklin Delano Roosevelt under New Deal Public Projects domestic programs.

At the end of World War II in 1945, an ascending movement was produced in the field of landscape architecture, with Thomas D. Church, Garrett Eckbo, Daniel Urban Kiley and Lawrence Halprin outstanding for the importance of their works and writings.

Thomas D. Church, among his remarkable works the Donnell Garden, in Sonoma County, California; various residential projects; residences and parks of the Merced Housing Development, San Francisco, California; the Stanford University Medical Center, Palo Alto, California; The San Francisco Civic Center, California stand out. He was also the author of the well-known book "Gardens are for People."

Garrett Eckbo, among his outstanding works are residential projects as well as urban sites such as the Fresno Mall, Ambassador Collage, Union Bank Square, Channel Park and the Sculpture Garden. He wrote a number of books to popularize the principles gardening design.

Daniel Urban Kiley did intensive work in the Midwest and West of the United States. Among his remarkable works are Miller House, Columbus, Indiana; projects in Columbus, Indiana, 1964-74: North Christian Church; Irwin Union Bank and Trust Co.; Indiana Bell Telephone; Oakland Museum, Oakland, California; Fountain Place, Dallas Texas; projects of the 60's: Chicago Filtration Plant, Illinois; Independence Mall, Philadelphia; Dulles International Airport, Chantilly, Virginia; the Ford Foundation Office Building, New York City.

Lawrence Halprin, his most important works are located on the west coast of the United States: Portland Open Space Sequence, Portland, Oregon; Seattle Freeway Park, Seattle, Washington; Bunker Hill Steps, Los Angeles, California; Levi Strauss Park and Plaza, corporate headquarters, San Francisco, California.

Roberto Burle Marx (Brazilian, 1909-1994) was one of the most remarkable landscapers of the 20th century. He was also a renowned contemporary painter, standing out particularly as an exceptional muralist with a wide command of shapes and colours. His paintings are directly associated with many of his creations in the landscaping field, his close relationship with noted Brazilian architect Oscar Niemeyer being of great significance. He chiefly used tropical flora as a resource, finding inspiration for his designs in the permanent properties of the texture and colour of foliage, with a preference for the ephemeral properties of the shape and colour of flowers. He explored new ways of expression – for instance, letting caespitose gramineous (a flowering plant related to the palm family) grow freely in enclosed patches, for the temporary appreciation of their blooming.

Landscaping projects by Roberto Burle Marx have a particular and distinctive hallmark. He creatively used the extraordinary qualities of flora and the biological diversity of tropical vegetation, from the tropical rain forests of the Amazon to the dry and arid regions of northeast Brazil and other places in the Americas.

3.2 Patterns of designed cultural landscapes associated with the development of landscaping in recent years.

To take an inventory and make an appropriate record of designed cultural landscapes, various unique, accurate and unmistakable patterns have been identified. Some designed historical landscapes, particularly expansive ones, can include or consist of more than one of these patterns at the same time. In such cases, the landscape identified must be classified according to the predominant pattern. The following are the proposed patterns:

- Small residential lots.
- Haciendas, plantation estates, including farms with high scenic values.
- Arboretums, botanical gardens or exhibition gardens; gardens and zoos.
- Exterior areas of temples, churches, convents and cemeteries.
- Monuments and memorials, parks commemorating battles and other activities or events.
- City parks, thematic and urban parks, plazas, parade grounds, commercial and public places.
- Campus and institutional grounds, designed communities and complexes.
- Recreational centres, spas, industrial and commercial grounds.
- Grounds designed or developed for outdoor recreation: sports fields, country clubs, golf courses, tennis courts, baseball stadiums, track and field stadiums.
- Centres for fairs and exhibitions.
- Landscaped roads, boulevards, walkways, interpretive paths.
- Water mirrors and fountains (considered independently, not as part of a complex).

3.3.Preservation tendencies and potential prospects of designed cultural landscapes.

A good part of the designed cultural landscapes that have been declared World Heritage, and others that might achieve such a classification for their value as historical gardens, are associated with or related to palaces or buildings located in European countries. Others are located in Asian countries.

In the Caribbean, there are two cultural landscapes registered on the List of World Heritage: the Viñales Valley and the first coffee plantations in southeast Cuba, both in Cuba. The first one is an evolving landscape while the second belongs to the subcategory of evolved landscape (relic or archaeological). To date, landscapes from other Caribbean nations have not been registered, nor has any designed cultural landscape from these countries been included on the list. For this, it is first necessary to identify the designed landscapes in the region. And then, evaluate whether any of them has an exceptional universal value. Their integrity and authenticity, legal protection and management will also have to be evaluated. In the Caribbean, many heritage institutions that have not yet started to consider this problem, but they will have to do so. This is basically true because these landscapes have meanings and are valuable as the inheritance of these nations, even in the event that their values do not transcend the borders of those countries in the area.

The identification, protection and conservation of this wealth is urgent, and also requires approaches that suit the specific conditions of the Caribbean. In some countries like Saint Lucia, for example, actions have been taken to safeguard their historical gardens.

In the last few decades, important changes have taken place in the region as a result of the increase in tourism, which has brought about the construction of important hotel complexes and the development of landscapes and natural resources along with improvements to their respective support facilities. It must be remembered that, what are currently designed landscapes, can in the future become acknowledged as cultural heritage landscapes.

Simultaneously, the fields of action of landscape architecture have considerably expanded to cover a wide spectrum of spheres, such as transformations made to public spaces in cities and communities, the

creation of theme parks, sport facilities, golf courses, scenic roads, and particularly the recovery and transformation of deteriorated sites. The safeguarding and conservation of established values and properly managed transformations and new investments are premises to guarantee that some of these assets are eventually included in the select group of cultural heritage.

3.4 Designed cultural landscapes preserved in the insular Caribbean.

The Caribbean is rich in cultural landscapes of all types, including designed ones. In the islands, it is very common to find attractive gardens that were part of the bygone slave plantations; for example, that of the **Rose Hall Plantation in Montego Bay, Jamaica**. In Saint Lucia, the Historical Garden of Mamiku, near Praslin on the Atlantic coast, was originally a sugar plantation in the 18th century. It has beautiful areas of natural forests and fields of fruits and flowers. Ruins and old artefacts can be found amid its exuberant vegetation. Its botanical garden, relatively recent in its creation, is visited by many foreign horticulturists.

Several of the botanical gardens in the Caribbean islands had their origins in the 19th century, fundamentally under the influence of the European colonial mother countries, and are of scientific interest due to the rich tropical vegetation of the Caribbean. Among the most relevant are the Castleton Garden, founded in 1862 near Kingston, which closely resembles the **Kew Gardens in England**. Other examples of interest are the Cinchona Garden, founded in 1868 at more than 1,500 meters above sea level in Saint Andrew; the Coyaba River Garden in Eight Rivers, and the Orchid Sanctuary at Martin's Hill, Manchester, both in Jamaica.

In **Barbados**, the most famous botanical garden is that of Andromeda, located on a hill descending toward the Atlantic coast. It is much appreciated for its fabulous heliconias and other plants. It was a private garden founded in 1954 and later donated by its owner to the Barbados National Trust.

In **Saint Lucia**, there is also a remarkable complex consisting of a botanical garden, mineral waters and the Diamond Waterfall, in the area of Soufriere. This was developed in an area covering more than 8,000 km² and is cared for by its inhabitants. It has a splendid collection of remarkable flowering plants, including bushes and stout trees. Its springs of sulphurous waters descends down a hill forming a cascade that passes through the botanical garden. Two original stone bathhouses from the 18th century were restored in 1928. It is currently a recreational, tourism and health site.

Another of the most important botanical gardens in the Caribbean is that of **Roseau, Dominica**, inaugurated in 1891 at the base of Morne Bruce, a hill that rises to the east of the small city.

The **Atkins Garden, in Cienfuegos, Cuba**, founded in the late 19th century, is an important case study. Originally established to research varieties of sugar cane, in the early 20th century it became the Harvard University's Botanical Station for Tropical and Sugar Cane Research. It currently has more than 2,000 species of plants, and was declared a National Monument in 1989. Another important case study is the **Gardens of the Schultess Residence in Havana**. This archetypical house, completed in 1958, was designed by the renowned Australian-American architect Richard Neutra; its gardens were designed by Brazilian landscaper Roberto Burle Marx. The gardens were carefully restored a short time ago by Cuban landscape architect Sergio Ferro Cisneros.

An important **Caribbean tradition is that of growing of medicinal plants**, which are regularly and widely used by the public. This has led to the creation of a large number of specialized gardens.

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Lecture 4

Organically evolved cultural landscapes

SUB TOPICS	OBJECTIVES
4.1 The organically evolved cultural landscape.	To explain the general characteristics of the organically evolved cultural landscape and its classification.
4.2 The organically evolved relic and relict landscape	To explain the general characteristics of the relic and relict landscape and to provide examples of these.
4.3 Organically continuously evolving landscape.	To explain the general characteristics of the continuous landscape and to provide examples of these.

4.1 The organically evolved cultural landscape

The organically evolved landscape is the result of a social, economic, administrative and/or religious imperative and has taken its current form both in association with its natural environment and as a response to it.

It is a landscape that has emerged and developed through its use by communities, families or entities whose activity or forms of occupation have fashioned it. The adaptation to a specific function or type of farming plays a fundamental role in its formation. It can be a single property like a farm, for example, or of a group of properties constituting a larger area.

They are divided into two sub-categories:

- The organically evolved relict and relic landscape
- The organically continuously evolving landscape.

4.2 The organically evolved relict and relic landscape

The relict (or relic) landscape is one whose evolutionary process stopped at some time in the past, either abruptly or over time; however, its distinctive characteristics are still visible in a material form.

A very outstanding example is the archaeological landscape of the **first coffee plantations in the southeast of Cuba**. The ruins of the Franco-Haitian coffee plantations of the 19th century in the foothills of the Sierra Maestra Mountains constitute singular

evidence of a novel agricultural approach to the difficult task of cultivating land in thick virgin forests. This type of agriculture has disappeared in the rest of the world. The ruins and remains shed light on the economic, social, and technological history of the Caribbean and Latin America region. The production of coffee in the southeast area of Cuba during the 19th century and beginning of the 20th gave rise to the creation of a unique cultural landscape that illustrates a significant stage in the development of these forms of agricultural production.

Another Latin American example is the Humahuaca Gorge in Jujuy, Argentina. It follows the line of one of the most important cultural routes, the Inca Trail, which was used over the last 10,000 years as a crucial passage for the transport of people and ideas from the summits of the Andes to the plain. It presents visible remains of prehistoric hunter-gatherer communities, of the time of the Inca Empire (the 15th to the 16th century) and of the struggles for independence in the 19th and 20th centuries.

Its distinctive pre-Hispanic and pre-Incan settlements, with their associated systems, constitute a dramatic addition to this exceptional landscape.

4.3 Organically evolving landscapes

The continuous landscape is one that retains an active social role in contemporary society, closely associated with the traditional lifestyle and whose evolutionary process is still in progress. At the same time, it exhibits significant material evidence of this evolution over the course of time.

Many of these cultural landscapes, in addition to constituting historical and cultural testimonies, reveal sustainable solutions for the current communities.

A classic example is that of **the rice terraces in the mountain ranges of the Philippines**.

For 2,000 years, the elevated rice terraces of Ifugao have followed the contour of the mountains. The fruits of knowledge transmitted from generation to generation, and the expressions of sacred traditions combined with a delicate social balance, have helped to create a landscape of great beauty that expresses harmony between humanity and the environment.

Likewise, the **Amalfi Coast** is an outstanding example of Mediterranean landscape, possessing exceptional value, both from the panoramic as well as the natural point of view. This is the result of its dramatic topography, its historical evolution, great physical beauty and its natural diversity. It has been a site of intensive settlement by human communities since the early Middle Ages. There are a substantial number of small villages, like Amalfi and Ravello for example, with architectural and artistic works of great significance. The rural areas demonstrate the versatility of the inhabitants to adapt the use of the soil to the natural diversity of the terrain, which varies from vineyards on terraces to orchards on the low hills and more extensive pastures in the highlands.

The **Jurisdiction of Saint-Emilion, France**. Viticulture was introduced into this fertile region of Aquitaine by the Romans, which was intensified in the Middle Ages. The area of Saint-Emilion benefits from its location along the pilgrimage route to Santiago de Compostela. Starting from the 11th century, many churches, monasteries, and hospices were built in the area. It was made a special jurisdiction during the period of English domination in the 12th century. Dedicated to the cultivation of vineyards, it is an exceptional landscape whose towns and villages have many magnificent historical monuments.

Historical cultural landscape of the wine growing region of Tokaj, Hungary. It graphically demonstrates the long tradition of wine production in this region of gentle slopes and valleys intersected by rivers, which has existed for at least a thousand years, and has survived intact up to the present day. The remote vineyards, farms, villages and small towns with their wineries, each illustrating a facet of the production of Tokaj's famous wines – of which the quality and handling has been strictly regulated for almost three hundred years. The entire landscape of the wine growing region of Tokaj, including the vineyards and the old settlements, vividly illustrates the specialized form of the use of the soil.

Koutammakou, Land of the Batammariba. The Koutammakou landscape in northeastern Togo, which extends into neighbouring Benin, is home to the Batammariba people. In this landscape, nature is strongly associated with the rituals and beliefs of society. The 50,000 hectare cultural landscape is remarkable due to the architecture of its tower-houses, which are a reflection of the social structure, its farmland and forests, and the associations between the people and the landscape. The buildings, some with flat roofs and others with conical thatched roofs, are grouped into villages that also include ceremonial spaces, springs, rocks and sites reserved for initiation ceremonies.

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Lecture 5

The Plantations of the Caribbean

SUB TOPICS	OBJECTIVES
5.1 The plantations of the Caribbean as heritage.	To highlight the importance of the Caribbean slave plantations as cultural landscapes.
5.2 Examples of Caribbean plantations.	To present and discuss examples of interest for participants.

5.1 The plantations of the Caribbean as heritage.

Most Caribbean cultural landscapes are related to colonial plantations that show the adaptation of European traditions to the local surroundings and the impact of slavery imposed on the colonies. The plantations are also a clear evidence of the role of the Caribbean as a crossover point of several cultures. There are abundant vestiges in the sub-region connected to these productive processes, which are fundamental to understanding the Caribbean culture and represent a remarkable heritage treasure.

The evolutionary landscapes, both the relict (or relic) and the continuing, appear to be the most significant from the point of view of quantity and quality in this sub-region. In many cases the two forms of landscape blend, for there are places where an ancient form of production has continued to be performed. In others, one or more production activities have been added to the original function of the site. It is also very interesting to note that, within several of these plantations, they are botanical gardens or collections that can be taken as designed cultural landscapes.

An outstanding feature is the large number of sugar cane landscapes, which resulted from the fact that sugar was, since the mid 17th century, the chief economic resource for the islands. Featuring high within this legacy are the 19th and 20th century sugar growing territories of Cuba, many of which still operate today but are at risk of being transformed or disappearing due to a recent restructuring of that industry.

Equally important are the countless sugar cane, coffee and various other plantations whose existence is pivotal for some countries and communities. The Caribbean states have the challenge to identify and protect this valuable and unique heritage.

5.2 Examples of Caribbean plantations.

There are many examples the length and breadth the Caribbean so we will focus on just a few. It will be convenient to adapt the analysis to the characteristics of each Caribbean country.

Among the cases of **organically evolved landscapes is the Valley of the Sugar Mills near Trinidad, in Cuba**. This is a major 19th century sugar producing area that exhibits numerous vestiges of its original function, in the San Luis valley. The site was registered in the World Heritage List in 1989 together with the historic center of Trinidad. Yet, it was not considered a cultural landscape because the category was not well known then. Several buildings have been restored there, some ruins consolidated and industrial elements rescued, which are open to visitors. Other ancient coffee and sugar cane plantations are also preserved in that country.

The **Archeological Landscape of the First Coffee Plantations in the South-East of Cuba**, which was included in the World Heritage List in 2000, covers an area of 81,475 hectares. These estates were founded in the mountains of Santiago de Cuba and Guantanamo during the late 18th and the 19th centuries by French colonists who were escaping the Haitian Revolution. They brought with them their slaves and are responsible for many songs, dances, legends, recipes and names that still exist today. The most relevant example of these manifestations is the Tumba Francesa, proclaimed by UNESCO in 2003 a Masterpiece of Oral and Intangible World Heritage.

Surrounded by luxuriant vegetation at Trois-Rivières in **Guadalupe**, the **Petit Carbet Plantation** was involved in the growing of sugar cane and the production of sugar for export to France since the 17th century. Later, in the 19th century, it became a

distillery and a coffee, vanilla and cocoa growing area. The main house has been restored and is lived in by the current owner. The sugar mill still functions and includes an original system of water wheels.

The **Griveliere** is another coffee plantation of the Grande Rivière valley in Guadalupe. It dates back to the 18th century and spreads over 90 acres of cultivated land, amid beautiful vegetation. Coffee and also cocoa, spices and tangerines have been grown here. Several of its old buildings have been restored and can be visited.

In **Martinique** there are examples like the **Fond Saint-Jacques**, which dates back to the 17th century and is located between the regions of Sainte Marie and Marigot. The main house, the gardens, a chapel and a cemetery, the sugar mill and other industrial remains have been preserved and are part of a cultural center. **Grand Céron** is another archeological testimony of a 16th century plantation where the ruins of the main house, the staff quarters and the sugar mill can be viewed.

Seven miles from Ocho Rios, on the **northern coast of Jamaica**, is **Sevilla la Nueva** (presently known as Seville). This was the largest Taino settlement in the area where Christopher Columbus landed in 1494. Columbus returned later and was eventually marooned there for a year, losing his boats. The archeological vestiges of the Taino, Spanish and English settlements, as well as evidence of settlements of runaway slaves, turn Sevilla la Nueva into a testimony of the clash between European, African and Amerindian cultures, and spreads today over large areas of orange and guava groves. It is currently the Maima-Seville Heritage Park.

The region of Soufrière and its **Mabouya Valley in Saint Lucia** features magnificent examples like those of Morne Coubaril and Balembouche, among very many others. The Heritage Tourism programme promotes visits to these sites as it strives for environmental sustainability and economic viability.

In **Saint Kitts and Nevis**, many of the old estates have been renovated and turned into *plantation hotels*.

The exceptional set of 16th century sugar cane plantations in the **Dominican Republic**, the **first in the Caribbean**, was proposed for World Heritage listing. But it was not accepted by the World Heritage Committee in 2005 due to insufficient legal protection and poor management of the complex.

In general, the different types of plantations, which have maintained centuries-old forms of cultivation and processing, continue to be common all over the

Caribbean. The fields of sugar cane, coffee, fruit and vegetables are not the only ones deserving recognition, research and protection as heritage institutions. Equally cattle ranches and poultry farms with their traditional ways of production deserve them.

In Haiti, Grenada, Guadalupe, Dominica, Curacao, Barbados or Surinam there are places that merit protection, conservation and intelligent management

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Lecture 6

Associative Cultural Landscapes

SUB-TOPICS	OBJECTIVES
6.1 Associative cultural landscapes	To explain the characteristics of associative cultural landscapes
6.2 Examples of associative landscapes	To provide examples of associative cultural landscapes for discussion.

6.1 Associative cultural landscapes

An associative cultural landscape is a landscape with powerful definable, religious, artistic or cultural associations with the natural element rather than material cultural evidence, which may be insignificant or even absent. Primitive peoples historically maintained a spiritual relationship with the nature around them. In all cultures, man attributed supernatural meanings to the natural surroundings: land to plant, forests, mountains, caves, rivers, lakes, or seas. These elements, which gave rise to myths, religious beliefs or practices, became an indispensable part of the vision of the world and identities of many peoples and have been passed down from one generation to another. For that reason they were closely connected to their daily life and generated strong feelings of ownership and belonging.

Among the countless associative landscapes in the world there are the ceremonial or worship sites of certain ethnic or social groups. Also the natural sites where major historic events have taken place, even when no vestiges remain.

The role of the communities is fundamental for their protection as they guard these sacred ancestral sites and pass on the traditional knowledge, which is key to preserving cultural and biological diversity. It is essential to protect these groups' customs and rights in the face of globalization, economic and commercial manipulation, intolerance or indifference.

6.2 Examples of associative landscapes.

In the Latin American region there are major associative landscapes connected to the history and customs of the pre-Hispanic people, like the many landmarks

along the Inca Road system in the Andean countries. Outstanding in the Caribbean are the sites connected with slavery. Cultural itineraries like that of the Slave Route Project feature numerous landscapes of this kind. Runaway slaves, for instance, created countless places of interest that qualify as associative landscapes in the Cuban mountains, in Jamaica and other islands. Also of great interest are the sites used for religious practices of African origin in close relationship with the natural elements.

Yet, this category generally needs a wider understanding and application in the Caribbean. Discussion and analysis of examples of associative landscapes from other regions that have been included in the World Heritage List would help greatly.

The Osun-Osogbo Sacred Grove (2005), Nigeria.

The Osun Sacred Grove is an ancient forest located outside of the city of Osogbo. It is considered to be the home of Osun, the goddess of fertility in the Yoruba pantheon. In the landscape of the grove and its meandering river there are shrines and sanctuaries in honor of both Osun and other deities. The site is symbolic of the identity and cosmology of this African culture. It is believed to be probably the last Yoruba sacred grove that has survived. It testifies to the old practice of establishing sacred groves outside settlements.

Austrian artist Suzanne Wenger, who became assimilated within this community, spearheaded a cultural movement that contributed to the reviving of the Sacred Forest of Osun.

An annual festival is held that attracts numerous visitors interested in the cultural or religious Yoruba practices.

The Uluru-Kata Tjuta National Park, also known as Ayers Rock. Uluru is one of the most important and recognizable natural icons of Australia. It is a huge rock formation that grows out of the vast red sandy plain of central Australia. Together with Kata Tjuta it makes up a national park. The site features spectacular geological formations, dominated by Uluru, an immense monolith, and Kata Tjuta. The two are part of the traditional belief system of one of the oldest human societies in the world, the Anangu.

One of the most striking features is that the color of the mountains seems to change according to the time of the day and the year. It is of great cultural significance for the Australian aboriginal people, who manage the site in agreement with the central government. For them, these mountains are related to Creation.

Koutammakou, the land of the Batammariba (2004), Togo. Located in the north-east of Togo, this landscape extends over 50,000 hectares, reaching all the way to neighboring Benin, and is home to the Batammariba. The population lives in villages, where they have spaces to conduct their rituals, like rocks and springs devoted to traditional initiation ceremonies. Nature is closely connected to the rites and beliefs of this society. Noticeable also is the traditional architecture of the houses, in the shape of turrets with flat or conical thatched roofs, which are considered a symbol of Togo. Among the reasons given for its inclusion in the World Heritage List was the fact that it is a living culture that has been maintained based on the ancestral Batammariba cultural traditions. The site is also an exceptional testimony of man's spiritual association with its natural surroundings.

Tongariro National Park (1993), New Zealand. Tongariro -the first cultural landscape to be inscribed on the World Heritage List- is a volcanic complex that rises 1978 meters over the North Island. It contains active and extinguished volcanoes as well as a wide range of ecosystems and landscapes of spectacular beauty. For the Maori people who have inhabited it for centuries the place relates directly to their origin and survival. It has a high cultural and religious significance for this people and symbolizes the spiritual links between this community and its environment.

In 1887, afraid of European intrusion, the chief of the Maori passed it on to the state and asked that it protect its values and exceptional beauty. This is how it became the first national park in New Zealand, and only the fourth of its kind in the world.

Its management is a model of protection of tangible and intangible heritage and of a diversity based on ancestral traditions. Never-the-less, the authorities are aware that the flow of tourists needs to be better controlled and guided.

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Lecture 7

Abiotic Landscape components: (1): geomorphology and relief

SUB TOPIC	OBJECTIVES
7.1 Factors that affect the conformation of landscapes	To introduce the factors that shape landscapes and the importance of geomorphology.

7.1 Factors that affect the conformation of landscapes

Each landscape is a type of living organism in a state of complex evolution under the influence of several factors that can be divided into two general categories. Those produced by natural elements: **abiotic and biotic**; and those produced by human societies: **anthropic**.

Abiotic components: the lithosphere, the solid outer layer of the Earth; the relief, the rocks and the ground; the atmosphere, the envelope of gases surrounding the earth, the air, wind, light and temperature (climate); the hydrosphere or liquid components, water.

Geomorphology studies the external cap of the earth's sphere, in particular the classification and explication of the forms of relief.

The planet's relief is a result of the movements of the earth's crust or orogenesis. The arrangement of the rock within a relief is a consequence of deformations due to tectonics or tectogenesis. **Orogenesis and tectogenesis** are closely linked by a relation of interaction. Morphogenesis is the modification of the forms and relief due to the process of erosion. All these processes are linked to one another. **A landscape is a product of the interaction the following factors** over time: solar energy, geothermic energy, gravity, the make-up of the resistance of the lithology and its structure, endogenic processes (orogenesis, tectonic volcanism), exogenic processes (meteoric factors, erosion, glaciation and biological activity by humankind).

The formations taken on by the earth's relief are extensive and variable. A **mountain** is an elevation 400 m above the earth's external cap. For more information on the planet's relief, coastal and volcanic variations, consult the attached bibliography.

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Lecture 8

Abiotic landscape components (2): rocks, soil and erosion processes.

SUB TOPIC	OBJECTIVES
8.1 Rocks: definition, formation process, evolution and classification.	To introduce the process of rock formation and its general classification.
8.2 Soil formation process and main characteristics.	To identify the process of soil formation and its main characteristics.
8.3 The phenomena of erosion.	To present the essential elements of erosion, the agents involved and how the series of processes is triggered.

8.1 Rocks: definition, formation process, evolution and classification.

The relation between the sculpting of the relief and the nature of the rocks is apparent in landscapes; the differences are a result of the rock's chemical and mechanical properties. Rocks are classified according to their physical-chemical makeup, their origin and mineralogical composition. Genetic classification (origin) is divided into three categories: magmata, sedimentary and metamorphic rock.

Magmata rock is formed in the earth's depths and subsequently surfaces. **Sedimentary** rock is formed on the planet surface and subsequently is buried. At a certain depth (12 km or more), sedimentary rock transforms and acquires all or some of the characteristics of magmata rock, above all its crystalline structure, giving rise to a third category: **metamorphic** rock, characterized by its crystalline structure and its arrangement in layers or sheets. Magmata rock that surfaces as a consequence of eruption is called eruptive or volcanic rock. Magmata rock that is strengthened underground and surfaces is called plutonic rock. Both are endogenous, having acquired their characteristics underground. **Sedimentary** rock is exogenous and classified according to its disposition (where it was deposited) and according to its mineralogical make up.

The physical structure of sediment corresponds in part to the force of the erosion process:

- Steep inclines, contrasting climates and heavy coastal pounding produce thick materials.
- Slight inclines and a slowed-down process in gullies due to vegetal cover produce fine materials.

Metamorphism is the radical transformation of the surface rocks (sedimentary or volcanic) on rock with a crystalline texture. Surface transformations occur due to processes involving the atmosphere, hydrosphere, and biosphere to which the rock is exposed.

8.2 Soil: formation processes and main characteristics.

The soil is the combined result of meteoric processes of original rocks (mother rocks), the sculpting effects on the relief (gravity, water, wind, climate, etc.) and other live environmental variables. Physically speaking, soil is a combination of loose minerals and organic particles produced by the combined action of wind, water and the process of organic decomposition. The chemical composition and physical structure of the soil in a given place are determined by the original type of geological material, the vegetation cover, the amount of time that the meteoric process has been active, the relief and the artificial changes as a result of human activity. Soil variations in nature are gradual. Soil classification is usually based on morphology and soil composition, with an emphasis on the properties that can be seen, felt or measured.

The **main characteristics of soils** are measured by: depth (age and development), granularity (mechanical composition), hydraulic capacity (water retention), chemical composition (nutritive elements), acidity or alkalinity (pH level), organic material content (N and others), soil fauna (worms, etc.)

The **depth** is measured from the surface to the mother rock. In general, deep soils tend to be better than thin or skeletal ones. The **colour** is an indicator of the type

of soil and some of its characteristics. In general, dark soil is considered fertile because the dark colour is a result of humus or organic material, although another factor can be an excessive amount of water and the subsequent lixiviation of the minerals. **Red soils are considered fertile** and indicate the presence of ferrous minerals, good drainage and a high content of organic material. Yellow soils indicate the presence of iron minerals formed in the presence of lots of water, indicating poor drainage and little fertility. Greyish soils have an excess of Calcium Carbonate, making them barely fertile.

The general **texture** of soil depends on the proportions of different-sized particles. Particles are classified as sand, lime and clay. Very thick particles do not retain water, while very fine particles inhibit aeration.

The chemical composition is related to the variety, quantity and proportions of soluble or insoluble minerals in the soil and supplies plants with essential chemicals or macro-elements such as N, P, K, Fe, Mg, Ca, S, etc.

Soils, with their specific chemical and physical characteristics are responsible for the presence and extension of vegetation.

Soils are compromised by erosion, overexploitation, the use and abuse of fertilizers, compacting, lixiviation, loss of fertility on the surface, etc. Restorative measures can usually re-establish the fundamental properties of the soils to some degree over a short or medium-term timeframes. These can include erosion control, lessening slopes, creating drainage, replanting, building terraces, etc.

8.3 The phenomena of erosion

LMeteorization is a series of processes that result in the chemical or mechanical change of rock on the earth's surface or close to it. It consists of three types of processes: mechanical, chemical and biological.

Erosion is the extraction, removal and transportation of rocky surface or soil material, dissolved or in particle form. The energy to produce erosion is provided by rain, running water, waves or gravity. **Sculpting** is the group of shapes created by secondary effects of erosion on the relief. While the relief is mostly dependent on structure, sculpting depends on climate: dryness and humidity; heat and cold. The causes of erosion are diverse. **Soil erosion caused by human beings mainly involves the stripping of the native vegetation and intensive development of pastures. Among the processes that affect the earth's surface, rain and rivers are the most aggressive agents of erosion.** Wave action on rocky coasts is often significant.

There are three erosion phases: erosion itself, transportation and accumulation. The agents are the elements that give shape to the sculpting: water, air, ice, humans and, to a lesser degree, changes in temperature.

Erosion processes are the work modes of agents. **The main agent of erosion is water.**

Sculpting is the shapes caused by erosion; each phase of the process has its particular forms. Shapes caused by erosion in the strict sense are concave (gullies and dolines) and convex as in the case of the Pan de Azúcar in Rio de Janeiro.

Fluvial sculpting or dissection is the most common. The excavation of a valley begins when running water carves into the relief, expanding its bed. This is called lineal erosion and can be divided into vertical erosion, as rivers deepen, and lateral erosion, as rivers widen. Slopes make up a significant part of the earth's surface. Many agricultural and industrial societies have modified slopes for their better use.

Crumbly rocks can be eroded in their natural state, **compact whole rock** (limestone, sandstone, granite, schist) can not be affected mechanically, but only after fragmenting. **Wind** only affects surface areas where there is no vegetation cover, and does not affect resistant rocks without the help of transported materials.

Sculpting differs according to the type of rock: crumbly sedimentary, exfoliant and compact rocks. **Compact limestone rock** represents a special part of the relief: rocky escarpments and plateaus with closed depressions. When limestone rock surfaces it demonstrates special shapes: lapiaz or lapiez. Running water is swallowed by the cracks in the limestone with excess water in pools outside the limestone area. The majority of Carso rivers are alloctonous. Other sculpting takes place in plutonic and igneous rock and in granite.

Other types of granite relief include alpine slopes, tropical sugar loaves, granite plateaus, granite depressions and tropical granite plains.

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Lecture 9

Biotic components of landscape (I): Plants, plantations and their adaptation to the environment

SUB TOPIC	OBJECTIVES
9.1 Plants: definitions, concepts and classification methods.	To present general definitions and classification criteria of superior plants.
9.2 Plant modifications in their adaptation to the environment.	To present the different ways plants adapt to their surroundings, some of the mechanisms they use to guarantee seed dissemination.

9.1 Plants: definitions, concepts and classification methods.

Plants are essential elements with which green areas are designed and constructed in urban areas and landscape areas in general. **Plantations** are a form of organizing plants in landscape or farming areas, a practice employed by human civilization throughout its history. Flora is the collection of vegetables or plants in a region or country. **Vegetation** is the collection of vegetables or plants in a certain area that exert multiple direct and indirect influences on each other. One of the most known and used classification systems for plants is that developed by **Adolf Engler**. According to this system, plants are divided into the following groups: Talophytes; Bryophytes; Pteridophytes (ferns, with fibres which reproduce using spores); and Spermatophytes, superior plants that reproduce by seeds, possess a vegetative and reproductive apparatus. Spermatophytes are divided into two classes: Gymnosperms, with seeds but without fruit; and Angiosperms, with seeds inside fruit. Angiosperms are divided into two subclasses: Monocotyledon and Dicotyledonae. Monocotyledones include gramineous and palms whose root systems are fibrous. Dicotyledonae have a central and ramification root system.

Taxonomical categories in descending order are: Kingdom; Division; Class, subclass; Order, suborder; Family, subfamily, Tribe; Type, subtype, Species, subspecies and Variety. Type and Species are the categories that determine the scientific name of living things.

According to their **relation with the environment**, plants are classified as: Hydrophytes; Hygrophytes, Mesophytes, Xerophytes, Epiphytes, Rupicolous and Halophytes.

According to their **original location**, plants are classified as: endemic, native to the country in which it grows, native to certain areas; indigenous, native to the country

and the surrounding territories; exotic, introduced, not native to the country or region; naturalized exotic, introduced plants that propagate or disseminate in a natural way, cultivated exotic, introduced plants that only propagate through farming.

Superior plants, including pteridophytes (ferns) can be generally classified as: **trees, shrubs and herbaceous**, to which can be added lianas or climbers and epiphytes.

Trees, are plants with upright, woody, ramified stems, included in this category are palms and other upright stemmed plants from the gramineous, muaceas, ciatecea and cicadacea, which are related to palms. **Shrubs** are rigid stemmed plants, woody, ramified from the base, and include succulent or fleshy stemmed plants. **Herbaceous** plants have non-rigid stems and are non-woody climbers, creepers or underground plants. **Lianas** are herbaceous with rigid stems and are climbing or tendril plants. Epiphytes are plants that live on other plants without being parasites. In a wider sense, aquatic plants, generally herbaceous, and of succulent or fleshy stem that form part of a morphologically varied and independent group, could be added to the above classification.

9.2 Plant modifications in their adaptation to the environment.

Plants are classified according to the modifications they make in adapting to the environment ie: aquatic, shade plants in dense rainforests, xerophytes and succulents, epiphytes and rupicolous plants, climbers, carnivorous and parasites.

Plants interact with other organisms through processes or actions of pollination, dispersion, predation, action of herbivores, symbiosis and non-specialized dependence.

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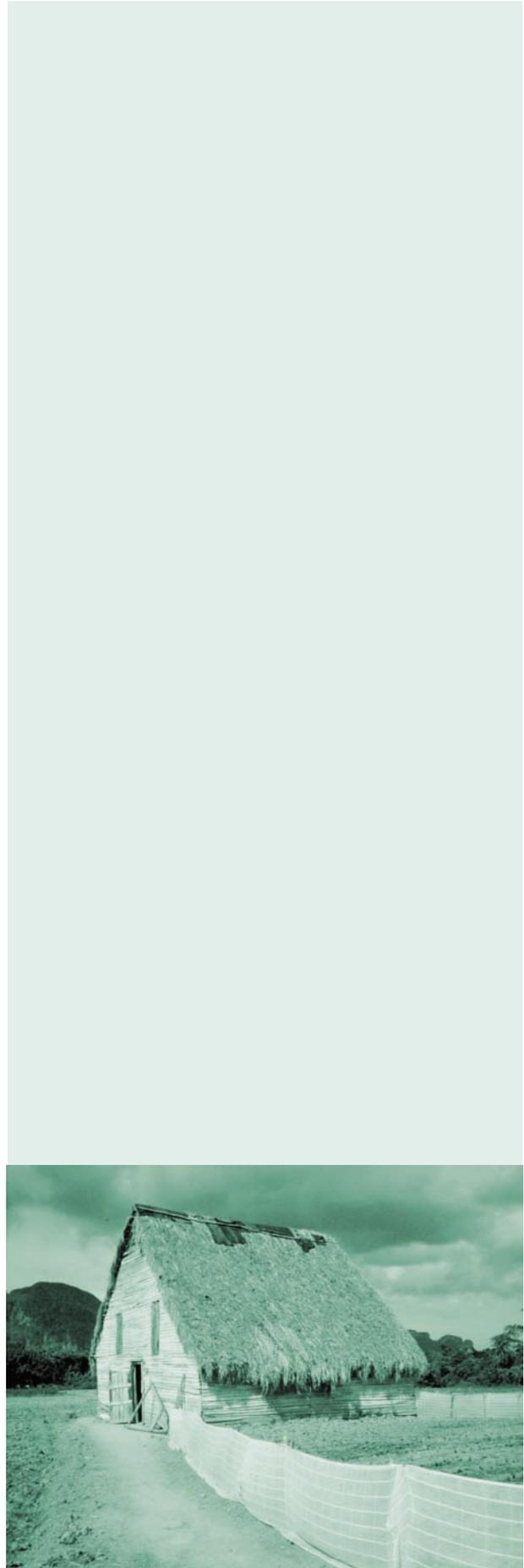
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Lecture 10

Biotic components of landscape (II): Plant formations or biomass of the Insular Caribbean. The West Indies

SUB TOPIC	OBJECTIVES
10.1 General characteristics of plant or biomass formations in the Insular Caribbean: The West Indies.	To learn the characteristics of plant or biomass formation in the Insular Caribbean
10.2 Tree formations	To identify the characteristics of the different tree formations and their areas of distribution.
10.3 Tree and herbaceous formations and vegetation systems.	To identify the characteristics of the different tree and herbaceous formations as well as the so-called vegetation systems and their distribution areas.
10.4 Secondary vegetation.	To gain an understanding of how secondary vegetation develops, its main characteristics and its distribution areas.

10.1 General characteristics of plant or biomass formations in Insular Caribbean: The West Indies

Insular Caribbean or the Caribbean Islands is the term used to describe the group of islands in the Antilles, not including Bahamas. It is made up of three important groups of islands that stretch out in the form of a half-moon from the Yucatan peninsula and Southeastern Florida to the coast of Venezuela. The Greater Antilles are made up of the islands of Cuba, Hispaniola, Jamaica and Puerto Rico and are in the geographic centre. To the southeast, in the shape of a semi-circle from Puerto Rico southwards and then westwards along the Venezuelan coast, are the Lesser Antilles. The Lesser Antilles are made up of Barlovento, to the east and southeast, between Puerto Rico and up to Trinidad and Tobago, and the Sotavento islands between Trinidad and Tobago and to the east, towards the Los Monjes archipelago. The area of the Antilles is 235,700 km².

The majority of the non-coral islands in the Antilles are mountainous. The inner chain of the Lesser Antilles begins as a submerged volcanic range and is mainly made up of volcanic cones, some of which are active. The outer chain is made up of coral and limestone. Hurricanes, originating in the Atlantic, often form between July and October, causing widespread damage when they approach the coast.

The flora of this region and the plant or biomass formations are very similar. The fundamental

difference resides in the presence or absence of volcanic cones and active volcanoes.

Vegetation in the Caribbean islands contains different plant formations of forests, scrubland, herbaceous vegetation and vegetation systems. The secondary vegetation is made up of forests, scrubland and herbaceous systems. There are more than 6,000 flora species in the Insular Caribbean. More than 50 percent are endemic. The classifications of plant formations or biomass in the Cuban archipelago are a reference point for all of the Insular Caribbean. The formations in the Cuban archipelago, with the exception of the **mogote vegetation systems**, are found throughout the region. On the other hand, **fumarole vegetation systems** are only found in the Lesser Antilles, like Barlovento and Sotavento. The classification of natural and semi-natural plant formations are divided into five large groups: forests, scrublands, herbaceous vegetation, vegetation systems and secondary vegetation.

Plant formations found in Insular Caribbean are as follows:

Tree formations: (rainforests, cloud forests, evergreen forests, semi-deciduous forests, swamp forests, corridor forests, mangrove forests and pine forests).

Shrub-like or scrubland formations: (coastal xeromorphic, xenomorphic on tendrils, sub-thorny xeromorphic on tendrils, montano).

Herbaceous formations: (fresh water aquatic systems, halophytes, herbaceous swamp, herbaceous areas along rivers and streams).

Vegetation systems: (mogote vegetation, rocky coastal vegetation, sandy coastal vegetation).

Secondary vegetation (secondary forests, secondary scrubland, herbaceous communities, ruderal vegetation and segetal vegetation).

10.2 Tree formations.

Tree formations include rainforests, cloud forests, evergreen forests, semi-deciduous forests, swamp forests, corridor forests, mangrove forests and pine forests.

Rainforests exist in areas of high levels of rainfall.

Cloud forests exist at elevations of 900 to 1,600 meters and are noted for the presence of arborescent ferns.

Evergreen forests include mesophyll and microphyll evergreen forests. **Mesophyll evergreen forests** have a less than 30% rate expiration between the trees and are mainly located in sub-mountainous altitudes.

Microphyll evergreen forests (dry mountains) consist of evergreen and deciduous trees with small leaves, and are mainly located along limestone coasts.

The **semi-deciduous forest** is made up of semi-deciduous mesophyll and microphyll trees. The **semi-deciduous microphyll forest** is made up of microphyll, thorny and palm-leafed deciduous palm trees,

Swamp forests are located in coastal areas that are periodically or permanently flooded.

Corridor forests develop alongside of rivers and streams and include the most heliophytic species of surrounding vegetation.

Mangrove forests consist of an arboreal stratum with in water and pneumatophore roots; without a shrubby stratum, with herbaceous vegetation and lianas. They are located along low-lying coasts and bogs.

Pine forests develop in acidic, sandy soils and consist of an arboreal, shrub-like and herbaceous stratum.

10.3 Tree and herbaceous formations and vegetation systems

In the shrub-like or scrubland formations, shrubs are predominant, although emerging trees are sometimes present.

Coastal and sub-coastal xeromorphic scrubland consists of shrubs and stunted emerging trees, the majority of which are sclerophylls, microphylls and thorns, succulents, palms, herbaceous vegetation and lianas.

Thorny xeromorphic on tendrils scrublands (cuabal) consist of a dense shrub-like stratum, scattered herbaceous vegetation, palms, epiphytes and an abundance of lianas. They are found in plains and low altitudes. **Sub-thorny xeromorphic on tendrils scrublands (charrascal)** feature a dense, shrub-like, stratum; scattered herbaceous vegetation; and lianas. They are found in plains, and in hilly and mountainous areas.

Montano scrublands consist of stunted shrubs and are only found at altitudes greater than 1,600 meters above sea level.

Herbaceous formations are formations predominantly made up of herbaceous plants they include the following:

Fresh water aquatic communities with rooted and free floating species.

Halophyte (salt water) communities mainly consisting of herbaceous and succulent plants.

Swamp herbaceous vegetation are tall grasses that grow in flooded, swampy or boggy areas.

Grasses that grow along the edges of streams and rivers can reach 10 meters.

The **Vegetation Systems** are groups of similar plant communities that disseminate in a particular way in a territory which gives them a specific characteristic:

Mogote vegetations are bush vegetation with a non continuous arboreal stratum; palms and, caduceus trees, succulents, epiphytes and abundant lianas. They are found on conical karstic (mogotes) located in western and central-western Cuba.

Coastal rocky vegetations are open communities with large and small succulents, stunted shrubs and herbaceous.

Sandy coast vegetations are made up of herbaceous and sub-fructuous plants scattered among which can appear arboreal species.

Fumarolic vegetations are made up of shrubs and herbaceous plants that grow around the sulphurous springs in the lower portions of volcanic elevations; very few plants can survive at high elevations.

10.4 Secondary vegetation

Secondary vegetation is the result of human activity, primarily agricultural and pastoral, which gives rise to secondary forests, secondary scrublands and grasslands, semi-natural and anthropic grasslands. Ruderal vegetation is related to human activity, segetal vegetation is associated with farming.

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Lecture 11

Agriculture of the Caribbean: challenges, prospects and implications for landscapes

SUB TOPIC	OBJETIVES
11.1 Factors related to agricultural activity and the state of the principal commercial crops.	To learn about the main factors linked to agricultural activities: their interrelations and reciprocal conditions in each country.
11.2 Traditional and subsistence agriculture.	To understand the vital role of traditional and subsistence agriculture in the conservation of the genetic foundations of useful species.
11.3 Alternatives for sustainable agricultural or livestock production and the preservation of cultural landscapes.	To know alternatives for improving the quality of production and making agricultural production in the region more sustainable, while at the same time preserving the cultural landscape

11.1 Factors related to agricultural activity and state of the principal commercial crops

To understand how agricultural activity is structured in an area, it is necessary to have information about the **demographic composition** of the population in the region by age and sex, as well as data on geographic distribution, schooling rates, the level of education achieved, and figures on employment rates. All of this can help to understand the relationship that the population has with agriculture in particular and with other forms of activity and earnings in general.

Likewise, the **characteristics of the infrastructure** of each country, the distribution of their human settlements; the technical support networks —such as roadways and supply systems, along with the educational and sanitation infrastructure— are data that have a great deal of use in interpreting how communities relate to the environment according to the forms of land tenure in each locale.

In this way it is possible to have a more precise understanding about the form in which landscapes have evolved in a region of a country and their state of conservation over a certain period of time.

It is therefore necessary to know the **evolution of the main lines of agricultural production up to the present** in each country, as well as the economic factors that weigh on commercial production and what the revenues mean for these small economies, which are quite sensitive to fluctuations in the market.

Within agro-pastoral lines of production, it is necessary to differentiate those traditionally linked to these populations —well known in the international market— and those with an emerging character that presently constitute palliatives for obtaining indispensable economic resources. In this way, one can learn how economic pressures affect the use of the soil and the shaping of landscapes.

11.2 Traditional and subsistence agriculture.

Knowing what species of plants and breeds of animals are developed in each country, and the state their conservation; analyzing knowledge that is possessed about the biological diversity of agro-systems; studying how a population's relationship with local nature is manifested through agricultural subsistence; and knowing how resources are exploited through traditional practices, constitute the starting point and a basis of supreme importance for understanding what are really the national reserves that sustain the most authentic cultural values, beginning with those that can stand up to climatic risks and the pressures of the world economy.

Among the **most important agricultural crops within the Insular Caribbean** are: sugar and sugarcane honeys, coffee, cocoa, bananas, mangos, coconut and copra, rice, arrowroot (starch), cassava or yucca, tobacco, cotton, vanilla, cinnamon, nutmeg, pepper, precious woods such as mahogany and cedar, wood in bundles, and charcoal.

The orographical conditions, particularly in the Lesser Antilles, significantly limit the availability of arable soils, which force inhabitants to take advantage of existing edaphic resources. However, this has had a negative impact in the sense of the absence of rational regional planning and a limited knowledge of management techniques on the part of agricultural producers, administrators and technicians. In addition, there is a lack of consciousness with regard to the importance of planning as a means of sustaining life in many communities and attracting culture, tourism and science.

11.3 Alternatives for sustainable agricultural and livestock production and the preservation of cultural landscapes.

The problems of agriculture in the face of market changes, production subsidies by the large metropolises and the growing increases in prices of agricultural inputs that would help to support traditional agricultural output, are not only regional problems of the Caribbean but a sharp reality of the Third World. This is also one of the causes of major world conflicts for subsistence.

National commitments to the environment, and threats of **climate change** that loom over the insular countries impel the consideration of developing strategies in which economic efficiency goes in tandem with the application of the most modern non-polluting technological advances, such as the bio-fertilizers and biological controls against plagues and diseases. In this way there can be an increase in the production of healthy organic foods that are very much in demand in the first world. **Wooded areas in the region** constitute an important drain of CO₂, for which the increase in forest plantations and their planning, the application of positive experiences for the breeding of animals using agro-pastoral systems and the preservation of soils through appropriate systems of terracing, minimal sowing and soil enrichment using organic materials, can mean real alternatives for people. This can be a basic step towards the conservation of the cultural landscape potential of a region subjected to great economic pressure.

Among the initiatives of the FAO to support alternative agricultural output are **research projects and pilot experiments in compost production, worm humus (lombriculture), bio-fertilizers**, biological controls of plagues and biological anti-plague compounds, techniques of rotation and multiple cultivation, minimal working of the soil, covered crops and greenhouses. There are also experiments being conducted in the use of forestry by-products, forest planning and the reforestation of deteriorated areas, including river basins.

All of this must be assessed with much care so that the required actions preserve the traditional and historical values of these communities in connection with their landscapes and the culture of their people.

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Lecture 12

Components of Cultural Heritage in Cultural Landscapes

SUB TOPICS	OBJECTIVES
12.1 Heritage forms in cultural landscapes.	To learn about the diverse heritage manifestations of cultural landscapes.
12.2 Nature as heritage.	To understand the natural aspects of cultural landscapes that possess heritage value and to evaluate their significance.
12.3 Material or tangible cultural heritage.	To become aware of the various material heritage forms that can be manifest in cultural landscapes and to evaluate their significance.
12.4 Non-material or intangible cultural heritage.	To become aware of the different non-material heritage forms that can be manifest in cultural landscapes, and to evaluate their significance.

12.1 Heritage forms in cultural landscapes

As has been seen, cultural landscapes are situated in natural areas that are transformed by human activity to a greater or lesser extent. Their heritage value, according to UNESCO's definition, is determined by the interaction between culture and nature.

These generally extend over wide areas and often present a wide variety of manifestations of natural heritage of cultural material or non-material legacies. For this reason they constitute **great heritage repositories**.

12.2 Nature as heritage

Cultural landscapes generally contain natural elements that are essential for conservation due to their scientific, educational or aesthetic significance. These can be, for example, geological or physiographic formations, flora, fauna, ecosystems, sites with great biological diversity, biosphere reserves; areas that constitute the habitats of species of animals or plants, migratory corridors, or natural sites that demonstrate great beauty or scenic values.

In the case of the **Viñales Valley in Cuba**, what determined its inscription in 1999 was its well-established culture of tobacco farming, along with the

area's significant natural values; among those being the "mogotes," geological formations that occur in few other places in the world; and *Microcyca calocoma*, or cork palm, that is an endemic plant species.

12.3 Material and tangible cultural patrimony

Different material manifestations of human endeavour represent essential cultural components. These are fundamental resources for understanding an area's socio-economic evolution, which often guarantees its survival and sustainability.

These expressions can embrace an extended variety of patrimonial assets or systems, as reflected in the following list (note that this enumeration is not meant to be exhaustive): 1) The land use patterns of the area and the use of the soil and coastal or riverbank areas; 2) Machinery, instruments and utensils used; 3) the means of transportation (highway works, bridges and roads, channels, docks, piers, railroads etc.); 4) Hydraulic systems, for water supply and sanitation; 5) Vernacular and popular architecture—be it residential, industrial/commercial, recreational, defensive or some other type—emphasizing the materials and techniques used, and the response to socio-cultural/economic, religious, physical (geomorphologic, climatic) or other conditions; 6) Panoramic views and perspectives of built landscapes of historical or

aesthetic value; 7) Signage, graphics and outdoor furnishing components, in cases where these exist; 8) The urban form and structure of settlements or groups of buildings; 9) Production and denominations of origin; 10) Archaeological remains.

12.4 Non-material and intangible heritage.

In cultural landscapes, forms of non-material or intangible heritage are presented that express the cultural and social identity of the people who have shaped and inhabited them. These expressions—which are part of the cultural diversity of the world and of human genius—are transmitted orally, by imitation or in other ways. Among others, these can embrace: 1) languages and oral traditions; 2) knowledge and capacities related to nature and the universe; 3) religious rites and ceremonies; 4) festivals, myths and legends; 5) games and celebrations; 6) theatrical arts; 7) culinary arts; 8) traditional handicraft techniques.

In the study and treatment of cultural landscapes, the types of relationships between communities and nature are particularly important. **On one hand, knowledge related to agriculture and production** is basic. At the same time, many religious and spiritual traditions are linked to natural sites and landscapes. These manifestations are fragile in the face of **globalization**, commercial excesses, and the manipulation and extension of owners who do not recognize such values. Because these are such outstanding repositories of cultural wealth and sources of sustainable development, it is essential to preserve them. Their conservation also implies the protection of their bearers as a means of guarding their authenticity and survival.

Currently, many organizations around the world are championing the preservation of this momentous legacy. Of special importance is the UNESCO Convention on the Protection of Intangible Cultural Property, approved in 2003.

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Lecture 13

Factors that affect cultural landscapes.

SUB TOPICS	OBJECTIVES
13.1 The nature of the threats.	To understand the nature of the threats of various type and origin that affect cultural landscapes.
13.2 Physical factors.	To know the type of physical of factors that affect cultural landscapes.
13.3 Economic factors.	To know the factors of an economic nature that affect cultural landscapes.
13.4 Social factors.	To know the factors of a social nature that affect cultural landscapes.

13.1 The nature of the threats

Many Caribbean landscapes are in potential or permanent danger, and soon they will deteriorate irreversibly, or they could disappear if urgent measures are not adopted. The threats respond to subjective, physical, economic or social factors.

Frequently the curbs on conservation derive from subjective factors and not just from material shortages. **Ignorance about the importance of the heritage** or misinformation, among other aspects, generates limited or erroneous approaches with respect to cultural landscapes. Also **the lack of up-to-date legislation** has a negative influence. The violation of principles can come from officials or the local professionals but also from the community. They can also come from **investors**. The result is rapid deterioration or loss of values.

The lack of sensitivity to social necessities and indifference towards the intangible manifestations threaten sustainable forms of production or subsistence of the communities or establishments. Erroneous conceptions of conservation / restoration can also be aggressive. Authenticity can be easily damaged by suppression or transformation of basic components of the landscape.

Among the main negative impacts and difficulties for their preservation are the absence of policies and sensitive and educated territorial classification. Except for very few exceptions, many of the cultural

landscapes of the Caribbean have not been identified or protected. In most of the countries of the area not enough awareness about these landscapes as examples of sustainable life and as scientific or cultural attractions has been shown. There are not many specialized institutions and there is a shortage of specialized training and popularization. In these circumstances knowledge of the techniques for managing of natural and cultural resources does not get spread nor is an intelligent management of the cultural landscape practiced. It is wasting a great cultural expression and a fundamental resource for the Caribbean.

13.2 Physical factors

The biggest threats comes from the **vulnerability of the islands**, their smallness, their geographical location, their geological composition, the shortage of resources and the natural disasters to which they are constantly exposed. Also, the erosion of the soils, deforestation, pollution of the air and waters, of the rivers and coastal regions, and the abusive use of herbicides can be devastating. The common biodiversity of these sites can decrease or disappear, affecting one of the fundamental values of these landscapes and the sustainability of its inhabitants.

Salinity, humidity, temperature changes, plagues of insects, infections of fungi, inadequate growth of the vegetation can also be an influence.

Among the most dangerous factors are **fires** and the effects of the techniques and products used to combat them.

Another very destructive factor is the **unplanned and unregulated development** of tourism, commerce, industry, mining, transport and communication, and big infrastructure works, among others.

Changes in the agriculture, the disappearance of historical crops and the loss of traditional agricultural knowledge, destroy the cultural landscapes. For example, agricultural activities that require the stripping of soil, the elimination of wet lands, flooding for watering, the intensive use of pesticides, monocultivation of commercial products, where before there was a variety of local crops for subsistence agriculture, are harmful. Also detrimental is **vandalism**, theft, negligence, accidents or other **violent physical impacts** like armed conflicts, looting and illicit trafficking.

An **excess of visitors, big public displays**, concerts, exhibitions, fairs, sports events are activities that have to be planned carefully to avoid creating deterioration. The behavior of the visitors can be decisive in these cases, bearing in mind the physical erosion that they cause, the waste and the sight and sound contamination.

13.3 Economic factors

The **lack of funds** is constant in poor countries and the capacity to invest is low. But the funds can also be erroneously distributed. As is often the case, the money derived from tourist activities is rarely reinvested in preserving the heritage asset.

Speculation with the land and buildings is another frequent factor that affects the landscapes. The price can end up increasing excessively and produce dramatic changes of property or occupation which alter the function and the form of the site. The high value of the land can induce uncontrolled investments and deterioration.

Dependence on the fluctuations of the market and business interests, subsidies for products dedicated to exports, can all violently transform the rural environment. In this way the rural landscape loses its traditional character becoming merely an economic and productive area.

13.4 Social factors

For all the reasons previously mentioned, often the quality of life is precarious in cultural landscapes. They have poor living conditions, lack opportunities to study or basic services or well remunerated employment.

Consequently an exodus of the original inhabitants takes place, mainly the youth. It stops the transmission of occupations and knowledge, which have served as a spiritual and material support for centuries, taking place. The community ages and there is not generational relief.

An invaluable and diverse intangible wealth, transmitted from generation to generation, of music, dances, fiestas, crafts, dress, instruments, oral traditions, food and drinks and rich ancestral customs, gets lost.

When mass and uncontrolled, instead of educated and careful, tourism is promoted; it indiscriminately manipulates and markets the local culture which loses its authenticity.

In some contexts, the migration and the displacement of the inhabitants due to armed or ethnic conflicts, etc. can also happen.

For economic or reasons of survival and also due to the diffusion of false values by globalizing landlords, rural life loses its attractiveness and the transfer to the city is assumed as a development opportunity. The return of those who emigrate can import into the rural environment - in a non selective way and influenced by false ideas of development - other people's patterns that change the customs, the architecture and the traditional character of the landscape.

The spiritual values of the sacred places, can succumb under the intolerance and the different transformations.

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LECTURE 14

Principal theme: The concepts and principles of managing a World Heritage Site

SUB TOPICS	OBJECTIVES
14.1 The concept and importance of management	To understand the concept of management and its importance
14.2 General management principles.	To present the general principles which govern management.
14.3 Types of management plans and time to execute them.	To explain the types of management plans and their times of execution

14.1 The concept and importance of management.

The management of a heritage site has as its purpose the planning of its conservation and the promotion of its significance. This implies assisting—in an integral and participative manner—all aspects related to the site. For this, it is necessary to understand the values and significance of the site; assuming the interdependence of factors that converge there, and exercising participative and integrated planning.

It is a tool for reflecting about what merits conservation and why it involves considering—in an integrated and participative manner—all aspects related to the site. For this it is necessary to understand the values and significance of the site, the interdependence of factors that converge there, and to exercise participative and integrated planning in relation to it.

The management plan facilitates financing and optimizes the conservation of the heritage in the long term. It stimulates collaboration between different public and private sector interest groups, with the view of achieving greater commitment and participation in conservation initiatives.

Management plans can vary in their form and reach, adapting to the characteristics and requirements of the context in which they are applied. However, in all cases they must constitute an objective, plausible and systematic approach to solving problems that affect the heritage site, and to the methods of conserving and promoting its significance.

Independently of the manner in which they are adopted, all management plans involve an integral diagnosis of the condition of the site in order to formulate clear and sustainable long-term policies.

Management plans must analyze and take into account the changes that can affect the asset, especially after the site is inscribed on the World Heritage List. This designation generally produces an increase in the number of visitors, which demands new infrastructure and facilities. This attracts a greater number of investors. As a consequence, these can threaten the integrity and authenticity of the site. It is essential to have an effective management plan that foresees and controls these changes, as well as defining the acceptable limits of them so as to preserve the values and significance of the asset.

In addition, management plans guarantee that the community residing on-site is always the main beneficiary of inscription on the World Heritage List, and that improvement in their quality of life is promoted. The rapid increase of the income of the inhabitants should also be considered, especially in cases where there is no proper orientation. It can result in undesirable transformations to the traditional ways of life as well as to the physical context, causing a loss of the original attributes that motivated the recognition of the site or that permitted it to be nominated for inscription on the World Heritage List.

14.2 General management principles.

The fundamental principles of management are as follows:

- To respond to the characteristics and requirements of the context in which the plan will be operated. (natural-geographic, socio-cultural, economic, legal, institutional, etc.).
- To have an integrating vision with a focus that tries to order the elements of different territorial levels and images. The purpose of this is to create specific frameworks of operation according to a ranking of values, significance and needs.
- To establish the best alternative uses and management of the natural and cultural resources contained in the asset, orienting these to the preservation of the most authentic values.
- To constitute the regulating element of the administration of the site resources, while developing actions required for their conservation and sustainable use. This takes into consideration the characteristics of the area, its category, management objectives and other plans that interact in the area.
- To contribute to the creation and application of territorial development plans that ensure local authorities consider these to be governing elements in land use development in the area.
- To promote all the activities converging in the area taking into consideration—in a differentiated and preponderant way—those aspects relating to the declaration of value and the concept of exceptional universal value.
- To be multidisciplinary.
- To execute the plan on the site itself and to have an initial budget which will give priority to the administrative program.
- To organize programs included in which will be identified projects according to the problems detected by their diagnosis. The implementation of these projects will depend on the budgets available and will necessarily have to be allocated in order of priority.
- To allocate a stable budget for educational, promotion and outreach programs as well as through advertising campaigns that demonstrate the values of the site and actions taken for its protection. To promote, in this way, awareness throughout the entire community, a sense of ownership; to encourage deep-rooted support for the site, starting at the earliest ages, as well as transmitting the values of the site to decision-making sectors and to visitors to stimulate their respect for it.
- To plan with the perspective and commitment implied in the conservation of an asset inscribed on the World Heritage List or a site potentially worthy of that classification. Starting from the assimilation of this concept, to establish conservation and administration policies for a site of exceptional value.
- To accept that the work of heritage conservation has ceased being the exclusive domain of a group of specialists and academics, and has become of interest to the entire community. Management plans will therefore have an increasingly participatory character. Through public dialogue, citizens will become familiar with the plans and suggest approaches that will be evaluated with the view to their incorporation.

14.3 Types and time scales of management plans.

Management plans are the basis for the planning, programming and budgeting of the operation. According to the timeline of their implementation, they are defined in the following ways:

- **Long-term plans** (5-30 years). These are carried out mainly for sites in which a great quantity and variety of interests converge. They contemplate long-term objectives. They outline a global vision of the limits of change while at the same time preserving the significance of the site.
- **Medium-term plans** (less than 5 years). These consider medium-term objectives and define priorities for the implementation of programs and specific projects that have concrete possibilities of being financed.
- **Operating plans** (annual). These are generated annually for the execution of programs and projects that will be implemented through available financing. For each program or project, the human, technical and financial resources that will be used are defined.

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Lecture 15

Methodology for the elaboration of the management plan (I)

15.1 Content and sequence of the Management Plan.

The Management Plan of a cultural landscape will contain very detailed precise and scientific information on the site. The contents of the document of the Management Plan, and their sequence, can be structured according to the following outline:

1. Main objectives of the management of the site.

2. General information on the site

2.1 Description and location

2.1.1 Brief description

2.1.2 Location, limits and coordinates

2.1.3 Defining of the asset and environs

2.1.4 Régime of property and / or administration.

2.1.5 Entity responsible for its administration and management.

2.1.6 Exceptional significance and universal value (only if the site is entered in the World Heritage list).

2.1.7 Criteria of inscription (only if the site is entered in the World Heritage list)

2.1.8 Maps, plans, photographs.

2.2 Characteristics and values of the site

2.2.1 Characteristics and cultural values

2.2.1.1 Characteristics and tangible cultural values

2.2.1.2 Characteristics and intangible cultural values.

2.2.2 Characteristics and environmental values.

2.2.3 Socio-economic characteristics

3. General evaluation of the conditions of the site and its management.

3.1 State of conservation

3.1.1 Current state of the site

3.1.2 Changes occurred and potential

3.1.3 Integrity and authenticity

3.1.4 Factors that affect the site.

3.2 Evaluation of the institutional, legal, economic and social framework

3.2.1 Responsible institutions

3.2.2 Legal protection

3.2.3 Administration

3.2.4 Territorial classification

3.2.5 Training

3.2.6 Finance and investments

3.2.7 Evaluation of the condition and effectiveness of the current management

3.2.8 Local survey

4. Plan of Action, programs and projects

4.1 Legal protection.

4.2 Conservation.

4.3 Preparation against risks.

4.4 Study and determination of the limits of acceptable changes

4.5 Research.

4.6 Administration.

4.7 Construction of institutional capacities and training of personal

4.8 Education and coverage

4.9 Interpretation.

4.10 Tourism, recreation and visitors' management (plan of public use)

4.11 Computerization

4.12 Assistance and cooperation. (including partners, and financing)

5. Implementation of the Plan of Action

5.1 Stages, responsibilities and terms

5.2 Mechanisms for the implementation

5.3 Evaluation of the management effectiveness

5.4 Monitoring and revision of the Plan.

6. Annexes

7. Bibliography

15.2 In the following text there are brief explanations of the contents of each of the sections of the outline

Presentation and main objectives (see section 1)

Generally, the Plan is accompanied by a presentation by a person responsible for the asset in the country. When endorsing the document of the Plan, the corresponding authorities and institutions of the State recognize their responsibility toward the site and establish the fundamental commitments for their protection.

The main objectives of the Management Plan derive from the necessity to guarantee the conservation of the exceptionality and meaning of the site for the present and future generations as well as the valuing of their natural and cultural resources as a way of achieving a harmonic and sustainable development. Among the objectives considered are the following:

1. Conserving the exceptionality and meaning of the site for the present and future generations.
2. Delineating and promoting a sustainable focus that joins together the conservation of the values of the cultural landscape with its diverse values, economic and social activities.
3. In the case of World Heritage sites, to identify the benefits of the declaration of World Heritage or other recognitions, working with the local and national actors for the purpose of taking maximum advantage of this opportunity without harming the integrity and authenticity of the values of the site.
4. To guarantee the spiritual and material well-being of the resident community as well as their participation in the decisions
5. Establishing a viable program of action that allows for the protection, conservation and knowledge of the site, setting a value on those natural, urban, architectural and cultural resources that are degraded or insufficiently utilized.
6. To propose measures to improve, recover or restore the elements and processes of the natural environment that are degraded by activities incompatible with the integrity of the site.

General information on the site (see section 2)

A brief description will be made that allows the site to be identified, giving its location, main area and environs, identifying limits for each of them, geographical coordinates and details on the form of property (for example private, public, mixed or other).

It will specify the entity or entities responsible for the administration and management.

The determination of **characteristics and values of the site** will be the basis for the planning of any activity

to be developed. All the **tangible heritage elements** will be picked up relative to the anthropological, ethnographic, historical, architectural, urban, technological and scientific spheres, among others, and it will register the **intangible components** referring to the cultural, production or other types of traditions, like music, dance, festivals, myths and legends. The characteristics and **environmental values** will bring together those elements involved with the physical structure of the landscape and that determine the ecosystem; they will contain information on: climate, hydrology, geology, geomorphology, seismology, soils, agriculture, flora, fauna etc. Lastly, the **socio-economic description** will embrace those aspects that refer to population, use of the land and asset, standards of property and the economic base that will include agriculture, tourism, local industries as well as the infrastructure, the technical and service networks. This whole section will be completed with a set of plans, maps and photographs.

General evaluation of the condition of the site and of its management (see section 3)

The evaluation is a **diagnosis of the physical conditions of the site** and of all the factors that converge in its preservation and intelligent use. In it will also be described the state of conservation of the site, the changes occurred and the potential transformations, the grade of integrity and authenticity, and the risks and threats that affect it. The **evaluation of the institutional, legal, economic and social framework** will also be very important. This will include the responsible institutions, the state of the legal protection and of the administration, the existent land classification plans and their application, and the necessity and opportunities for training personnel.

The **conditions and financing levels and investments** will be evaluated as well as the potential for auto-generated revenue. The evaluation of the conditions and **effectiveness of the current management** will be another fundamental aspect. By means of a survey of the local community one will be able to know public opinion on the standing of the site and gather important criteria that are indispensable for their incorporation into the Plan.

In this phase the **dysfunctions or relative imbalances** in the natural and cultural heritage will be evident as well as existing problems in the agro-productive, economic and administration aspects among others of relevant interest. All the degradations or present threats must be detected with a view to portraying the current situation and the foreseeable tendencies. It is also necessary to determine the **visitors' welcome capacities and to carry out proposals of alternative scenarios**.

The comparison between *the affections or problems, the conservation values and the welcome capacity* of the territory will allow the detection of existing conflicts. With those conclusive elements, a Plan of Action can be elaborated for the short, medium and long term.

In the evaluation stage a Committee of Experts will be constituted with the capacity to input very significant criteria for the Plan and support it later in its approval and later execution.

Plan of Action (see section 4)

Once the site is comprehensively evaluated, a **Plan or Program of Action** is formulated that establishes the operative framework determining priorities, terms, responsibilities and resources. This document will be continually revised, evaluated and its correct execution periodically monitored.

The action Plan is organized by means of **thematic programs** corresponding to the requirements of the site. The programs should be directed, for example to conservation, administration, legal protection, preparation to face risks, research, construction of institutional capacities and training of personnel, education and publicity, interpretation, tourism, recreation and management of visitors, computerization, assistance and cooperation, as well as other topics that might be important for the site. In the case of the cultural landscapes special programs for conservation or reorientation of the traditional agriculture of the site might be required. Environmental programs might also be needed or funding for certain infrastructures and facilities.

The programs will be made up of concrete projects that will be financed and executed in practice by different agencies and entities. In this way, concrete actions will be taken to recover, rehabilitate and improve the elements and processes of the natural or cultural environment that are degraded.

The sustainability of the conservation actions will always be the governing principle of the whole process of planning.

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See lecture 14

LECTURE 16

Methodology for the elaboration of the Management Plan (II)

SUB-THEMES	OBJECTIVES
16.1 The implementation of the Plan of Action. Operational Plans.	To learn how the Plan of Action is implemented.
16.2 Effectiveness of the management.	To know the function of the Operational Plans. To know the general elements that measure management effectiveness.

16.1 The implementation of the Plan of Action. Operational Plans

The local and national authorities should ensure that the Management Plan, their Plan of Action and Operational Plans have an appropriate legal status so that they can be completed and guarantee that the plans are included in the national and local policies. The participation of **the local community in the decisions** will be crucial for it, taking advantage of the local organizations, volunteer or interest groups, professional or occupational associations, etc.

A **Plan of Action**¹ to guarantee its execution should define how, in what period and by whom it will be carried out. Therefore, the creation of a **Site Committee or specialized group** whose main function will be to guarantee the correct implementation of the plan is recommended. This group will have the necessary legal authority to execute the plan and will be made up of a multidisciplinary group of qualified people and will reside in the site. The success of this committee will depend, to a great measure on the financing that it prepares and that it can generate from different private or state channels. Committee should propitiate the fund-raising coming from public purpose programs, rights of highways, attention and interpretation for the tourism, local production, denominations of origin etc., which will be dedicated to the conservation and the improvement and/or creation of facilities that develop the site.

The Committee will lean on a **local administrative unit** that has the technical and qualified personnel capacity.

The **local administrative unit** - advised by the Site Committee - will prepare the annual work plans, it will establish monitoring procedures and conformation of databases, it will coordinate with the pertinent entities the preparation of the means of information and interpretation for visitors and the education plans, training and popularization. It will also carry out exchanges with similar entities, and heritage and tourism institutions.

The **annual operational plans** include those projects that will be executed short term and for which it already has financing. These plans will contain the most up-to-date diagnosis of the area. These diagnoses should take advantage of WTSO matrix (Weaknesses, Threats, Strengths and Opportunities) that shows, among other aspects, the qualified personnel situation and the technical infrastructure on which it depends. They are established in this way for each thematic program, the projects, their objectives and specifics, execution date, responsible specialist and predicted budget.

The operational plans allow the **reorientation of the Plan of Action** according to new situations or problems that might appear.

16.2 Effectiveness of Management.

The same Plan of Action should define the methods that will be used to supervise its **effectiveness**, and they should be linked to the primary objectives of the plan, that is to say it should set out to evaluate four fundamental aspects: institutional or administrative, environmental or natural, socio-cultural and economic financial.

¹ For the definition of the Plan of Action see lecture 15

The process of evaluation of the effectiveness of management contributes to improving the conservation, supporting the administrations in the improvement of the daily management.

To **prepare** and to carry out the evaluation process it is recommended establishing a **multidisciplinary technical team** and to organize **participative workshops** with all the key actors.

The **analysis of the problems should concern itself with the general to the specific**, describing causes, actions to solve them, products and results of the actions and elaborate a final report with the result of the analysis. This report will have to include the limitations and errors made during the evaluation process and delineate very clear recommendations to improve the management. The priorities and the resources assigned will be based on these recommendations

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See lesson 14

LECTURE 17

Monitoring: fundamental definitions.

SUB TOPICS	OBJECTIVES
17.1 Monitoring Its importance and advantages.	To understand monitoring as a fundamental activity in the management cycle and to describe its advantages.
17.2 Objectives of monitoring.	To know the directions and objectives toward which monitoring is directed.
17.3 Types and phases of monitoring	To learn the different types of monitoring that can be made and the phases that compose it.
17.4 Tools, conditions and challenges of monitoring.	To know the necessary tools for monitoring.

17.1 Monitoring. Its importance and advantages.

For many years there was no consensus within the community of conservation specialists about the essence and the necessity for monitoring. Recently the World Heritage Committee jointly with ICCROM, ICOMOS and UICN have been able to clarify the concept and promote its application. A fundamental event in this respect it was the Workshop on Monitoring the World Heritage which took place in Vicenza, Italy, 2002¹.

Monitoring is an intrinsic activity within the management cycle that measures and evaluates the changes that happen in a site; it collates the necessary information to carry out corrective or remedial actions, where necessary, to improve the conditions of the site or its management system.

For the authorities responsible and the other sectors involved it is **an indispensable instrument in the evaluation of the effectiveness of their efforts.**

¹Monitoring World Heritage. World Heritage Papers No. 10. See: <http://whc.unesco.org/en/series/>

It is evident that monitoring entails big advantages, among these are:

- Identifying the necessary resources to improve management;
- Contributing to increase the professional competence of the personnel of the site;
- Offering the community opportunities to participate;
- Influencing the improvement of the conservation technologies;
- Stimulating or provoking the local and national authorities to improve the state of conservation and the promotion of the site.

17.2 Objectives of monitoring.

With regard to cultural sites, monitoring is aimed in three directions:

1. To evaluate the forces or endogenous and exogenous pressures that affect the sites.
2. To evaluate the general state of conservation of the sites.
3. To evaluate the effectiveness of the management and conservation actions developed.

The necessary steps for any type of monitoring are as follows:

- To choose accurately the focal point to be monitored.
- To determine the specific parameters to be considered with regard to the point selected for monitoring.
- To define what the acceptable limits of change are, providing that the significance and values of the site are conserved.
- To select the indicators to use according to previously established parameters.

In **cultural landscapes**, the monitoring should register changes as much in **the natural systems as well as in the cultural and social**.

It should register any transformation that has happened as a result of natural forces. For example, loss or damage to species of flora or fauna caused by hurricanes or by the improper use of chemicals.

It should also observe any transformation derived from **human use**. As such, tourist use is a fundamental objective of monitoring due to its strong impacts. **Agricultural activity** is another decisive aspect, according to the way it is carried out and its effect on the landscape. The adaptation of the conservation techniques applied to the natural or cultural components are also evaluated since these can be both positive and negative.

Separate mention is warranted for the permanent register which requires the **preservation of the traditions**, the ways and means of life manifested in its forms of dress, food, drinks, architecture and furniture, highly sensitive to change as a result of the globalization generated by the rapid increments of tourists, the mass media or migration (see lesson 13 factors that affect the landscape).

All in all, it puts the régime of the management implemented to the test.

In the case of sites entered on the World Heritage List, it is necessary to evaluate if the site has retained, in the time, its exceptional universal value, meaning, authenticity and integrity that allowed it to be included on the list. It is also imperative to know of any potential or foreseeable threats to those values.

17.3 Types and phases of the monitoring.

- **Systematic revision of the conditions of the site and the effectiveness of its management** (daily, weekly, monthly, quarterly, annual, etc.) on the part of the authorities, administrators and local or national actors.
- **Monitoring practiced** (under agreement or contract) **by specialized organizations** like ICOMOS, for example, on behalf of the local or national authorities.
- **Reactive monitoring** done at the request of the World Heritage Committee to evaluate the state of the inscribed site when there is news of threats to the same.
- **Periodic reports** on the World Heritage sites in a region or certain area with six year intervals and responding to the orientations of the World Heritage Committee.

17.4 Tools, necessary conditions and challenges of monitoring.

The selection of the tools and appropriate indicators derive from a careful **formulation of the purpose of the monitoring**.

The studies and research on the site, carried out during the elaboration of the Management Plan, will allow the formulation of a group of **statistics and indicators** for the system of control of the administration.

For the evaluation, on one hand, **reliable and precise data on the situation existent at the moment of inscription** of the site on the World Heritage List is needed. On the other, an **objective and detailed register** of the evolution of the conditions of the site, from a starting point up to the date of the monitoring, needs to be carried out. It is necessary to identify the changes that have occurred and their consequences for

the site. At the same time acceptable limits of change will have to be defined.

All the actions and interventions on the site will be documented and will be appropriately registered so that they **can be integrated into the database** used for the monitoring.

In all cases personnel with the suitable professional abilities and appropriate equipment will be necessary. The monitoring should always be carried out with the participation of the local community, the permanent local management team, site committee and the sectors involved.

It is important that the **tools and indicators are chosen carefully according to the purpose of the monitoring and not the other way around**. It frequently happens that the advanced techniques in fashion are those that determine the purpose. Sometimes SIG, satellite technology or laser scanners are over used - technology which many countries do not possess.

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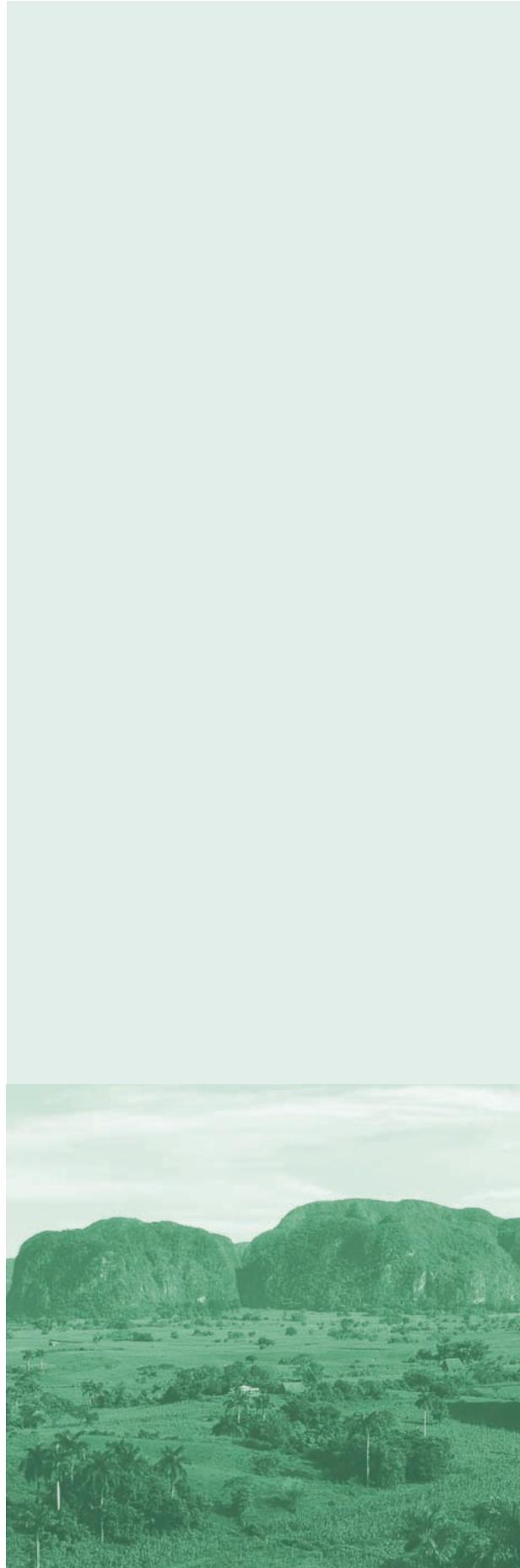
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Lecture 18

Main Theme: Practical approach to the management plan for a cultural landscape, by way of a case study.

SUB TOPIC	OBJECTIVES
18.1 Description of the case study on which the practical exercise will be carried out	To explain the characteristics of the site chosen for carrying out the exercise the following day.
18.2 Application of the methodology of the Management Plan to a selected case study.	To explain how the methodology will be applied to the management plan of the selected case study

18.1 Description of the case study on which the practical exercise will be carried out.

A representative domestic cultural landscape will be chosen on which to carry out the corresponding practical exercise,

It may be a cultural landscape of any of the following types studied during the course:

- Designed cultural landscape.
- Fossil or continuous evolutionary landscape.
- Associative landscape.

At the same time, the organizers –in agreement with the convenience and plans of the country - will be able to decide if the exercise is to be carried out on a landscape inscribed in the World Heritage List or on a landscape that they intend to nominate.

The country might not possess any cultural landscape of exceptional universal value that qualifies for inclusion on the list. However, it might be a significant site for that country and, therefore, warrants effective management.

In any case, the students will be offered all the written and graphic information that they should process and analyze during the visit to be made on the following day. This information will correspond with the contents and sequences explained in the lecture.

18.2 Application of the methodology of the management plan to the selected case study.

The sequence and contents will be adjusted to those presented in Lecture 15 of the third day of the course 'Methodology for the elaboration of the of management plan for a cultural landscape (I)'.

To facilitate this practice, a Power Point on the Management Plan of the Valley of Viñales, a cultural landscape in Cuba, inscribed in the World Heritage List in 1999, is included. It should be pointed out that this is only a very general indication.

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