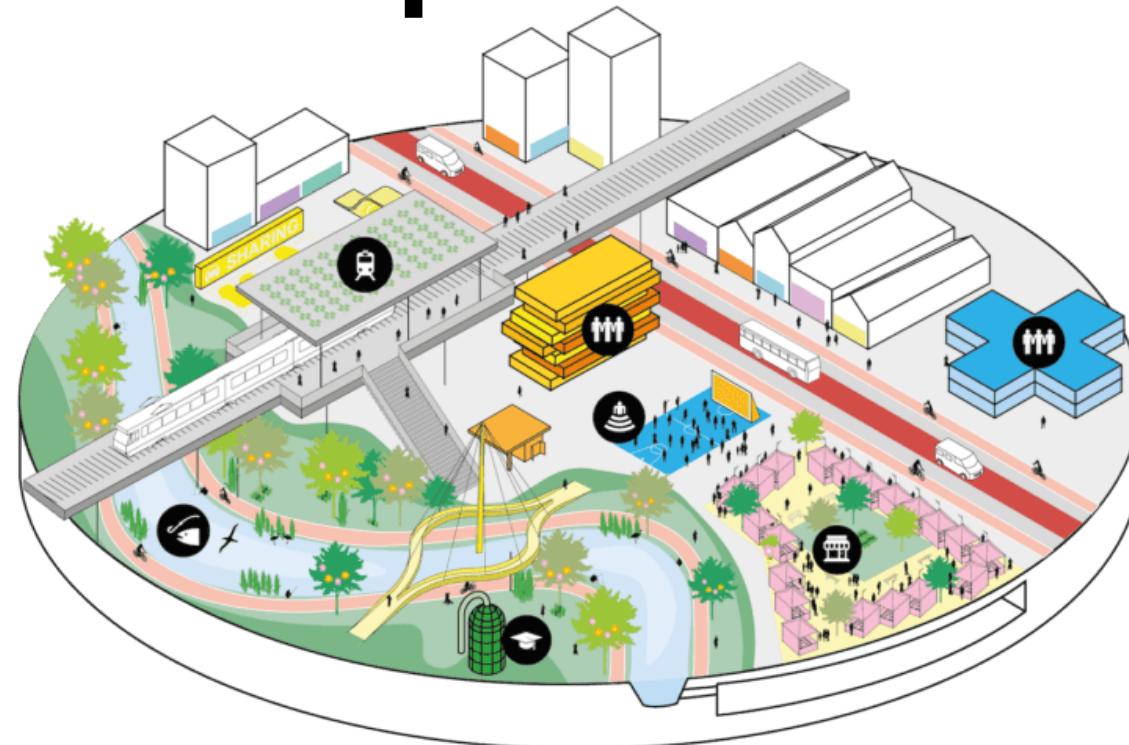




Kwame Nkrumah
University of Science
and Technology, Kumasi

ARC 258

Landscape Architecture



Desma D. D Soga

babydes2@gmail.com // 024-463-0574

May, 2023

Course Content

Unit 1

Introduction

*What is Landscape?
What is Design?
What is Landscape
Architecture?*

Relevance of Landscape Architecture

*Job Description
Importance of Landscape
Architecture
Challenges in the field of
Landscape Architecture
Skill Set of Landscape
Architect*

History of Landscape Architecture

*Pre History – 6th Century
6th – 15th Century
17th – 20th Century
21st Century*

Unit 2

Basic Elements of Landscape Architecture

*Landform
Plant Materials
Buildings
Pavement
Site Structures
Water*

Element of Landscape Design Process

*Line
Form
Texture
Colour
Visual Weight*

Principles of Landscape Design Process

*Simplicity (Repetition)
Variety (Contrast)
Rhythm (Sequence)
Emphasis (Focalisation)
Scale (Proportion)
Balance
Unity*

Unit 3

Landscape Design Procedure

*Inception/Primary Brief Stage
Feasibility Stage
Secondary Brief Stage
Design Stage
Sketch Design Stage
Detailed Design Stage
Bill of Quantities*

Types of Landscape Garden

*Formal Garden
Informal Garden
Xeriscape Garden
Tropicalia Garden
Rock Garden
Roof Garden
Water Garden
Flower Beds
Flower Borders*

Unit 4

Maintenance of Landscape Design

*Watering
Mowing
Pruning
Fertilisation
Mulching
Staking
Weed Control
Pest and Disease Control*

Case Study

*Parks and Recreation Design
Planning*

*Private Estate and
Residential Landscape
Design Planning*

WHY ARE YOU TAKING THIS COURSE



- Differentiate between landscape, landscaping and landscape architecture.
- Define the role of landscape architects in the design of the built environment.
- Understand the diversity of the landscape practice and identify areas of interest to fulfilling personal professional goals and career ambitions.
- Identify some of the key design elements and principles in landscape architecture.
- Identify some of the common planting materials used in the development of a landscape design.



Kwame Nkrumah
University of Science
and Technology, Kumasi

ARC 258

Landscape Architecture

UNIT ONE – LECTURE 1

What is Landscape?

- An expanse of scenery that can be seen in a single view or from a single viewpoint.
- The total character of a region or land including its shapes, texture and colours.
- A mosaic of interacting ecosystems.
- It is the result of the **action** and **interaction** of **natural** and/or **human** factors.

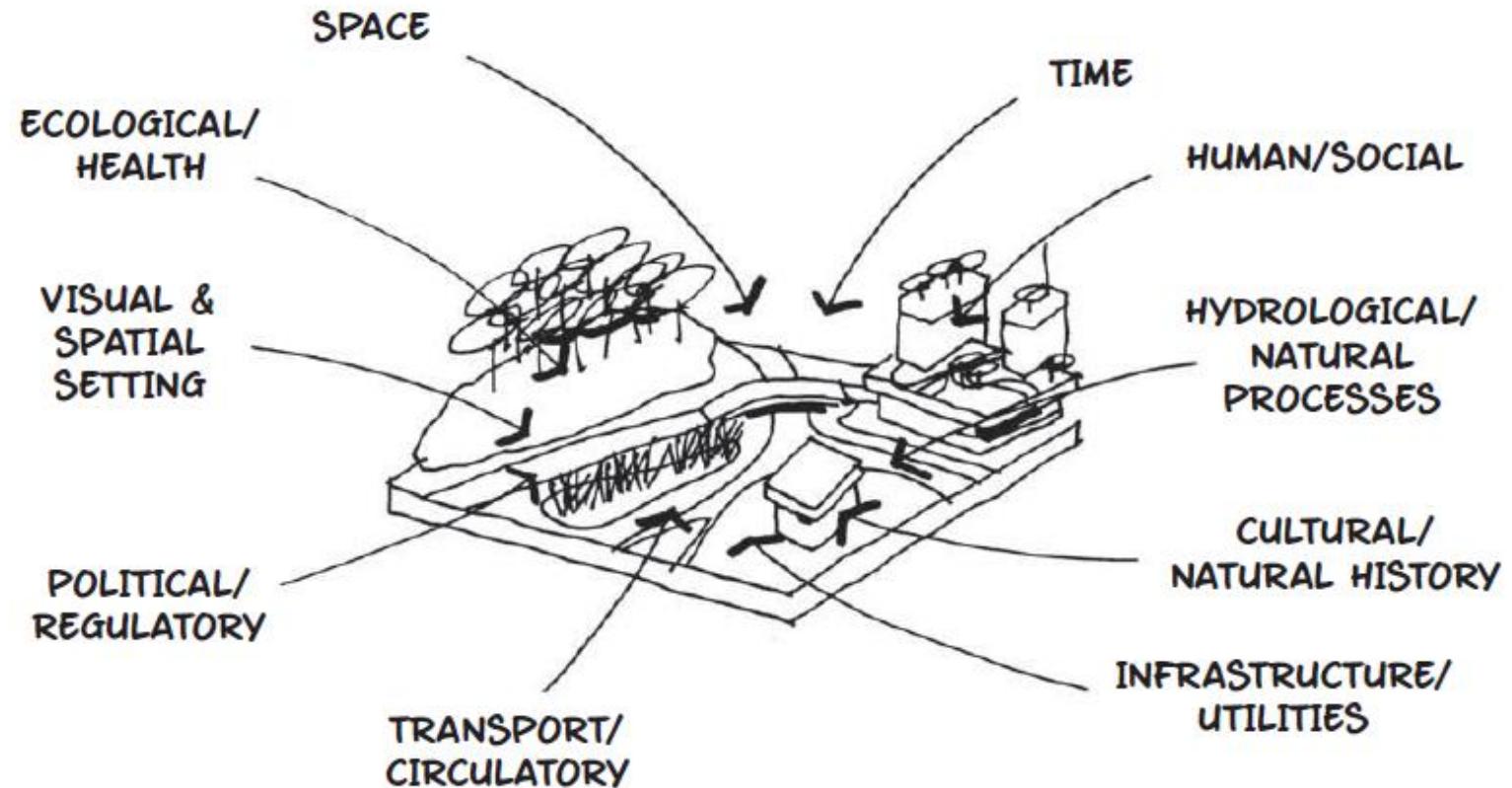


What is Landscape?

- A particular configuration of topography, vegetation cover, land use and settlement pattern.
- Man obtains from his environment two things which he desires, usefulness and beauty, and all material progress in civilization has consisted in his modification of his surroundings to serve these two needs.



What is Landscape?



The Interrelated Systems of Landscape

Natural elements of landform



Living elements of landcover



Human elements

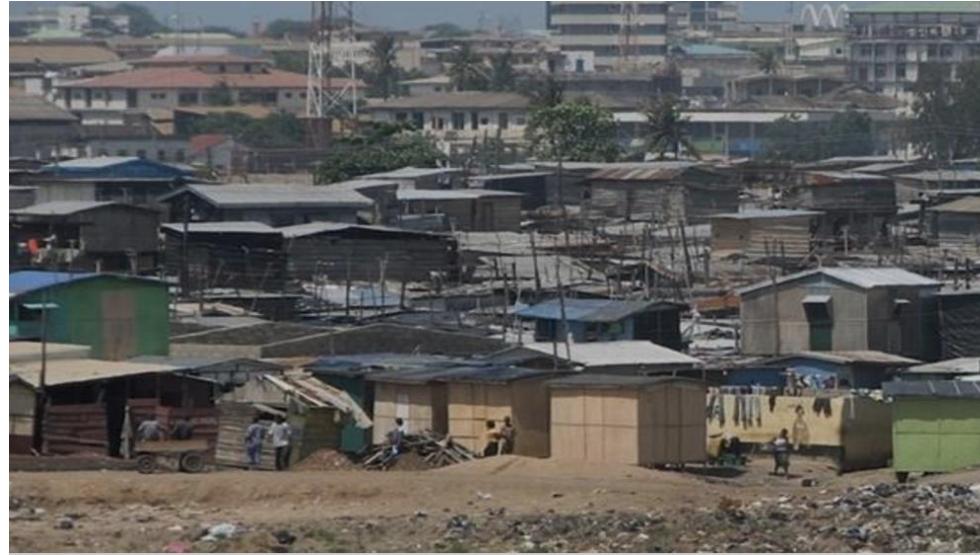


Abstract elements

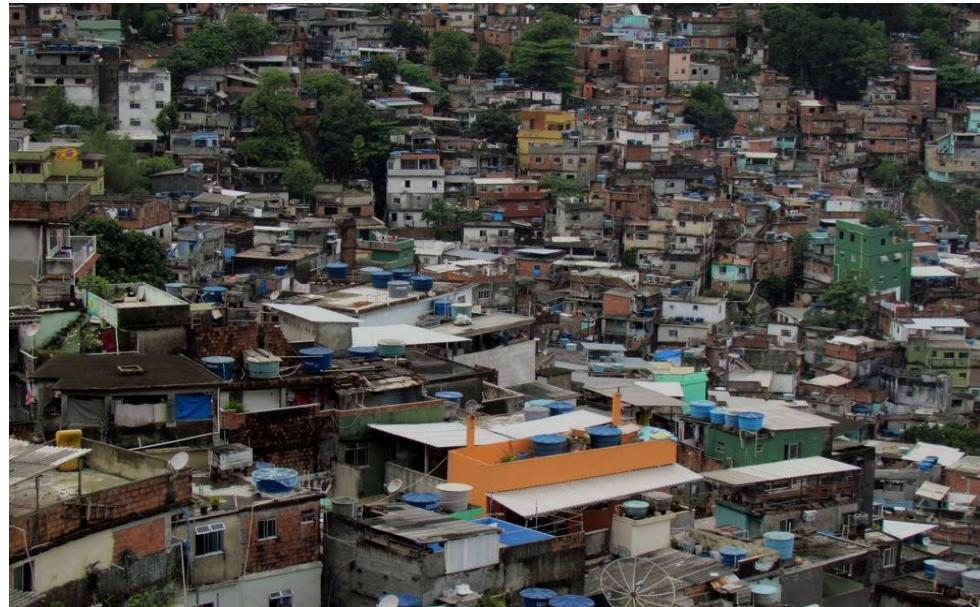


Typical Landscapes (Man-modified)

Africa, Ghana



South America, Brazil



Countryside Landscapes

**Europe, United
Kingdom**



Africa, Ghana



Countryside Landscapes Cont'd

Africa, Ghana



Asia, India



Unique Rural Setting

Africa, Ghana

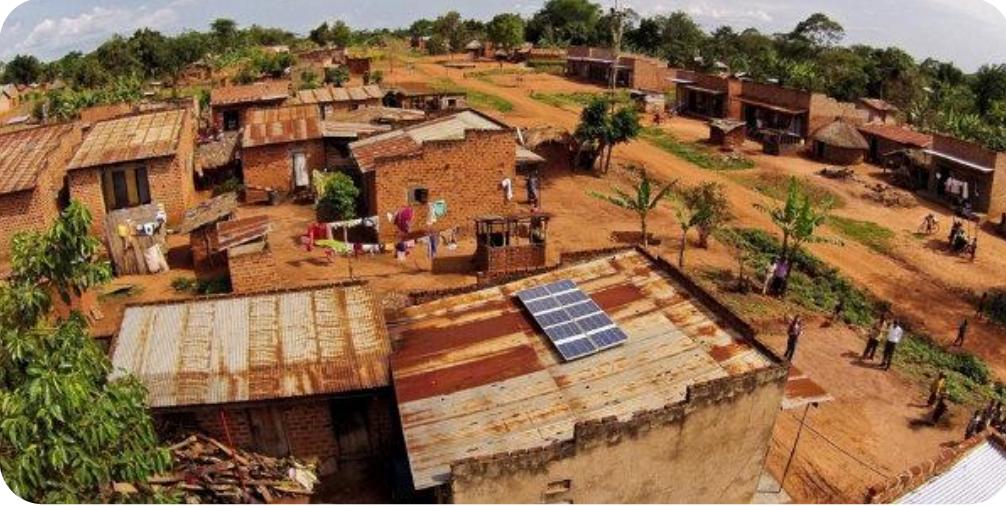


Asia, Myanmar



Unique Rural Setting Cont'd

Africa, Ghana



Africa, Nigeria



Residential Landscape

North America, USA



Residential Landscape Cont'd



Africa, Ghana

Industrial Landscapes

Europe, Poland



Africa, Ghana



Interior Landscapes Design

North America,
Canada



North America,
USA

Interior Landscapes Design Cont'd

Africa, Ghana



Interior Landscapes Design Cont'd



Africa, Ghana



What is Landscaping?

- Landscaping is the development of outdoor space to provide various amenities such as beauty, privacy, comfort, and ease of maintenance.
- It may involve lawns, shrubs, trees, succulents and cacti. It may also include structures such as seating, pools, rock gardens, trellises or pergolas, statues, fountains, and paved surfaces.
- The outdoor spaces which are created through design become conducive/functional for man to live in, work and relax.



What is Landscaping Architecture?

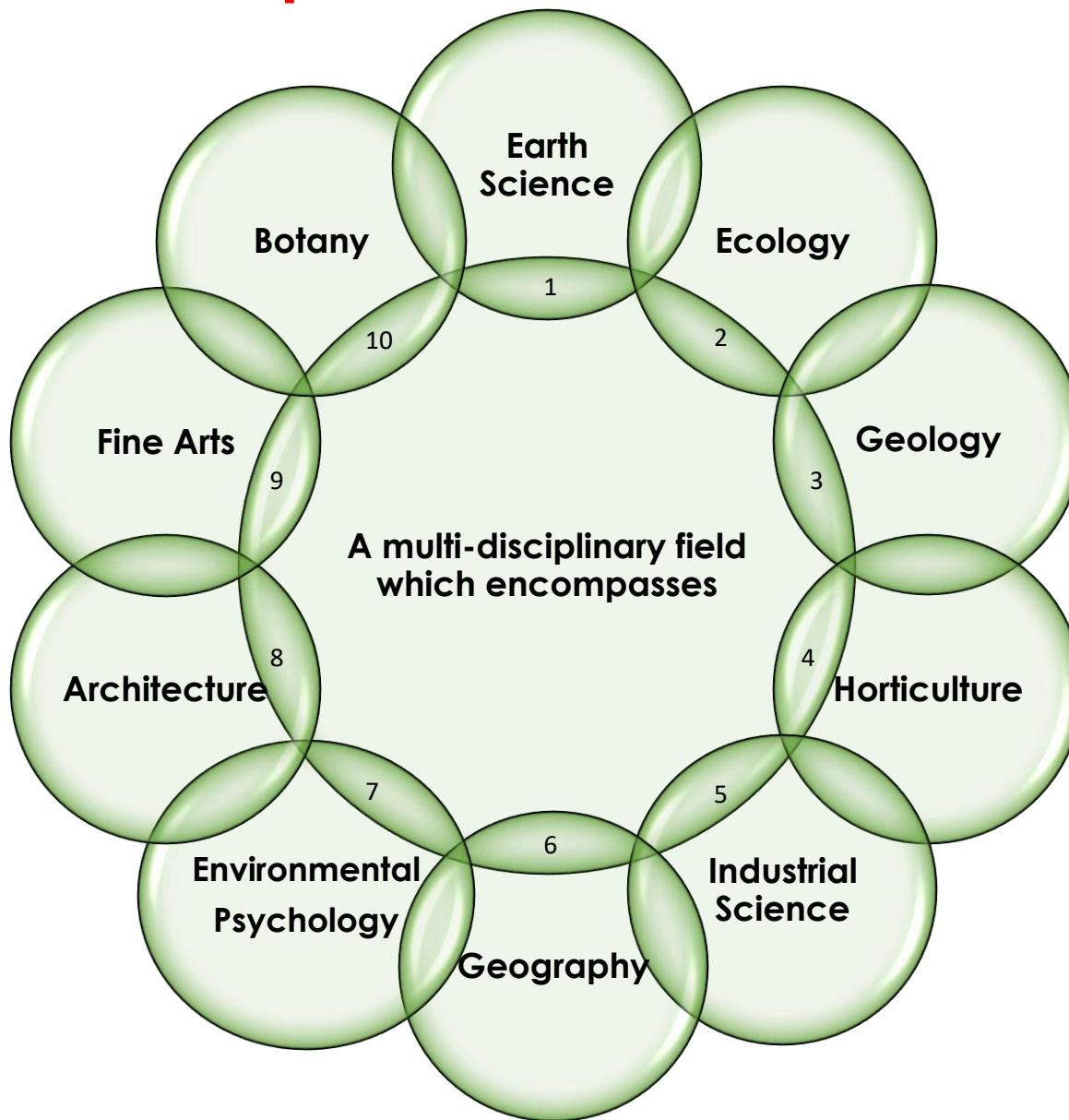
- It is the art and science of planning and designing the landscape for purposeful human use and the conservation of landscape resources.
- The design of outdoor public areas, landmarks, and structures to achieve environmental, social-behavioural, and aesthetics outcomes encompassing both hardscapes and softscapes.
- It is an applied art based on scientific understanding.



What is Landscape Architecture?

- The critical difference between landscape garden design and landscape architecture is that **landscape gardens** tend to be **enclosed** and to be designed for the **private individual**.
- Whereas **landscape architecture** is concerned with **open space**, the **public realm** and the relationship between mankind's **development activities** and the **natural environment**.
- The scale of landscape planning may be regional or even national.

Fundamentals of Landscape Architecture



Who is a Landscape Architect?

- The person whose professional practice is in landscape architecture.



Professional Scope of Works



- Old Approach: Landscape Gardening
- New Approach: Design with nature
- Contemporary Approach:
 - i. Sustainability and Landscape Modification of the micro-climate through energy efficient environscaping.
 - ii. Resource efficient landscape.
 - iii. Ecology and Habitat creation.

Role of the Landscape Architect

- Analyze the natural elements of a site.
- Assess existing buildings, roads, water features, and utilities.
- Evaluate the project's impact on the natural environment and local wildlife.
- Consider laws and regulations that may affect the site.
- Produce detailed site plans, cost estimates, and specifications.

Role of the Landscape Architect

- Develop a planting plan of trees, flowers, shrubs, and other plants and where they will go.
- Regularly work closely with architects, engineers, scientists, landscape contractors, maintenance service and nursery works.

Importance of Landscape Architecture

- Provides outdoor public recreation.
- Helps control toxicity and other environmental issues.
- Weather control.
- Offers customisable and sustainable development avenues.
- Reclamation of polluted sites.

Importance of Landscape Architecture

- Therapeutic effects on human.
- Storm water management.
- Efficient management of land resources.
- Innovative troubleshooting of natural environments.
- Psycho-social benefits for humans.

Challenges in the Field of Landscape Architecture

- Gaining recognition and respect.
- Taking on leadership roles.
- Designing sustainably.
- Creation of abstract concepts.

Challenges in the Field of Landscape Architecture

- Lack of necessary horticultural knowledge.
- Ensuring the culture of maintenance is adhered to.
- Valuing flashy innovations for its own sake.
- Building and maintaining a diverse skills set.

Skill Set for the Landscape Architect

- Analytical Skills
- Communication Skills
- Creativity
- Problem-solving Skills
- Technical Skills
- Visualization Skills



Kwame Nkrumah
University of Science
and Technology, Kumasi

ARC 258

Landscape Architecture

UNIT ONE – LECTURE 2

History of Landscape Architecture

- Garden design is both a popular ancient activity and an aspect of aristocratic and leisured wealth.
- The histories of gardens, parks, agriculture and urban settlement are important to the practice of landscape architecture and design in the present.
- Like most art forms, landscape architecture is in constant dialogue with its past and its origins.
- To be a good landscape architect, it's therefore essential to know about the discipline's development across the centuries and changing emphases in professional practice.

History of Landscape Architecture

- Cultures attempted to re-create or express in their built landscapes the sacred meanings and spiritual significance of natural sites and phenomena.
- People altered the landscape to try to understand and/or honour the mysteries of nature.
- Early “landscape design” elaborated on humankind’s intuitive impulse to dig and to mound.
- Our ancestors constructed earthworks, raised stones, and marked the ground, leaving traces of basic shapes and axial alignments.

History of Landscape Architecture

- History permits us to see our place in the flow of time, and even to catch a glimpse of the future.

Timelines

- Prehistory – 6th Century
- 6th – 15th Century
- 17th – 20th Century
- 21st Century

PREHISTORY – 6TH CENTURY

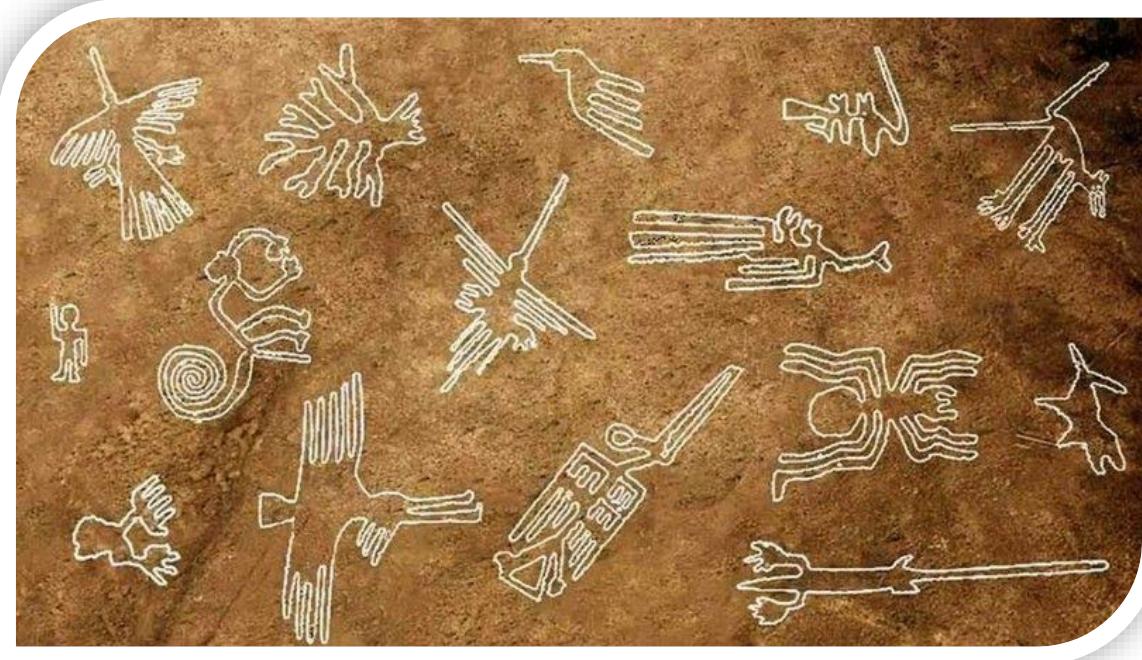
1. Cosmological Landscapes
2. Ancient Gardens
3. Landscape and Architecture
4. Genius Loci

The goal for Landscape Architecture was:

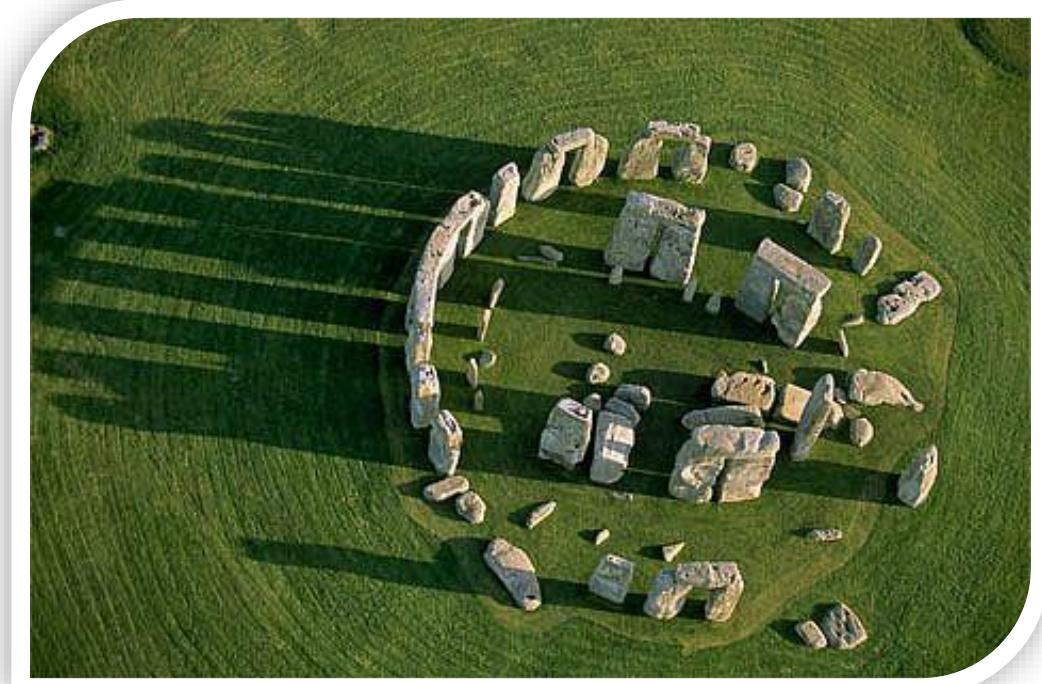
- To understand and/or honour the mysteries of nature.
- Cemeteries.
- Created or built for unknown purpose yet.
- Pleasure, medicine, food and worship.

PREHISTORY – 6TH CENTURY

- Cosmological Landscapes



200 BCE – 600 CE
Nazca Lines, Peru



2950 BCE – 1600 CE
Stonehenge, England

PREHISTORY – 6TH CENTURY

- Ancient Gardens



1380 BCE
Tomb of Nebamun, Thebes



118 CE
Hadrian's Villa, Tivoli, Italy

PREHISTORY – 6TH CENTURY

- Landscape and Architecture



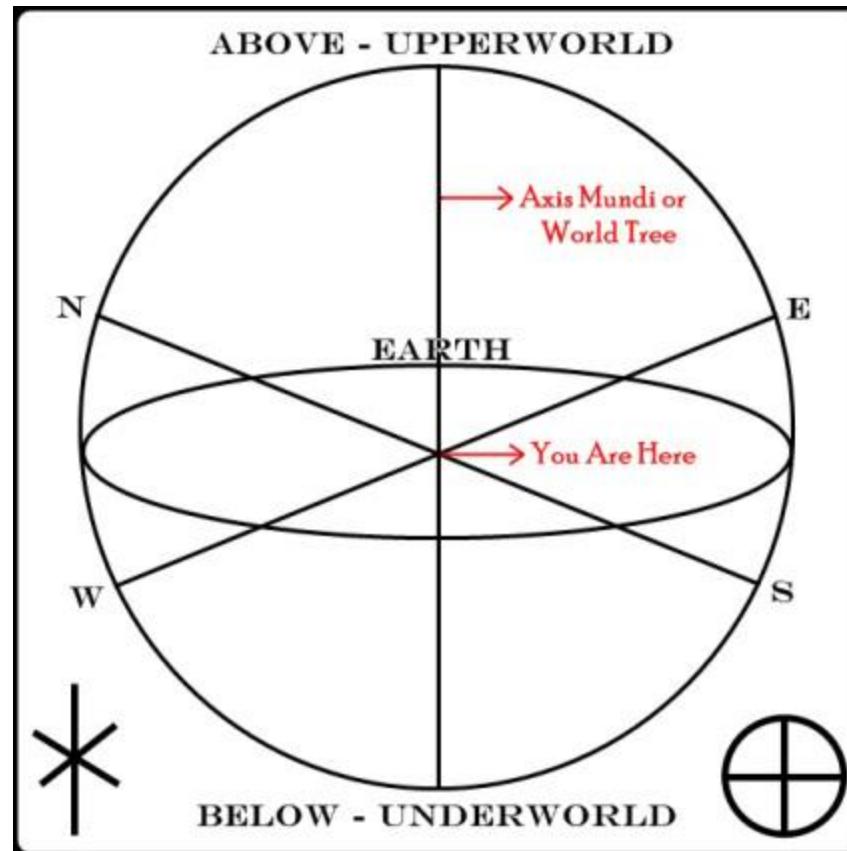
1400 BCE
Mortuary Temple of Hatshepsut, Deir El-Bahri,
Egypt



460 BCE
Acropolis, Athens, Greece

PREHISTORY – 6TH CENTURY

- Genius Loci - Concepts



The Axis Mundi

PREHISTORY – 6TH CENTURY

- Genius Loci



The Ganges, India



563 – 483 BCE
Bodhi Tree, India

6TH CENTURY – 15TH CENTURY

- In this era, there was advancement in the cultures and gardens of countries such as Japan, China, and Islamic Spain.

The goal for Landscape Architecture was:

- Gardens were representative of a culture's changing perception of nature.
- Gardens were created for pleasure, food and medicine.
- The garden became laden with allegorical symbolism both sacred and profane, and was the locus for literary tales of chivalry and courtly love.
- Show the power and wealth of Empire where entitlement to land equaled power.

6TH CENTURY – 15TH CENTURY

Used Elements in the Landscape Architecture

- Walls/Fences
- Fountain
- Runnels
- Rocks and Water
- Courtyard

6TH CENTURY – 15TH CENTURY



612 AD
St. Gall, Switzerland



1342 AD
Lion Grove Garden, Suzhou, China

6TH CENTURY – 15TH CENTURY



1169 AD
Alcázar of Seville, Spain



1398 AD
Kinkaku-ji Garden, Kanazawa, Japan

17TH CENTURY – 20TH CENTURY

- Advances in scientific knowledge challenged beliefs in religious doctrine and renaissance order.
- Nature was shaped according to human will as the landscape was ordered by geometries that expressed the power and authority of humans over nature.
- Curves, realized as sweeping lawns, serpentine lakes, and billowing trees, defined the “line of beauty” in the 18th century English garden.

17TH CENTURY – 20TH CENTURY

- Society believed sensitivity to natural phenomena and appreciation of natural beauty to be morally and spiritually uplifting.
- The first public parks opened in the 19th century.
- Landscape architecture was established as a profession in America by the end of the 19th century and accelerated in the early 20th century.
- It was the American architect Calvert Vaux (1824–95) and the journalist, farmer and mine manager Frederick Law Olmsted (1822–1903) who in 1863 first applied the term ‘landscape architecture’ to their new profession.

17TH CENTURY – 20TH CENTURY

- The aesthetic language of the English landscape garden was adopted as a model for the parks.
- People understood the political, economic and social value of the landscape, and campaigned to access its benefits.
- New resources, technologies, modes of transportation, and communication systems transformed the way people interacted with each other and with the natural world in the 20th century.

17TH CENTURY – 20TH CENTURY



1632 AD
Taj Mahal, India



1645 AD
Katsura Imperial Villa, Kyoto, Japan

17TH CENTURY – 20TH CENTURY



1568 – 1579 AD
Villa Lante, Bagnaia, Italy

17TH CENTURY – 20TH CENTURY



1858 AD
The Central Park , New York, America

17TH CENTURY – 20TH CENTURY

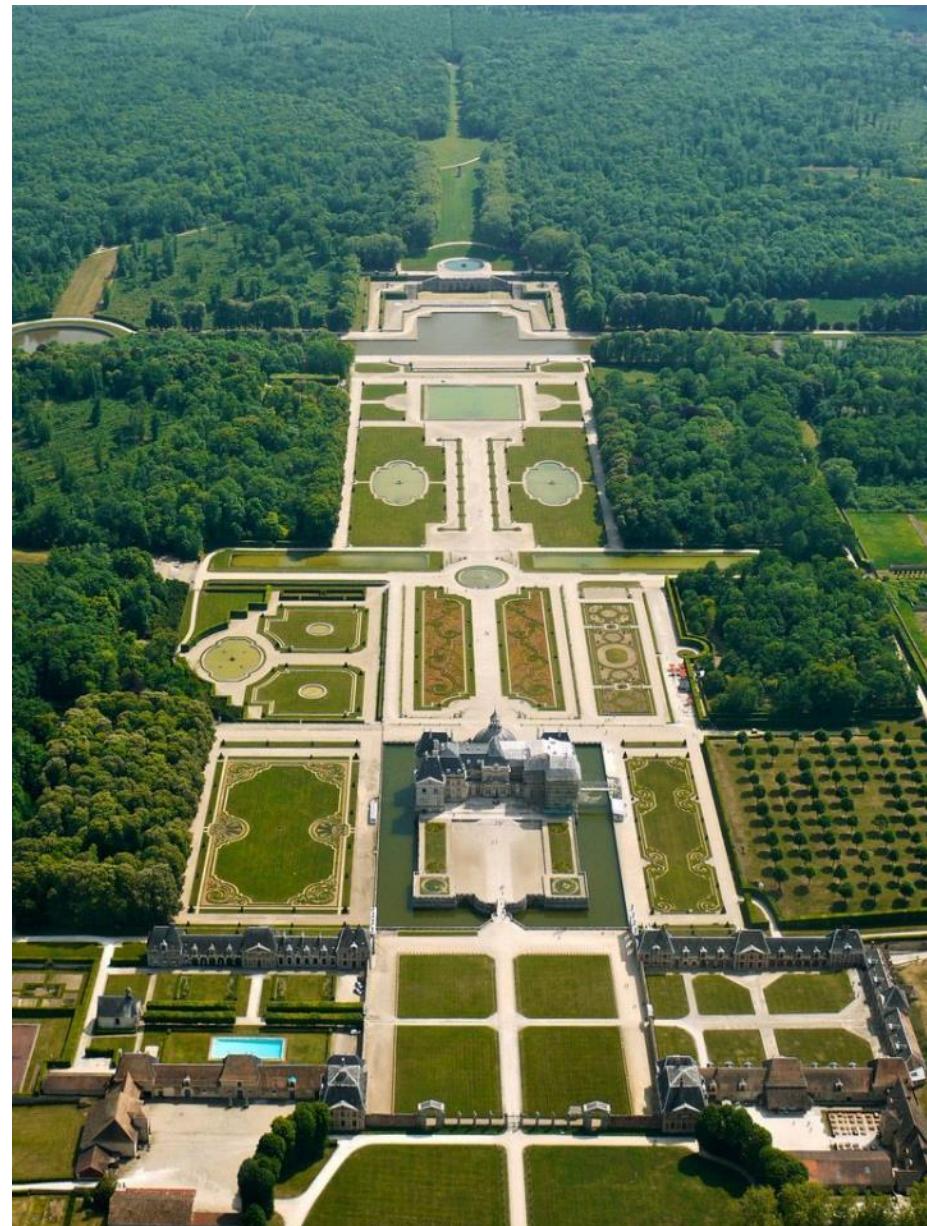


1620 - 1934 AD
Chateaux de Loire Valley, France

17TH CENTURY – 20TH CENTURY



1656 AD
Châteaux de Vaux le Vicomte, France



21ST CENTURY

- In this contemporary era where urbanization is at the rise and the demand for more interactive civic spaces is increasing.
- Therefore, **landscapes act as a tool** to help us create small **ecosystems** of buildings.
- It proves that **not just the aesthetic but functionality** that is affected by **not only the building** but the **surrounding elements** as well.
- It means landscape architects think about sustainable and green architecture concepts.
- The principles applied in the 21st century landscape design is the; Reduce, Reuse, Recycle.

21ST CENTURY

- Sustainable landscaping encompasses a variety of practices that have developed in response to environmental issues.
- These practices are used in every phase of landscaping, including design, construction, implementation and management of residential and commercial landscapes.

Sustainability issues for landscaping include:

1. Carbon Sequestration
2. Global Climate Change
3. Air Pollution
4. Water Pollution
5. Pesticide Toxicity
6. Non-Renewable Resources
7. Energy Usage
8. Native Plants

Non-sustainable practices in landscape design include:

- ❖ Soil contamination
- ❖ Air and Water contamination
- ❖ Persistence of toxic compounds in the environment
- ❖ Non-sustainable consumption of natural resources
- ❖ Greenhouse gas emissions
- ❖ Invasive species

Some of the effects of non-sustainable practices are:

- ❖ Severe degradation of the surrounding ecosystem.
- ❖ Harm to human health, especially in the case of degraded drinking water supplies.
- ❖ Harm to flora and fauna and their habitats.
- ❖ Sedimentation of surface waters caused by stormwater runoff.
- ❖ Chemical pollutants in drinking water caused by pesticide runoff.

Some of the effects of non-sustainable practices are:

- ❖ Health problems caused by toxic fertilizers.
- ❖ Toxic pesticides, improper use, handling, storage and disposal of pesticides.
- ❖ Air and noise pollution caused by landscape equipment.
- ❖ Invasion of wild lands by non-native weeds and insect pests.
- ❖ Over-use of limited natural resources.

21ST CENTURY

Some solutions to non-sustainable practices are:

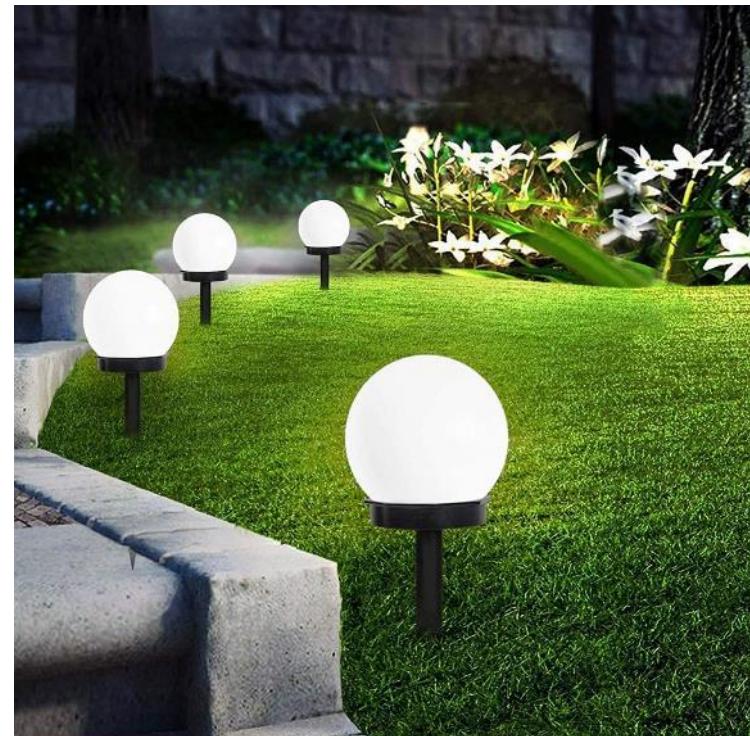
- ❖ Reduction of stormwater run-off using bio-swales, rain gardens and green roofs and walls.
- ❖ Reduction of water use in landscapes through design of water-wise garden techniques (sometimes known as xeriscaping)
- ❖ Bio-filtering of wastes through constructed wetlands.



21ST CENTURY

Some solutions to non-sustainable practices are:

- ❖ Landscape irrigation using water from showers and sinks, known as gray water.
- ❖ Integration and adoption of renewable energy, including solar-powered landscape lighting.
- ❖ Use of sustainably harvested wood, composite wood products for decking and other landscape projects, as well as use of plastic lumber.



21ST CENTURY

Some solutions to non-sustainable practices are:

- ❖ Creating and enhancing wildlife habitat in urban environments.
- ❖ Energy-efficient landscape design in the form of proper placement and selection of shade trees and creation of wind breaks.
- ❖ Permeable paving materials to reduce stormwater run-off and allow rainwater to infiltrate into the ground and replenish groundwater rather than run into surface water.



21ST CENTURY

Some solutions to non-sustainable practices are:

- ❖ Recycling of products, such as glass, rubber from tires and other materials to create landscape products such as paving stones, mulch and other materials.
- ❖ Soil management techniques, including composting kitchen and yard wastes, to maintain and enhance healthy soil that supports a diversity of soil life.



THANK YOU