ARBORICULTURE IN SDG –PLANT A TREE AND PROTECT THE ENVIRONMENT

THANK YOU

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ARBORICULTURE IN SDG
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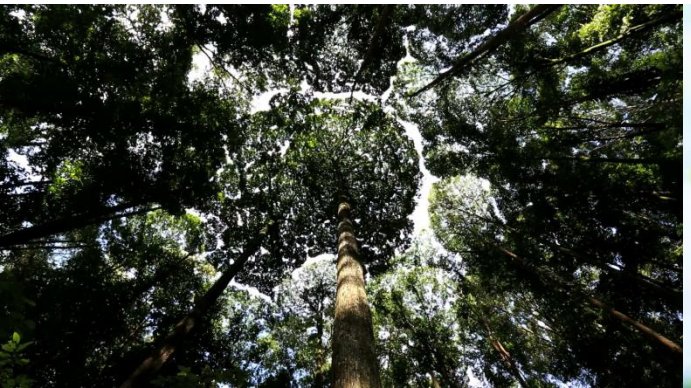
Objectives;

1. To be familiar with ‘arboriculture’ and how it relates to Sustainable Development Goals
2. To understand the significance of planting a tree with regards to the environment and
3. To comprehend the relation of arboriculture practices to sustainable city living
4. Conclusion



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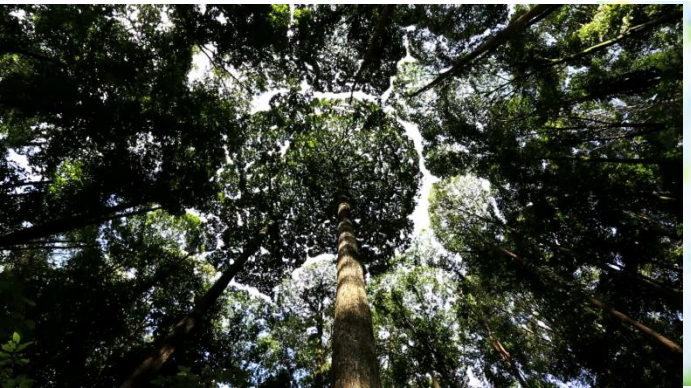
What is Arboriculture?

“The art and science of individual tree care inclusive of their cultivation, management and maintenance ”

Arboriculture involves the care of individual trees, while urban forestry deals with forests as systems (groups of trees) in a developed setting



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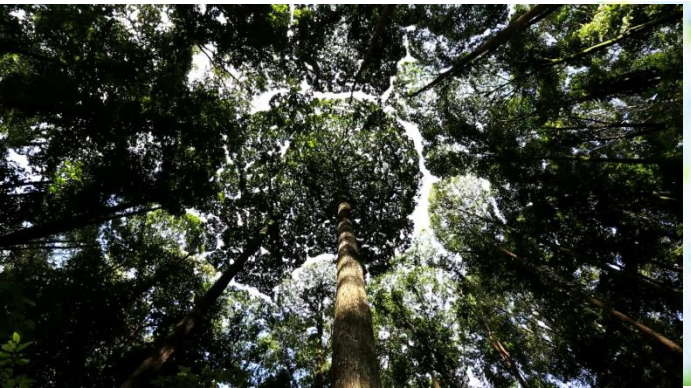
Sustainable Development Goals

1. **Set by the United Nations to achieve a better and more sustainable future for all.** (Previous Kyoto Protocol calls for carbon reduction)
2. **17 interconnected Goals**
3. **To be achieved by 2030**

Goal 11: Sustainable Cities and Communities

Goal 15: Life on Land



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To be **sustainable**;

1. Development that meets the needs of the present
2. Not to compromise future generations of their own needs
3. **Able to be maintained at a certain rate or level**
4. **Avoidance of the depletion of natural resources to maintain an ecological balance**
5. The pursuit of global environmental sustainability

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DEVELOPMENT TREND;

1. LOW CARBON - REDUCE CARBON FOOTPRINT
2. GREEN - ALTERNATIVE ENERGY SOURCE
3. TOD - EVERY ELEMENTS CLOSE TOGETHER
4. COMPACT - HIGHER PLOT RATIO

CHALLENGES;

1. TO ASSIMILATE GREEN AREAS WITHIN A DEVELOPMENT
2. TO MAXIMISE GREEN SPACE
3. TO CREATE BALANCED GROWTH OF GREEN SPACE AND BUILT STRUCTURES
4. SUSTAINABLE ECONOMICALLY

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APPROACH;

PLAN OUT GREEN SPACES EARLY IN THE PLANNING STAGE WITH **TREES** TO BE A MAJOR COMPONENT RATHER THAN BUILT STRUCTURES

ON THE GROUND ENSURE SUITABLE TREES ARE PLANTED FOR THE SHADE, CANOPY, GOOD STRUCTURE AND BENEFICIAL TO WILDLIFE.

START WITH PLANTING A TREE AS THE UNDERLYING **PRINCIPLE.** THEN EXPAND AS IT PROGRESSES

WHY?!

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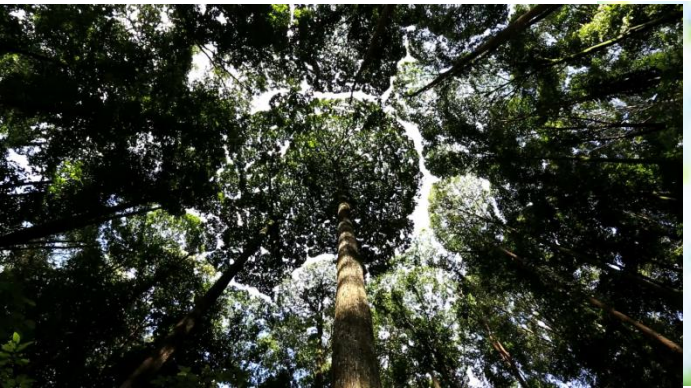
Planting a Tree

1. A tree upon maturity provides the necessary oxygen intake for half a person. Therefore needs to plant two trees for a lifetime oxygen supply.
2. Oxygen circulates in the environment within the stratosphere – a treeless desert dweller still breathes oxygen supplied by trees in a tropical country



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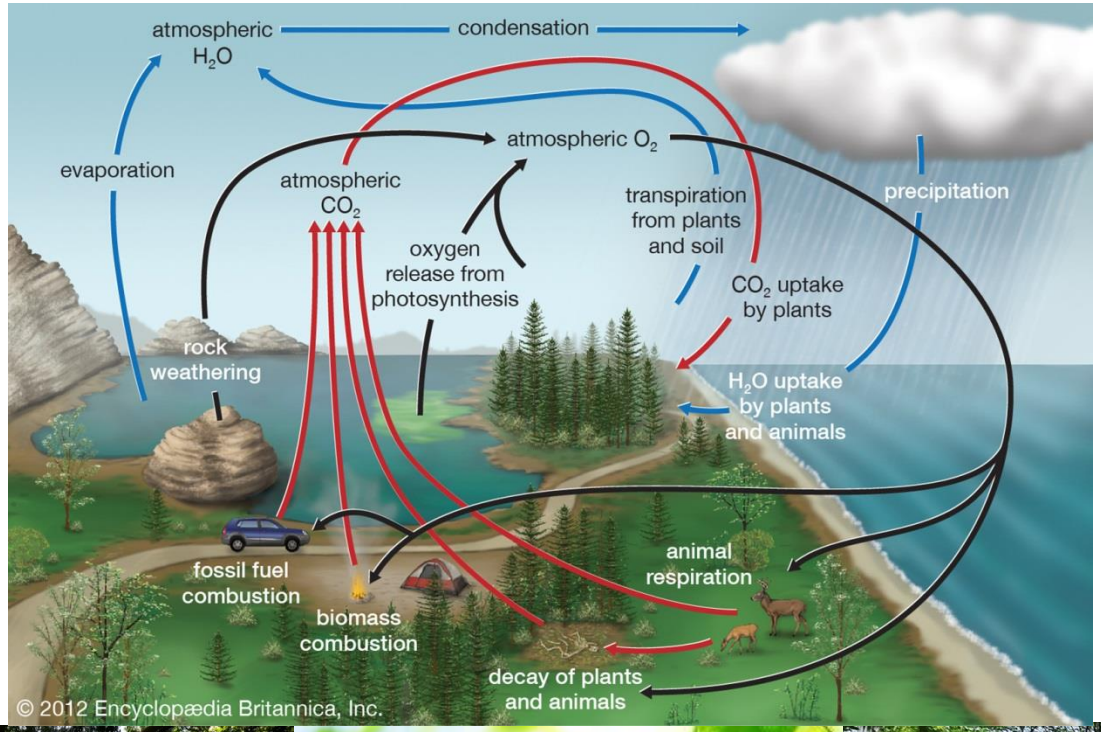

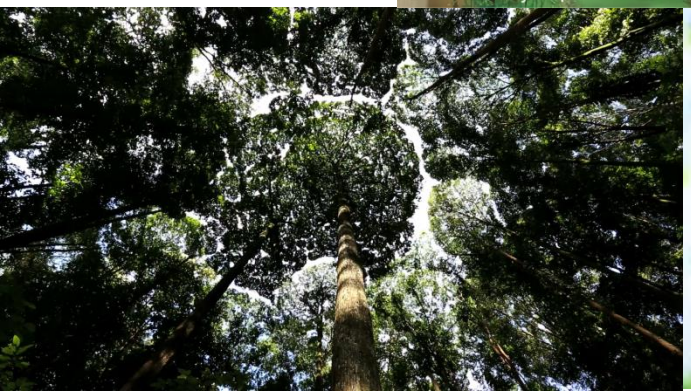

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Oxygen cycle, circulation of oxygen in various forms through nature. Free in the air and dissolved in water, oxygen is second only to nitrogen in abundance among uncombined elements in the atmosphere. Plants and animals use oxygen to respire and return it to the air and water as carbon dioxide (CO_2). CO_2 is then taken up by algae and terrestrial green plants and converted into carbohydrates during the process of photosynthesis, oxygen being a by-product. The waters of the world are the main oxygen generators of the biosphere; their algae are estimated to replace about 90 percent of all oxygen used. Oxygen is involved to some degree in all the other biogeochemical cycles. For example, over time, detritus from living organisms transfers oxygen-containing compounds such as calcium carbonates into the lithosphere.

Despite the burning of fossil fuel and the reduction of natural vegetation (on land and in the sea), the level of atmospheric oxygen appears to be relatively stable because of the increase in plant productivity resulting from agricultural advances worldwide.

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THE OXYGEN CYCLE

Comes in Various Form

In the Air (free form), In the Water (dissolved form)

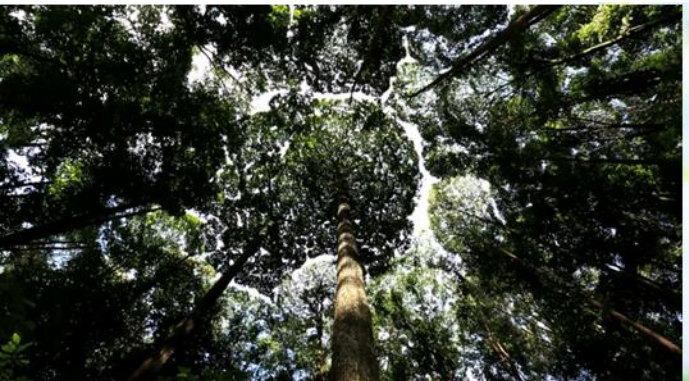
Main users are plants, animals (also human)

Returns to air and water (as C02)

Taken by algae and plants for photosynthesis

Oxygen (O2) as by-product

Cycle repeated



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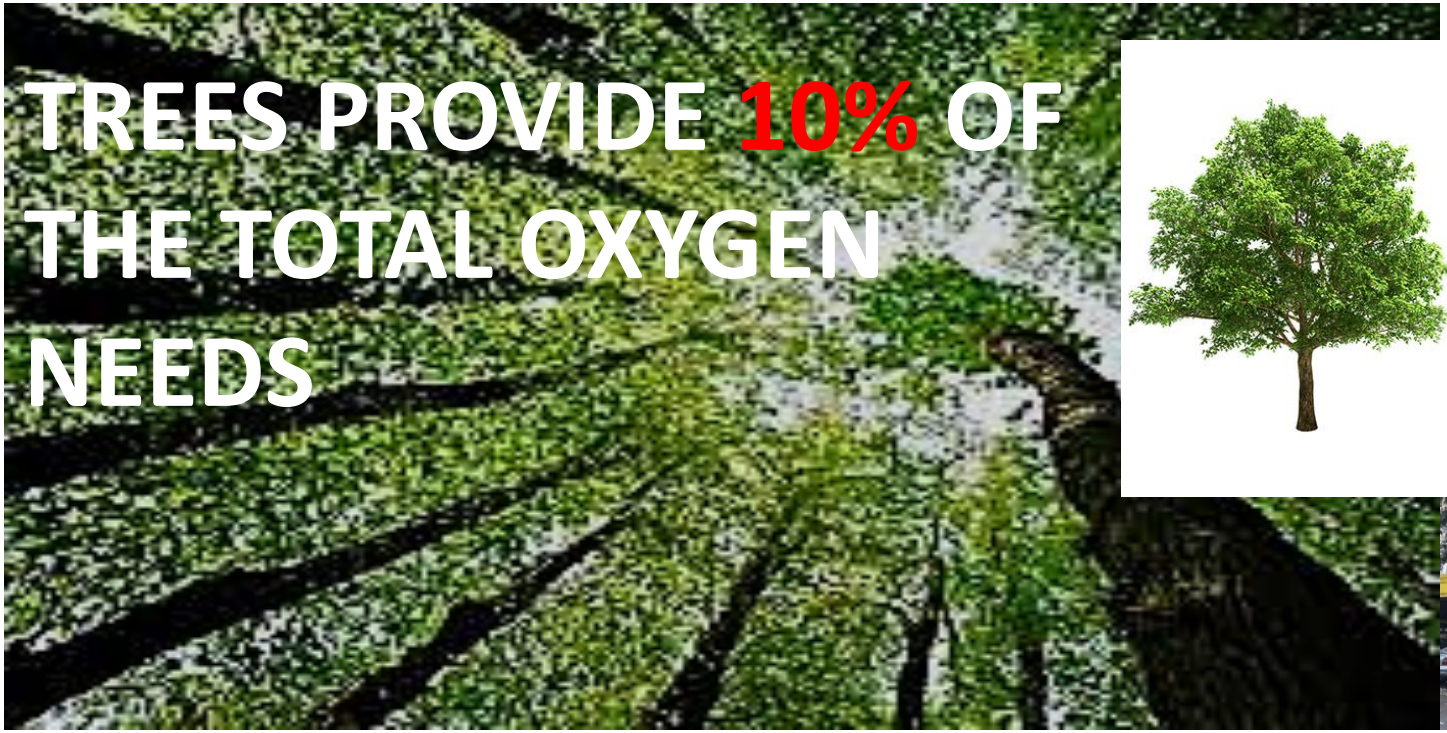

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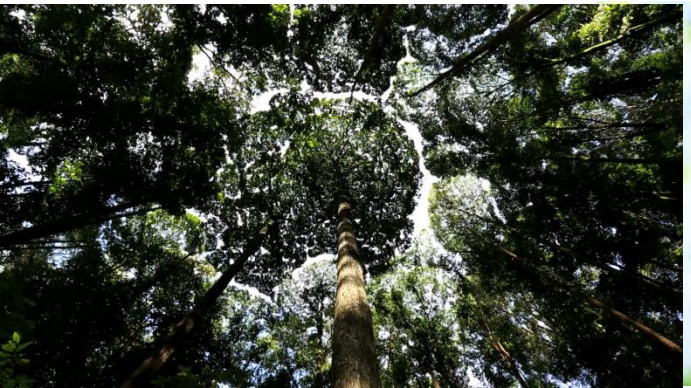
Planting a Tree

1. A tree upon maturity provides shade and absorbs heat. A neighborhood full with trees may experience a drop of up to **5ºC** in the summer or during peak afternoon
2. A tree also sequester CO_2 and recycle it to release oxygen



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Without trees also would lead to;

1. Loss of Micro habitats
2. Loss of cultural elements

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WITHOUT TREES THERE WOULD BE NO PARKS, NO PLEASANT VIEWS AND NO BEAUTY WITHIN OUR IMMEDIATE SURROUNDINGS!

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PART OF THE SUSTAINABLE URBAN PLANNING IS TO HAVE LIVABLE CITIES AND NEIGHBORHOOD APART FROM GREEN BUILDINGS AND HOUSING IS WALKABLE GREEN SPACES (PARKS) AND OPEN SPACES. OBVIOUSLY TREES ARE USED AS A MAJOR COMPONENT FOR THE URBAN FORESTS. IT PROVIDES SHADE AND REFUGE FOR TOD DEVELOPMENT.

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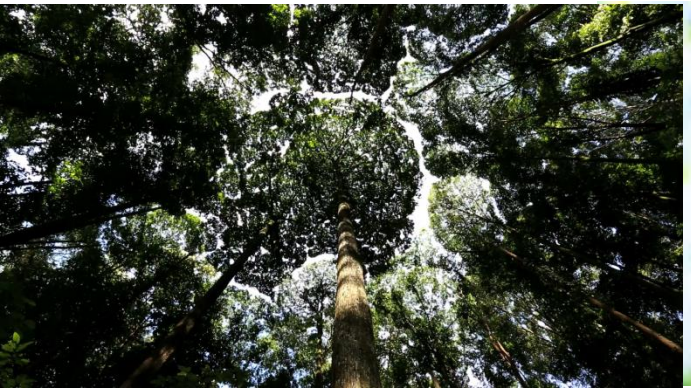
Arboriculture through the development, maintenance and preservation of the urban forest will ensure the continuity of benefits enjoyed by the mass population. Among others;

1. Continuity of the oxygen cycle
2. Mitigation of heat
3. Sustenance of the micro ecology
4. Reducing noise pollution
5. Refuge for urban wildlife
6. Providence of recreational space
7. Preservation of the micro-culture
8. ..and many more



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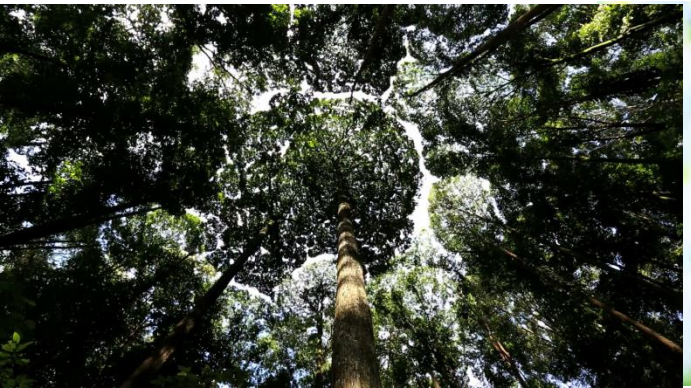
URBAN FORESTS ARE CRUCIAL FOR THE SUSTENANCE OF LIVABLE CITIES THEREFORE THEY SHOULD BE DEVELOPED AND/OR MAINTAINED



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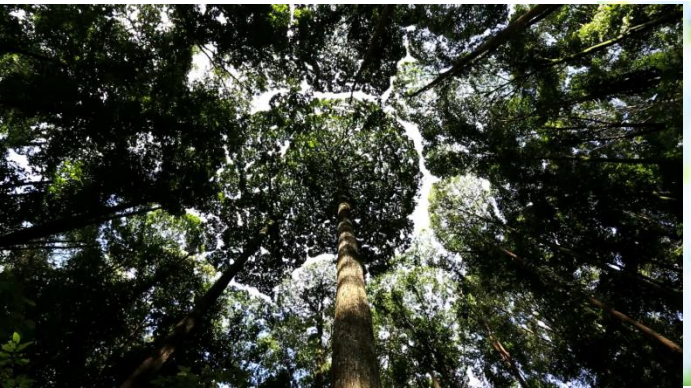
Steps that should be taken towards the continuity of the urban forests;

1. Enforce the plot ratio of the green space against the built footprint
2. Provide more local parks (20 – 100 acres) where trees should be planted more
3. **Aggressively pursue tree planting (budget permitting) with longer life expectancy species.**
4. **Diligently maintain existing trees by way of proper arboriculture practice such as pruning, disease treatment and prolonging the life of trees. Increase the budget**
5. **Introduce laws that are more friendly to tree well being (compounds, fines, punishment)**
6. **Promote healthy approach towards safeguarding trees.**
7. **Promote the culture of maintenance both to the authorities and the public**
8. **Promote the idea of healthy living with trees around**



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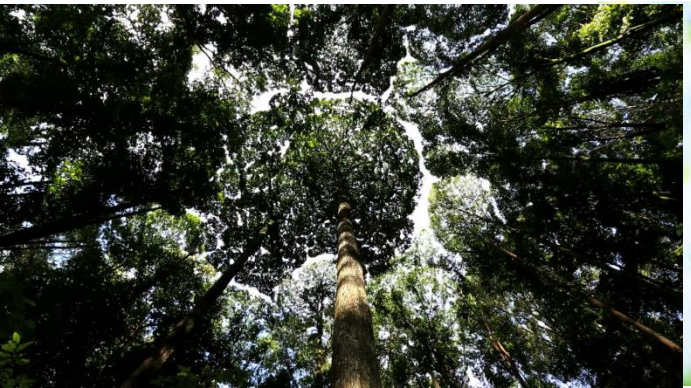
NATURE AND LEISURE AND RECREATION AREA hierarchy

1 . National National Park - an area of unlimited
2 . Regional Park / State - 250 acres
3 . City Park - 100 acres - 250 acres
4 . Local Park - 20 acres - 100 acres
5 . Field neighborhood - 5 acres - 20 acres
6 . Field Games / Sports Home - 1.5 acres -5 acres
7 . Lot Games - less than 1.5 acres



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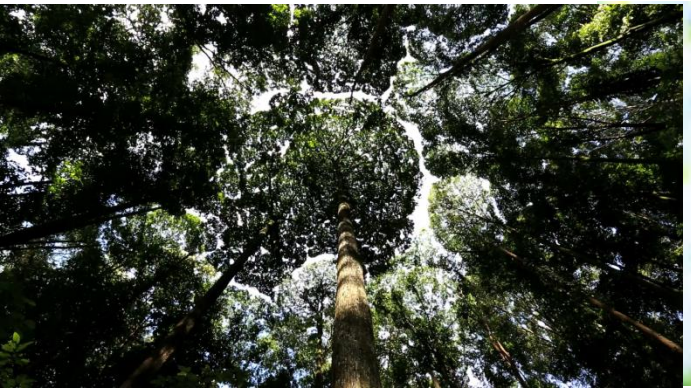
The significance of planting a tree

- It is an act, or rather a manifestation of starting something good achieved through a real effort of contributing to the environment of which in essence is towards one's own benefit and also of others.
- It is a small step towards a larger context of global sustenance
- Something that sounds trivial is actually huge when seen in a more meaningful perspective. If 7 billion people were to plant a tree there would be an additional 7 billion trees globally!



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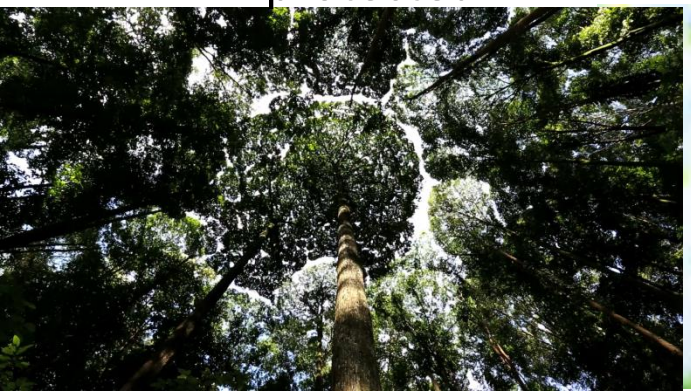
Conclusion;

- **Arboriculture is largely about caring and maintaining the urban forest (trees) through best practices which enable trees to live to the fullest (100 – 200 years)**
- By having and maintaining healthy trees in urban forestry through best arboriculture practice, sustainable city living is maintained through the provision of oxygen, food, refuge, recreation and micro culture
- The sustenance of city living is also supported by having the urban forestry which help prevent heat islands, provide carbon sequestration and abatement against noise pollution
- Trees are living assets that need to be properly managed and protected



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IT STARTS WITH YOU

Plant a Tree!

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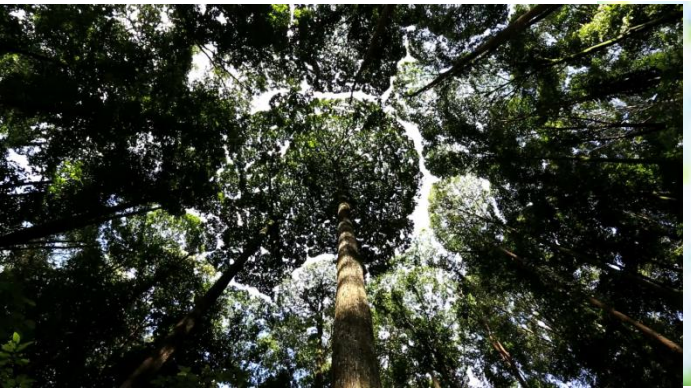
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