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THE CRYSTAL

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We hope that you enjoy reading this issue of The Crystal which will be focusing on Trees. Please remember we welcome your comments and contributions of what you are doing for the environment or what is happening in your area. Please send them to the Editor on infor@blackcrystal.co.zw. If you no longer wish to subscribe to the Crystal then please email us with this instruction.

Thank you and happy reading!

Black Crystal Consulting is one of Zimbabwe's leading reputable companies offering a quality service in environmental and socioeconomic consultancy services. Black Crystal Consulting believes in caring for the environment beyond today to ensure that biodiversity is maintained and that natural resources are not depleted for the next generation.

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National Tree Planting Day

Contribution by Mr Collins Damiso

Is a campaign that is commemorated every year on the first Saturday of December, it is meant to motivate Zimbabweans to plant and conserve trees, educate the public on the importance of forest and woodland resources, enrich biodiversity, boost household food security and alleviate the impacts of climate change. (*Forestry Commission, 2019*).

This event is also called Arbor Day, the first ever national tree planting day was held in Spain in a village called Mondoñedo in 1594 which was organized by the mayor of that village. This green tradition has spread all over the planet, even though the commemoration days may differ. In Zimbabwe the date was declared in 1980 and has been celebrated ever since.

Tree of The Year 2019



The tree of the year for 2019 is called Mutunduru or Granite garcinia / Granite mangosteen in English its botanical name is *Garcinia buchananii*. *Garcinia buchananii* is a small densely branched indigenous tree with maturity heights that range from 4-8

meters it is also evergreen. It has dark thick waxy leaves that are pale below. The flowers are greenish-yellow and they produce edible fruits in clusters. The fruits mature from the month of March to June. The tree has a grey to brown rough bark that secretes a yellow sap.



It is distributed across Manicaland, Mashonaland Central, Mashonaland West and Masvingo provinces of Zimbabwe. In Africa it is found from Sudan down to East Africa, Angola and Mozambique. The tree favors rocky areas, woodland margins, and heavy soils like clays or forests situated along a river.

The tree fulfills many economic values which include medicinal value like treating wounds and stomach pains, it is also used for construction in rural communities, it can be used to brew traditional beverages and due to its natural beauty, it can be used as an ornamental. The fruit is also high in vitamin-C which is an anti-oxidant known to prevent chronic diseases.

To plant Granite garcinia the ripe fruits are placed in a cool dry environment and allowed to rot and put in the sun afterwards to allow easy separation of the seeds from the fruits. The seeds have a hard coat that

needs to be soaked overnight before sowing in pots.

Deforestation in Zimbabwe

Contribution by Mr Collins Damiso

In 2017 the Forestry Commission estimated that over 300 000 hectares of forests are lost each year due to

deforestation as more people use wood for fuel. This number has increased due to the power crisis Zimbabwe has been facing and more people turn to wood fuel as they cannot the alternative sources like LP gas due to the high cost. Trees are also lost to curing of tobacco on farms, forest fires and land clearance for urbanization.

This has led to land degradation in the form of desertification, soil erosion which leads to siltation, increased levels of air pollution due to more wood fuel being burnt, micro climatic changes like increased temperatures and low rains.

Deforestation also leads to bio-diversity loss making some species of flora and fauna endangered as they have been destroyed of their habitats have been lost forcing them to move to other areas, deforestation in some cases has led to human-wildlife conflicts as wild animals are forced to move to human settlements since their habitats have been lost. It also destroys the aesthetics of the affected land making it look bare and barren.

Why trees are important

Contribution by Mr Collins Damiso

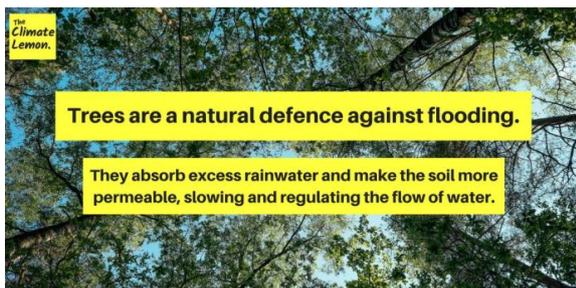
Trees are very important to the survival of humans and should be respected, they are a carbon sink which means that during photosynthesis they take in all the polluted

air and clean it and give out fresh oxygen therefore filtering the air, they also clean soil of pollutants such as heavy metals and oils which detoxifies them and they moderate temperatures and provide a cooling effect some buildings have architectural trees called green facades that are known to reduce urban heat. They also hold loose soils together with their complex root systems minimizing soil loss and promote conservation of bio- diversity.

Trees also have a calming effect on humans reducing stress and fatigue. In urban areas they improve the quality of life due to their filtering abilities. Trees are also beautiful and enhance the beauty of any area they are planted. It is also believed that property values of landscaped homes are 5 to 20 percent higher than those of non-landscaped homes based on the species, size, condition and location of the trees included in the landscape.

Did You Know?

1. Trees prevent floods



Flooding happens after heavy rain when rivers burst their banks or drainage systems overflow. Trees can help prevent this by absorbing much of the excess water before it flows into drains or rivers. The surface roots quickly absorb water as it seeps into the ground and the deep tap roots use up

some of the groundwater, allowing the soil to absorb more.

As well as simply drinking a lot of water, trees also change the physical structure of the soil. The dropped leaves and twigs add organic matter, which allows the soil to hold more water – and the little microbes that eat them create tiny tunnels in the soil, helping water seep in more effectively.

2. Trees also prevent droughts



Maybe it's not that surprising that trees are a natural flood defense, because they drink a lot of water. But get this: they also help to prevent droughts.

Trees and forests play a vital role in the water cycle. As well as drinking water through their roots, they release water through their leaves into the air – a process called transpiration. And they catch rain on their leaves, which evaporates back into the air to form rainclouds – although often the wind carries them and the rain falls somewhere else. Almost half of all rainfall is driven by this combined process of evapotranspiration by forests.

With more research, it may even be possible to increase rainfall to arid regions by strategic tree-planting in other places, using wind currents to transport the water vapor to where it's needed most. This could be a game changer as climate change gets more serious.

3. Trees prevent soil erosion and landslides



Soil erosion is probably a huge environmental problem. Half the world's topsoil has been lost in the last 150 years.

Strong wind and rain can wash away the nutrient-rich topsoil, reducing soil fertility. This is a nightmare for agriculture, and it gets even worse: the topsoil is often washed into streams and rivers, where the vital resource becomes a pollutant, as it clogs up waterways and the high levels of nitrogen poisons aquatic life. Trees prevent this sorry state of affairs by physically holding the soil in place with their roots. Trees also protect the ground from the elements, shielding it from the wind and rain.

This is particularly crucial on hillsides, where erosion is more serious (thanks to gravity) and can even cause dangerous landslides.

Extensive soil erosion eventually leads to land degradation and the spread of barren deserts, but trees can stop that process in its tracks. The Great Green Wall is a bold project to plant a forest all the way across the width of Africa to halt the spread of the Sahara Desert.

4. Trees boost soil fertility



The way trees regulate water and hold the soil together makes the soil better for growing crops, but it doesn't stop there. They also boost soil fertility. You might think they would use up the nutrients, leaving less available for other plants – but trees are just too awesome not to be a net benefit. As they drop leaves and twigs, they decompose, feeding beneficial microbes and insects. All this organic matter is basically natural fertilizer. In turn it attracts more plants and wildlife and they make the soil even richer, powering a virtuous circle.

5. Trees help to buffer noise



Trees are even a natural form of sound proofing. They absorb and scatter sound waves, like anything that blocks their path. But they're much more attractive than a screen, wall or mound of earth, and the gentle sounds of rustling leaves and swaying branches also helps to mask the

unwanted noise. A dense belt of trees between something noisy and people who don't want to hear it can reduce the noise pollution by several decibels. The effect is even stronger if combined with hedges and mounds of earth.

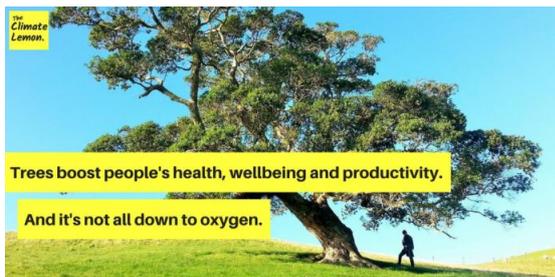
This could be an effective urban planning tool to limit the issue of noise around things like schools, micro factories and nightclubs.

6. Trees cool down hot cities



Cities tend to be a few degrees warmer than the surrounding rural areas, due to something called the urban heat island effect. Grey buildings and roads absorb more light than green vegetation does, emitting more heat and warming up the city. Urban trees (along with gardens, parks, green walls and greenroofs) counter this through the power of evapotranspiration. Their leaves release water vapour, cooling the surrounding air. Of course, trees also provide shade.

7. They make people happier, healthier and more productive



Trees have been shown to boost people's health and wellbeing, and the effect is not entirely explained by their air-cleaning oxygen-giving properties.

Patients that have a view of trees outside their window actually heal faster. The calming effect reduces stress and pain, allowing the patient's immune system to function more effectively. Similarly, studies have shown workers to be more productive when they have views of nature.

8. Trees provide livelihoods for billions of people



A massive 1.6 billion people are directly reliant on forests for their livelihood, according to the FAO. People depend on forest resources in three main ways: using wild food, wood and medicinal plants for regular household consumption, selling such products for income or using wild food as a safety net when crops fail.

Source: <https://theclimatelemon.com/>

Plant a tree today!