

ECOLOGICAL USEFULLNESS OF EUCALYPTUS TREE

Daniel, Biyenta Elijah

College of Education Billiri, Gombe State, Nigeria

biyentadaniel@gmail.com

Introduction

Vegetation (Grasses and trees) contributes greatly to both people and the earth environment well-being. According to the Food and Agriculture Organisation (FAO) of the United Nation, trees and forest in general help in supporting livelihoods, provide clean air and water, protect soil, conserve biodiversity and respond to climate change among several ecosystem services they offer (FAO, 2018). Due to human interaction with the environment through activities such as deforestation for industrial, constructive and fuel wood purposes, large volume of forest and its related trees are greatly degraded around the world requiring urgent effort to ensuring the sustainability of the ecosystem (FAO, 2018). As a response to restoring global forest, environmental managers are now resorting to fast growing trees such as Eucalyptus as a good options (FAO, 2009).

Eucalyptus tree is one of the tree species found in large volume across many known forest of the world. Though noted by FAO (2009) to be the most planted tree in the world, it has been widely criticized not minding it usefulness. Among such critics according to FAO (2009) is the belief that eucalyptus tree may not adequately benefit mankind as forests because they perceived to not always provide quality wood, watershed and soil conservation, and even recreational or aesthetic values. Other controversies related to its impacts on the environment are the removal of too much water from streams and underground water, adverse effects of their leaf litter on soil humus, heavy consumption of soil nutrients, the inability to prevent soil erosion, inhibition of growth of other plants and failure to provide food supplies or adequate habitat for wildlife.

For nations such as Nigeria faced with crushing effects of climate change and increasing human alteration of the natural vegetation, there is need for improved interest to regenerate or even start new forest probably using Eucalyptus tree of

whatever specie. For the needed action to be done with enthusiasm, deeper study and understanding of the ecological and other usefulness in all ramification (environmental and otherwise) of the Eucalyptus tree become imperative.

The Eucalyptus Plant in Different Locations around the Globe

Growing Eucalyptus is not a ‘developing nation affair thing’ only but a global one. According to "Rodale's Illustrated Encyclopedia of Herbs," there are more than 500 species of eucalyptus (Jeanroy, 2018) and it has become the most planted genus of trees in the world according to FAO, (2009). Varying specie adapt and flourished in varying ecological settings around the globe. As a result of great diversity of its species around the world Eucalyptus trees are often collectively called "gum trees" as a whole genus.

Popular among it varying species are seen in Table 1 as follows as collected from various sources.

Table 1: Some Popular species of Eucalyptus Trees

Sn	Local Name	Botanical or Scientific Name
1	Apple box	Eucalyptus bridgesiana,
2	Black gum	Eucalyptus aggregate
3	Black Peppermint	Eucalyptus amygdalina
4	Badja Gum	Eucalyptus badjensis
5	Blue Gum	Eucalyptus globulus
6	Kindling-bark	Eucalyptus dalrympleana
7	Manna Gum	Eucalyptus viminalis
8	Mountain Grey Gum	Eucalyptus cypellocarpa
9	Stringybark	Eucalyptus oblique
10	Cider Gum	Eucalyptus gunnii

Eucalyptus plantations cover at least 12 million hectares throughout the tropics (Turnbull 1999). The major planting of this tree species, outside its home environment, was started in 1904 in Brazil. Eucalyptus is native to Australia, the Malaysian region and the Philippines but now grown in many parts of the world (FAO, 2009).

The figure 1 below is map showing the distribution of global plantation of the Eucalyptus tree as well as related volume as shown by the GIT Forestry Consultancy (2008);

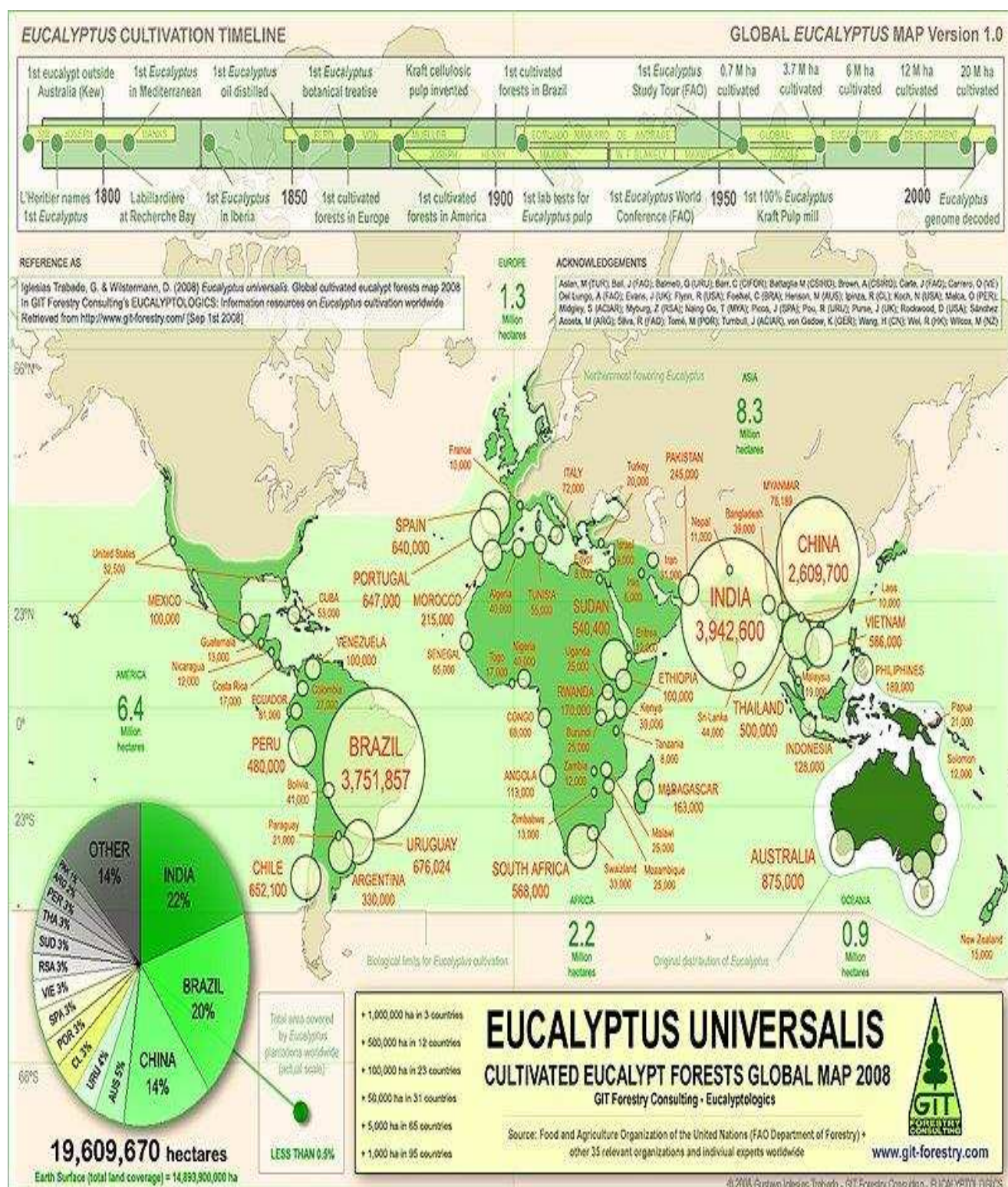


Figure 1: Global Eucalyptus Cultivation

source: GIT-Forestry (2008)

Ecological and other Benefits of Eucalyptus Plants

Eucalyptus plantations embody on themselves numerous benefits to man. Major arguments supporting eucalyptus planting according to Nduwamung et al. (2007) include the fact that they are a fast growing tree as such can be used to remediate lost vegetation within a short time; they require minimum care; they grow in wide ecological zones and poor environments as such suitable for most ecological settings; they are resistant to environmental stress and diseases; their seeds are easy to collect, store and no pre sowing treatment is required.

The Eucalyptus Research Team (2018) likewise outline the following as the environmental Benefits of Eucalyptus tree, among others, they include;

- i. Eucalyptus helps improve soil conditions by encouraging the penetration of water into the ground, rather than let it arises on the surface.
- ii. The microclimate in the crop or in the forest can be very different from the external conditions and therefore eucalyptuses are particularly effective as 'windshields' and contribute to crop protection and animal health.
- iii. It found that eucalyptus have a beneficial effect on soil structure and the same favorable pine.
- iv. In pristine areas eucalyptus improve soil fertility contributing to the decomposition of litter.
- v. The impact of exotic trees such as eucalyptus applies in some species of birds and insects, have been studied in Africa, Brazil, Puerto Rico and India. Although the information provided by these studies refers only to specific regions, some of them show how wildlife can respond to specific protection measures.
- vi. Eucalyptus take root quickly, even in sandy and dry soils, so it is particularly popular as 'windbreak '.
- vii. Eucalyptus (leaves, branches, etc.), can help to form a protective barrier against corrosion. Yet in many parts it is collected for use as fuel or to reduce the risk of fire.

Conclusion

As widely criticized as an Eucalyptus tree could be, little is actually known by many in Nigeria in terms of its extraordinary function and characteristics, an aspects which make it a unique resource in terms of generating wealth and ecological benefits.

As can be seen from the narrative in the preceding lines, adopting the growth of Eucalyptus plant in an attempt to regrow our forest resource in Nigeria is a worthwhile venture as it carries a lot of usefulness.

REFERENCES

- Nduwamungu, et. al.(2007). Eucalyptus in Rwanda: are the blames true or false? Institut Des Sciences Agronomiques Du Rwanda (ISAR)
- Eucalyptus Research Team (2018), Environmental benefits of Eucalyptus A Download From <http://www.beneficiosambientalesdeleucalipto.blogspot.com>
- Food and Agriculture Organisation (2009) Eucalyptus in East Africa; The socio-economic and environmental issues. FAO Sub-regional Office Eastern Africa, Addis Ababa.
- Food and Agriculture Organisation (2018). The State of the Worlds Forest; Forest Pathways to Sustainable development. FAO of United Nations, Rome
- Turnbull, J. W. (1999). Eucalyptus plantations. New Forests 17: 37-52.
- Jeanroy, A. (2018) How to grow and use the Eucalyptus Plant. The Spruce Publishing. India