

# Eucalyptus: The Tall And Green Gold

**Manoj Kumar**

M.Sc. (Ecol & Envir), DEET  
(Development Officer)  
Giridih, Jharkhand, India

## I. INTRODUCTION

Eucalyptus is a Greek word where Eu = means well and Kalypto = means cover. The flower bud of Eucalyptus has a cone shaped lid which covers the stamens until they got developed fully. Due to this fact it is named Eucalyptus. Eucalyptus is also known as Nilgiri, Liptus (in Hindi), Karpura Karam (in Malyalam and in Tamil) in India. This tree is the native of Australia and Tasmania and is extensively cultivated in many parts of the world including India.

As the global population is growing rapidly, the areas of forest are decreasing, particularly in developing countries tree plantations and agroforestry have become an important source of timber, fuelwood and raw materials for pulp and paper. Eucalyptus are now being widely used throughout the world for wood, pulp and other products. Eucalyptus are highly productive and well adopted to dry, in fertile sites and are important for degraded land that are no longer suitable for agriculture. In Asia, particularly in India, China, Vietnam and Thailand, Eucalyptus plantations support major industries.

Existing forest in India cannot meet the national demand for firewood, timber and wood based products. In the present scenario when the demand of wood and wood based products is increasing day-by-day the Eucalyptus is helping the global population by its rapid growth and regenerative power. The Eucalyptus Tree has many uses in the fields of medicine, cosmetic and construction.

## II. HISTORY

The Eucalyptus was first planted in India around the last decade of 18th century (around 1792-93) by Tipu Sultan, the famous ruler of Mysore. He planted the tree in his palace garden on Nandi hills near Bengaluru. The seeds of Eucalyptus received by him from Australia. The next significant introduction of Eucalyptus was in the Nilgiri hills in Tamil Nadu around 1843. Eucalyptus globulus were raised to meet up the demands for the fire wood. Eucalyptus tereticornis which is known as Mysore Gum tree is the most

widely planted Eucalyptus in India. The Eucalyptus hybrid species is the most common species planted about 50 percent of the total Eucalyptus planted India.

In India there is a common perception that Eucalyptus is responsible for more ground water depletion due to high water absorption capacity of Eucalyptus. Due to this perception, Thousands and thousands of Eucalyptus seedlings were rooted out in a long protest programme derived by many of the then NGOs and Political volunteers in India. For the protection of trees and forests the Indian Forest Act of 1927 came in force. According to this act, Forests were classified as Reserved Forests and Protected Forests. The rights of local people were banned in Reserved Forests and in Protected Forests use of resources were controlled. Some forests also were given under the control of the local village community called Village forest.

## III. DESCRIPTION

The Eucalyptus belong to myrtle family myrtaceae. The Eucalyptus has about 700 species all with great environmental value in the world. The tree has a valuable commercial asset because of the Oil, Tannin and Timber. The Eucalyptus is also called the Gum Tree because a tannin like substance (that is not gum) known as Kino, discharged from the bark of tree. The Kino has many important medicinal properties. This tree has its own distinguished identity due to fast growing and regenerative power. Very long size of the Eucalyptus provides valuable hard wood.

The leaves and terminal branches of several species of Eucalyptus yield valuable essential oils which has wide spread uses in the manufacturing of the medicine, pharmaceutical industries and perfumery oils. Eucalyptus oils contain a compound called cineole (eucalyptol) which is obtained mainly from the species Eucalyptus sideroxylon, Eucalyptus leucoxyton and Eucalyptus elaeophora, all of which are well grown in India and contain 65% to 75% cineole. Eucalyptus sideroxylon is a moderate sized or large tree found in the

Kumaon hills and Dehradun, while *Eucalyptus leucoxyloides* is cultivated in the Nilgiri and Shimla hills.

*Eucalyptus globulus* or the blue gum tree which is grown all over the world and is commonly known as the Nilgiri tree in India. This species of *Eucalyptus* grows well in the Nilgiri, Annamalai and Palani hills in South India, Shimla hills in Himachal Pradesh and Shillong in Assam. The Nilgiri is a tall tree having brown peeling bark or grey non-peeling bark. The Nilgiri oil obtained from the distillation and the wood is used as fuel. The Nilgiri oil contains 60% cineole and about 25% pinene. The leaves are of sickle shaped. The essential oil obtained from *Eucalyptus* is used as an anti-septic for the skin disease, burns and infection of respiratory tract, with olive oil. It is also used in rheumatism, chronic bronchitis and asthma. A few drops of oil added along with menthol to boiling water is frequently used for steam inhalation. The steam inhalation may also give relief in throat viral infection. The oil is used in mosquito repellent and an ingredient for germicidal and disinfecting preparation. The root of the *Eucalyptus globulus* is used as a purgative agent.

The species *Eucalyptus dives* yields oil which is a source for an aromatic compound Piperitone used to manufacture thymol and menthol, a flavouring agent and coolant. The *Eucalyptus* species ranges from dwarf mallees species which grow in dry areas to the tall trees that found in coastal and mountainous regions. The mallees are hardly taller than a man while *Eucalyptus regnans* of Australia are the tallest *Eucalyptus* trees of about 100 metres and can be compared to the gigantic red wood trees of California.

The *Eucalyptus* develops distinct types of leaves at four different stages of its life but the juvenile and the adult leaves are not the most important. The juvenile leaves usually spread horizontally, while the mature foliage hangs vertically. Out of the many *Eucalyptus* species 250 varieties have been examined for their potential in the yielding of essential oils and about 20 species are being exploited to tap the important volatile oil for medicinal and commercial purposes. Many of other species are the principal source of hard wood, for structural activities and for fuels.

Experiments carried out on the cultivation of *Eucalyptus* in different parts of India, indicate that only specific species are suitable for cultivation at different elevations under varying soils and climatic conditions. The *Eucalyptus* used for timber, contain very little oil in the foliage. Those species of *Eucalyptus* which are utilised for essential oils are of little use as timber. The wood of oil yielding tree is mainly use as fuel but *Eucalyptus citriodora* commonly known as spotted gum tree or lemon scented gum tree which yields essential oil as well as useful timber. *Eucalyptus citriodora* which is a large tree with pink bark with grey spots has been cultivated successfully on the plains and hills of India. The foliage yields and oil which contains a fragrant substance citronellal that is widely used in soap, perfume and cosmetic industries. The valuable timber is used in ship making and construction purposes.

The *Eucalyptus camaldulensis* is the principal source of *Eucalyptus* gum (red gum) which is used occasionally as an astringent in dentistry. An other important substance called rutin that is used to treat capillary bleedings in case of high blood pressure, diabetes and allergic manifestation, is found in

small quantity in the species *Eucalyptus macrorhyncha* and *Eucalyptus youmanii*. These species are being cultivated in the state of Himachal Pradesh in India.

*Eucalyptus* has been used for the afforestation of water logged areas and colonisation of river banks. Some species that have the capacity to absorb excess water from marshy lands, are recommended as an anti malarial measure. This tall tree is not only big in size but has many uses in different types of areas, that it can truly be considered as a national asset. About 77% of Australian forests are *Eucalyptus* forest. The antibacterial and antimicrobial potential of *Eucalyptus* has been harnessed for use in some mouthwash and dental preparations. In promoting dental health, *Eucalyptus* appears to be active in fighting bacteria that cause tooth decay and periodontitis. The use of *Eucalyptus* extract in chewing gum may promote periodontal health.

#### IV. USES OF EUCALYPTUS

##### IN FUNGAL INFECTIONS AND WOUNDS

The *Eucalyptus* has been used to treat fungal infections and in rapid healing of skin wounds by tribals since ancient era.

##### IN INSECT REPELLENT

*Eucalyptus* is an effective insect repellent, insecticide and miticide, for killing mites and ticks. Oil of Lemon *Eucalyptus* is more effective.

##### IN PAPER AND PULP INDUSTRIES

One of the most important uses of the *Eucalyptus* tree is in the paper and pulp industries.

##### IN APICULTURE

Many species of *Eucalyptus* are rich in nectar and pollen. Bee keeping is profitable and these activities are improving.

##### IN PAIN RELIEF

*Eucalyptus* extract may act as a pain reliever. *Eucalyptus* oil stimulates immune system and has analgesic property. *Eucalyptamint* is used to treat muscle pain, joint pain and arthritis. The scientists concluded that *Eucalyptamint* may be beneficial for athletes as a passive form of warm-up. The extract of *Eucalyptus* and Tea Tree has been used in high grade tooth paste.

##### IN PROTECTION OF ECOSYSTEM

The *Eucalyptus* plays vital role to control sound and noise pollution and to sustain the damaged natural forest ecosystem due to its ever green nature, rapid growth and regenerative power.

## IN TIMBER INDUSTRIES

The hard wood of Eucalyptus is used in timber industries and for construction works. Branches are used as fuel wood and charcoal.

Beside of these important uses there are some other uses of the Eucalyptus in plague and gingivitis etc also has been noticed .

## V. CONCLUSION

For the rapid development of wetlands, marshilands, deltas and wastelands plantation of Eucalyptus is the first and fast remedy because of its rapid growth. The one and only

purpose of this study is convince to change the common perception that Eucalyptus is our true friend. Eucalyptus is our Tall and Green Gold (TGG). Eucalyptus is a valuable gift for ecology and environment.

## REFERENCES

- [1] Field works Myself
- [2] Environmental Studies Erach Bharucha
- [3] Angiosperms G. L. Chopra
- [4] Eucalypt Improvement. H. S. Ginwal
- [5] Reports Printed in News Papers and Magazines.

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