

Palmyra Palm (*Borassus flabellifer*)

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Borassus flabellifer commonly known as Palmyra palm got its name from Greek roots namely 'Borassus' and 'flabellifer' which mean fruit with a leather covering and fan-bearer. Southeast Asia and the Indian subcontinent are believed to be the origins of *Borassus flabellifer*. It is also regarded as nature's eternal gift because it can thrive in dry and semi-dry environments and can resist any unfavourable environmental circumstances. In India, this plant is known by numerous unusual names, including Neera or padhaneer in Tamil, Tal- Talgachh, and Tarkajhar in Hindi and Bengali. It is referred to as Lulu or Tadi in Telugu. In Malayalam, it is also known as Karimpana'. It is also known as Tala palm, Toddy palm, Fan palm, and Brab tree in English. In Malayalam, it is also known as "Karimpana." The terms "fan palm," "brab tree," "toddy palm," and "tala palm" are also used in English. It is a perennial plant that can grow to a height of 30 metres, has a lifespan of up to 100 years, and begins to bear fruit after 15 years in areas with abundant water sources and after 25 years in arid locations (Veilmuthu, 2020). Despite this, Palmyra trees are being cut down at a level that is unprecedented. The Palmyra trees in these land parcels are also sacrificed when they are swapped for rich farmland or sand dunes by land sharks and real estate agents. The tragic cutting down of Palmyra trees for brick kiln fuel is something we are currently witnessing. We need to focus on one of nature's gifts to us, the palm tree, as we struggle with global warming and the depletion of groundwater resources.

Origin and geographic scope

A 100-year-old multipurpose tree with favorable ecological and socioeconomic effects is the

Palmyra palm. Typically, palm trees thrive in tropical and subtropical climates, which can be found up to 45° on either side of the equator. This belt spans three continents and 13 African, 10 Asian, and 5 South American nations. It is widely cultivated throughout Asia, particularly in South and Southeast Asia, India, Java, Indonesia, Laos, China, Sri Lanka, and the Philippines. Despite its wide spread, there are no trustworthy current statistics on its area and production from many of these nations. Aman *et al.* (2018) report that there are 10 million palm trees on 25000 ha of land in Sri Lanka, 2.5 million on 25000 ha of land in central Burma, and 1.8 million in central Cambodia. Indonesia has 0.5 million toddy palm trees on 15000 hectares of land. The Palmyra palm (*Borassus flabellifer* Lin) is a traditional source of both culinary and non-edible goods in India. There are 8.59 crore palmyra trees in India, of which 5.19 crore are in Tamil Nadu, according to a census that was conducted in that country. Palm trees grow on non-agricultural grounds, along the sides of streams, rivers, and canals, as well as on sandy, undulating terrain that is typically unsuitable for farming. Due to its widespread dispersion throughout the state and its support to rural living, palmyra was recognised and commemorated in 1978 as Tamil Nadu's state tree. It may flourish in a variety of challenging agroclimatic conditions. It has a maximum lifespan of 100 years and a growth potential of 30 metres (Mariselvam *et al.*, 2021).

According to Jana & Jana (2017), the distribution of *Borassus flabellifer* extends from India to South-East Asia to New Guinea, with concentrations in Burma (Myanmar), India, and Cambodia. Its dispersion most likely followed

ancient Indian trade lines. In Tamil Nadu, Andhra Pradesh, Odisha, West Bengal, Bihar, Karnataka, and Maharashtra, palmyra palms adorn the barren landscape. Tamil Nadu is home to half of India's 102 million palm trees (Aman *et al.*, 2018).

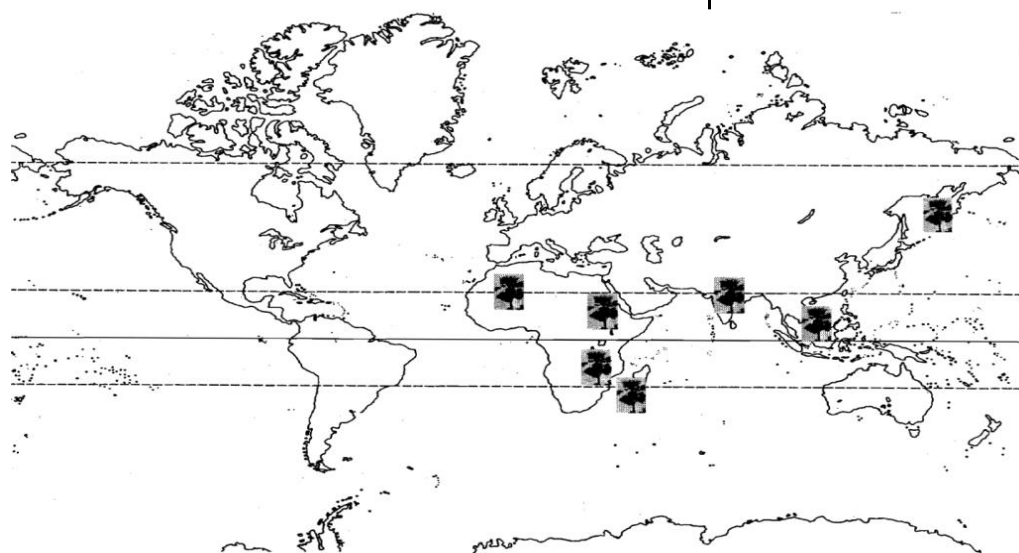


Fig 1. Distribution of *Borassus sp.* in the world

Area under Palmyra palm in Tamil Nadu

Smallholders are the principal producers of palmyra palm, which is mostly farmed for sustenance. Production overage could be sold on regional markets. More than half of Tamil Nadu's 51.9 million palm trees are located in the southern districts of Thoothukudi, Tirunelveli, Virudhunagar, and Ramnad, with Ramnad alone accounting for a significant 10 million palms. The palms offer the impoverished in rural areas an opportunity to increase work opportunities as well as a source of income (Aman *et al.*, 2018; Suju and Subu *et al.*, 2020).

Cultivation of palmyra:

Varieties: SVPR-1:

Soil: It is best to use loamy, deep sandy, and dry soils. It's also ideal to remain in dry locations with little rain.

Propagation: Germination of 63.25 % are achieved six weeks after sowing.

Seed sowing: A high yielder of fruits and nuts, a dwarf, an early and consistent bearer, and free of pests and diseases are all desirable traits for seed nuts. In the stylar region, choose yellow tinch and full fruit brunches. For three weeks, seeds are stored

in the shade. Seeds that are shrivelled, weightless, or bored are rejected. To grow seedlings, seeds can be sown directly in the ground or in nurseries. In trenches (20 cm³) that are half filled with a sand and soil mixture and spaced 10 metres apart, 3 to 4 complete fruits are planted for direct planting. Dried

leaves cover the pit. The season of rain is a good time to start sowing. Germination takes place within 3 weeks.

Nursery transplanting: Seeds can be planted in a nursery bed made of bricks that is 2 m wide and 60 cm high, or in a mound made by retaining sand to make a bed that is 1 m wide and 60 cm high. In a 10 cm square, seeds are sowed, then covered in sand. A seedling that is around a year old is removed from the nursery and placed in polythene bags. Transplant on the main field after rooted.

Spacing: 3m x 3m (1110 palms/ha).

Manuring: Sheep penning to the palms is a common practise among farmers. Before planting, apply 10 kg FYM per pit. The dosage can be raised every two years until it reaches 60 kg FYM/tree/year.

After cultivation: include basin rectification, inter-plowing, and gap filling within the first few years. Containerized seedlings can be used for gap filling. Before it rains, the basin must be rectified; this

promotes the collection and storage of rainwater (Jana et al., 2017).

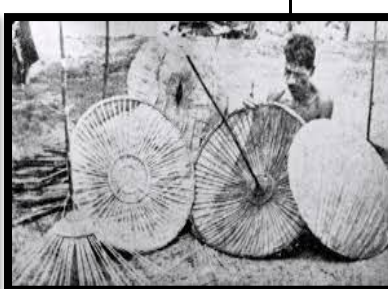
Pruning: 30% of the leaves will be removed at a 10% rate in stages.

Intercropping: Cowpea, moringa, green gram, Bengal gram, ber, amla, pomegranate, west Indian cherry and guava can be intercropped.

Growth and yield: Palmyra is a slow-growing plant. In approximately five months, the first frond appears. Only in the second year may the first fan-shaped tree leaves appear. It begins to flower (13–15 years later) when it reaches a height of 12–18 m for the production of padaneer (sweet sap). For a period of four months, from February to May, an average of 100–200 litres are produced. Individual palms vary greatly in padaneer and fruit yield, according to Jana et al. (2017).

a river, a canal, or some farmland; it serves as a windbreak and raises the level of the ground water. Over 801 uses of this tree have been explored by Palmyra and ancient India. This tree, according to Mahatma Gandhi, is the cure for poverty. Both food and non-edible uses are possible for palmyra products. The stem, leaves, and inflorescence of trees can all be utilised to produce various commercial products. Stem/trunk – It is planted in India to act as a windbreak on the plains. The thick, robust, and durable black lumber from palm trees is highly prized for building, particularly for outdoor structures like fences and boats. Dried, pierced trunk used to construct boats. Dried and holed trunk used to make boats that can transport at least 3 people when fishing. According to Sangarlingam et al. (1999), its leaves can be used to make mats, baskets,

fans, hats, umbrellas, and writing materials. The



construction of 80–90% of rural homes uses these leaves. It provides good fertiliser.

Traditional uses of palmyra palm

Palmyra is a versatile tree with numerous economic uses that is commonly grown in Tamil Nadu. According to Jana and Jana (2017), it is referred to as a "Karpaha veruksha" in Tamil culture. The tree was planted by one of our ancestors close to

Hindu culture contains a large number of traditional texts that were written on palm leaves. Products made from fibre are commercially useful. It is made from the leaf blade and the petiole. Ropes made of strong, long fibres are used in the construction of homes and watercraft. This type of fibre, which is a

major export from several regions of India, is utilised as a raw material for the manufacture of brushes. The juice is regarded as the main provider of the main source of income among its various components. Neera is the name for the sap that is extracted from the palmyra palm's inflorescence. It is a good source of vitamins, minerals, and calcium (Veilmuthu, 2020).

As long as palm-based work is done, a palm tree has one life. If work on the palmyra is scheduled to cease, the palm tree's condition will be in danger. Therefore, it is important to safeguard both the palmyra and the rural areas' Palmyra business. In contrast to other trees, the palm tree's entire body serves mankind. All of the plant's components—leaves, fruits, stem, petiole, and inflorescence—have uses. In the palm tree, nothing is wasted. Therefore, it was known as the "Karpaga Virutcham" by our ancestors. The palm tree has historical economic, religious, medical, and environmental significance in Tamil Nadu. However, the globalisation phenomenon poses a serious threat to Palmyra and its business today. The economic, medical, environmental, and religious relevance of palm trees has since diminished. For Tamilnadu and the Tamil community alone, this is a big loss. However, because people in Tamil Nadu were unaware of the value of palm trees, they were quickly cut down. Since the government of Tamil Nadu was aware of the palm tree's historical significance in Tamil society, it designated it as the state tree in 1978. However, the Tamil Nadu government is currently likewise shown no interest in enhancing the palmyra palm and its sector. In this stage, we looked at the palm tree as a tree with religious significance,

cultural significance, and environmental significance in order to promote or revive its historic significance for the improvement of Tamil society.

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