



Living root bridges of Meghalaya

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Abstract

A living root bridge is a type of simple suspension bridge formed of living plant roots by tree shaping. They are common in the southern part of the Northeast Indian state of Meghalaya. They are handmade from the aerial roots of rubber fig trees by the Khasi and Jaintia peoples of the mountainous terrain along the southern part of the Shillong Plateau. Most of the bridges grow on steep slopes of subtropical moist broad leaf forest between 50m and 1150m above sea level. As long as the tree from which it is formed remains healthy, the roots in the bridge can naturally grow thick and strengthen. New roots can grow throughout the tree's life and must be pruned or manipulated to strengthen the bridge. Without active care, many bridges have decayed or grown wild, becoming unusable. Root bridges have also been observed in the Indian state of Nagaland.

Keywords

Root bridge, Nagaland, Shillong Plateau, Mountainous.

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1. Introduction

Living root bridges are *Ficus elastica* based suspension bridges within dense tropical rainforests of North Eastern Indian Himalayas. Grown by indigenous Khasi tribes over a time period of 15 to 30 years, these bridges range in span from 15 feet to 250 feet, and last for several centuries. With exceptional robustness under extreme climatic conditions, minimal material cost, remedial properties on surrounding soil, water and air, collective grass root involvement across multiple generations, and support to other plant and animal systems, living root bridges offer an extraordinary model for socio-ecological resilience and sustainability.

Located 60 kms from Shillong, the capital of Meghalaya, is a small town of Cherrapunji, the second wettest place on earth. Cherrapunji has numerous waterfalls and is the home to the living root bridges which make it a booming tourist destination.

Cherrapunji can be reached by means of numerous on-hire cabs or by private vehicles. The route to

Cherrapunji is surrounded by beautiful greenery and rolling hills.

Cherrapunji has plenty of rivers, and being the second wettest place in the world, these rivers tend to swell up. However, the locals came up with the solution to crossing these pumped up rivers. They came up with the idea of using live trees as bridges instead of felling trees to build bridges.

2. Living Root Bridges

The collective nature of Khasi tribes and their intimate relationship with the forest is epitomized in the living root bridges seen throughout the East Khasi Hills of Meghalaya. Developed from the aerial roots of *Ficus elastica*, these pedestrian bridges play an integral and critical role in Khasi life connecting remote mountain villages in a vertical landscape.

Living root bridges are a common form of tree shaping, where the aerial roots of rubber fig trees are hand woven into bridges. This type of practice is commonly seen in the Northeast Indian State of Meghalaya by the Khasi and the Jaintia People living along the mountainous terrain of Shillong plateau. These bridges serve the purpose of helping the locals of the region in crossing the river during the monsoons when the water levels of the rivers rise significantly.

The Khasi people do not know when or how the tradition of living root bridges started. The earliest written record of Sohra's (Cherrapunji's) living root bridges is by Lieutenant Henry Yule, who expressed astonishment about them in the 1844 Journal of the Asiatic Society of Bengal.



Fig.1. Cherrapunji is surrounded by beautiful greenery and rolling hills.



Fig.2. Living root bridge is formed by guiding the pliable roots of rubber fig trees

A living root bridge is formed by guiding the pliable roots of rubber fig trees across a stream or river and allowing the roots to grow and strengthen over time until they can hold the weight of human beings. The young roots are sometimes tied or twisted together, and are often encouraged to combine with one another. As the *Ficus elastica* tree is well suited to anchoring itself to steep slopes and rocky surfaces, it is not difficult to encourage its roots to take hold on the opposite sides of river banks. As they are made from living, growing organisms, the useful lifespan of any given living root bridge is variable. It is thought that, under ideal conditions, a root bridge can last for many hundreds of years. As long as the tree from which it is formed remains healthy, the bridge will naturally self-renew and self-strengthen as its component roots grow thicker.

These living root bridges serve as an important means of crossing the river for the villagers who make their way to the

marketplace to sell their produce, which is a major source of income for the residents of the village.

References

- [1] Bareh, H. The History and Culture of the Khasi People. Guwahati: Spectrum Publications, p.15.1985.
- [2] The term “Khasi” means “born of the mother”. For a detailed elaboration, see Shangpliang R. Forest in the Life of Khasis. New Delhi, Concept Publishing Company, 2010.
- [3] Resiliency is the ability of a system to change and adapt to external disturbances and yet remain within critical thresholds. <http://www.stockholmresilience.org/21/research/what-is-resilience.html>.
- [4] North East region is a global hot spot for bio diversity. Characterized by a varied physical geography, it is marked by distinct orography, heavy monsoon rains and a diverse range of flora and fauna. Shangpliang, R. 2010. Forest in the Life of Khasis. New Delhi: Concept Publishing Company, p.5.

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