

Seventh International  
Ramayana Conference

सातवाँ अंतरराष्ट्रीय रामायण अधिवेशन

2-5, April 2025



Shri Ram Charit Bhavan  
Houston, USA

# The Rameshwaram Bridge: An Ancient Marvel Built by Lord Rama's Vanara Sena (P.No.154)



by Prof. Bharat Raj Singh, Director General (Technical),

Dr. PK Singh, Dean-SW & Dr. Hemant Kr. Singh, Dean-Engg.,



Vedic Science Centre, SMS, Lucknow, UP, India

## 1. INTRODUCTION

The Rameshwaram Bridge, also known as Adam's Bridge, is a 35-kilometer - long chain of shoals and islands connecting India and Sri Lanka. This ancient structure has fascinated scholars and spiritual seekers for centuries, standing as both an engineering marvel and a testament to India's rich cultural heritage.

As described in the Ramayana, this bridge was constructed by Lord Rama's army of monkeys and bears (Vanara Sena) to facilitate their journey to Lanka to rescue Sita from Ravana. Remarkably, this massive structure was completed in just five days, showcasing the exceptional ingenuity and skill of the builders.

# .....1. Introduction

## Under Water Coral Bridge

**Rameshwaram Bridge** may have been constructed using wooden piles, which were driven into the seabed to create a foundation for the bridge (Ramasamy, 2013). This theory is supported by the fact that the bridge's structure is still intact, despite being submerged in the sea for thousands of years. Thus, the Rameshwaram Bridge is not only an engineering marvel but also a testament to the rich cultural heritage of India. This study aims to explore the historical and mythological significance of the Rameshwaram Bridge, as well as its engineering and construction features.







## Valmiki Ramayana (5075 BCE)

The original text narrates how Lord Ram had a bridge built by Nala and Neela, sons of Vishwakarma, with the help of the vanara army. The bridge was reportedly completed in five days and was about 100 yojanas long and 10 yojanas wide.

## Other References

The poet Kalidasa in his Raghuvansh describes Lord Ram talking to Sita about the Ram Setu. The bridge is also mentioned in other texts, including the Skanda Purana, Vishnu Purana, Agni Purana, and Brahma Purana.

# 2. Literature Review

## The Bridge in Ancient Texts

1

2

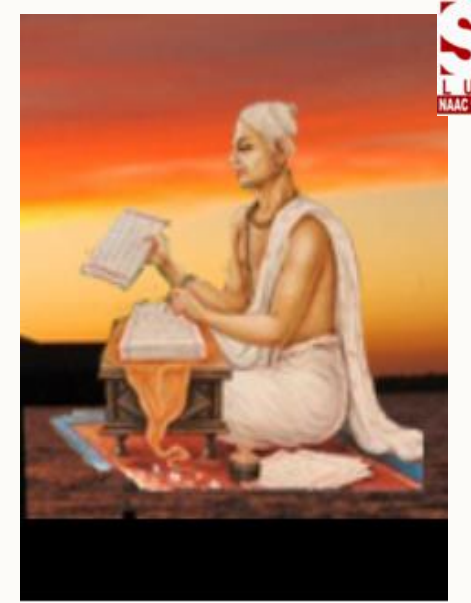
## Ramacharitamanas by Goswami Tulasidas (1575 CE)

दो० 6.1  
अति उत्तंग गिरि पादप लीलहि लेहि उठाइ ।  
आनि देहि नल नीलहि रचहि ते सेतु बनाइ ॥1॥

3

चौ० 6.2.4  
बाँधा सेतु नील नल नागर ।  
राम कृपा जसु भयउ उजागर ॥  
बूड़हि आनहि बोरहि जेई ।  
भए उपल बोहित सम तेई ॥4॥

This describes how Nal and Neela constructed the bridge with Ram's grace.



## 2.1-Valmiki Ramayan

### बाईसवाँ सर्ग

समुद्रकी सलाहके अनुसार नलके द्वारा सागरपर सौ योजन लंबे पुलका निर्माण तथा उसके द्वारा श्रीराम आदिसहित वानरसेनाका उस पार पहुँचकर पड़ाव डालना

‘सौम्य! आपकी सेनामें जो यह नल नामक कान्तिमान् वानर है, साक्षात् विश्वकर्माका पुत्र है। इसे इसके पिताने यह वर दिया है कि ‘तुम मेरे ही समान समस्त शिल्पकलामें निपुण होओगे।’ प्रभो! आप भी तो इस विश्वके स्रष्टा विश्वकर्मा हैं। इस नलके हृदयमें आपके प्रति बड़ा प्रेम है॥ ४५ ॥

वे साल, अश्वकर्ण, धव, बाँस, कुटज, अर्जुन, ताल, तिलक, तिनिश, बेल, छितवन, खिले हुए कनेर, आम और अशोक आदि वृक्षोंसे समुद्रको पाटने लगे॥ ५६-५७ ॥

वे श्रेष्ठ वानर वहाँके वृक्षोंको जड़से उखाड़ लाते या जड़के ऊपरसे भी तोड़ लाते थे। इन्द्रध्वजके समान ऊँचे-ऊँचे वृक्षोंको उठाये लिये चले आते थे॥ ५८ ॥

महाकाय महाबली वानर हाथीके समान बड़ी-बड़ी शिलाओं और पर्वतोंको उखाड़कर यन्त्रों (विभिन्न साधनों) द्वारा समुद्रतटपर ले आते थे॥ ६० ॥

उन वानरोंने सब ओर पत्थर गिराकर समुद्रमें हलचल मचा दी। कुछ दूसरे वानर सौ योजन लंबा सूत पकड़े हुए थे॥ ६२ ॥

पहले दिन उन्होंने चौदह, दूसरे दिन बीस योजन, तीसरे दिन इक्कीस योजन, चौथे दिन बाईस योजन तथा पाँचवें दिन तेईस योजन लंबा पुल बाँधा॥ इस प्रकार कपिश्रेष्ठ नलने समुद्रमें सौ योजन लंबा पुल तैयार कर दिया। ॥ ६८ - ७३ ॥

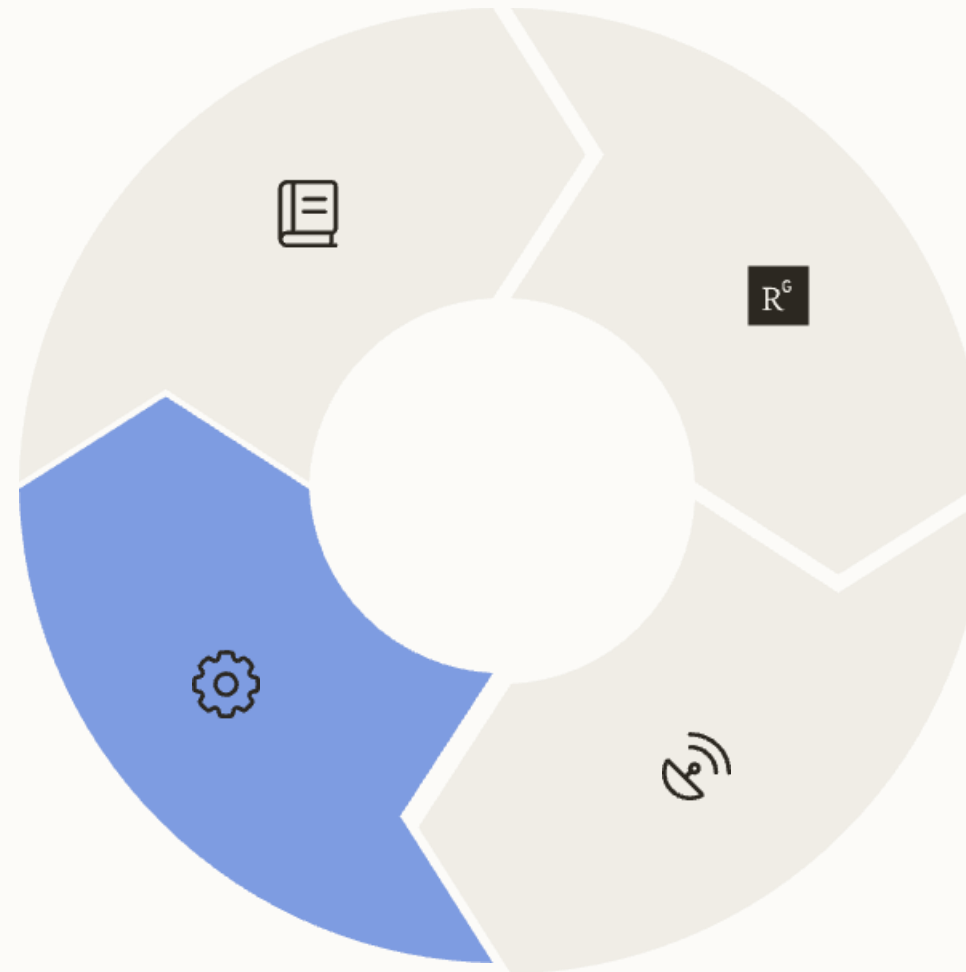
# 3. Research Methodology and Sources

## Primary Sources

Ancient Hindu scriptures like the Ramayana and Ramacharitamans provide valuable insights into the mythological and historical context of the bridge.

## Engineering Analysis

Studies of the bridge's foundation, superstructure, and materials help understand its construction techniques and durability.



## Secondary Sources

Academic research papers and engineering studies offer information on the bridge's construction features and geographical context.

## Satellite Imagery

NASA satellite pictures provide crucial data on the bridge's structure, composition, and relationship with the surrounding environment.

This multi-disciplinary approach combines historical and mythological research with geographical and engineering analysis to provide a comprehensive understanding of the Rameshwaram Bridge, its construction, and its significance in both cultural and scientific contexts.



## 3.1-Engineering Marvel of Ram Setu

### Floating Stones

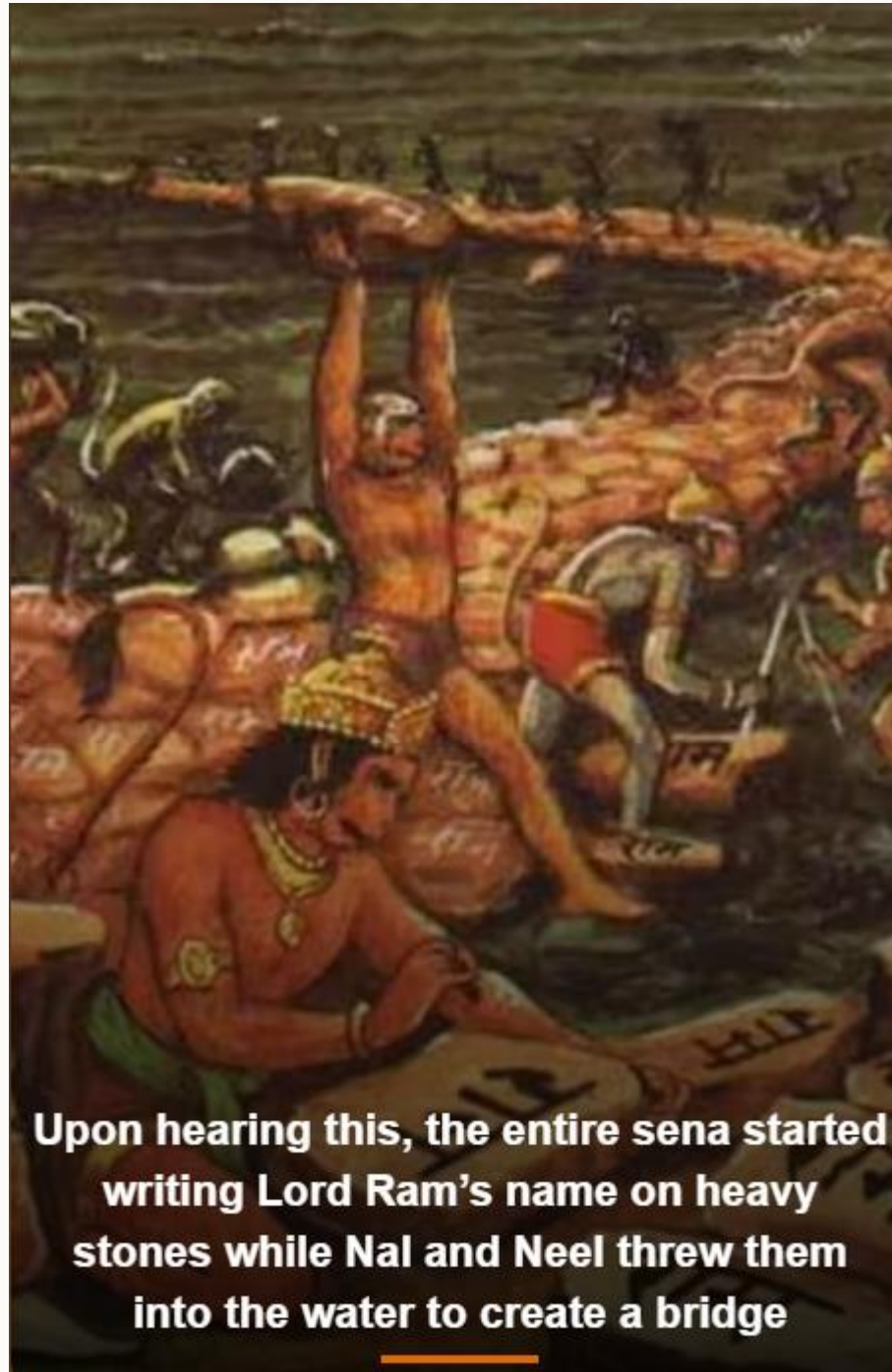
The Valmiki Ramayana mentions that the stones used in constructing the bridge floated on water. These were possibly volcanic stones that naturally don't sink, demonstrating the builders' knowledge of material properties.

### Advanced Techniques

Ancient texts describe the use of advanced techniques in building the bridge. Some monkeys transported large mountains to the *coastline using machines*, while others *tied ropes to build the bridge* (Valmiki Ramayana, 6/22/62).

### Wooden Pile Theory

Recent studies suggest that the Rameshwaram Bridge may have been constructed using wooden piles driven into the seabed to form a foundation. This theory explains how the bridge has remained relatively intact despite being submerged for thousands of years.



Upon hearing this, the entire sena started writing Lord Ram's name on heavy stones while Nal and Neel threw them into the water to create a bridge

# 3.2-Scientific Evidence and NASA Confirmation



## NASA's Satellite Images

In 1993, NASA released satellite images showing a **48-km wide** landmass between **Dhanushkodi** in India and **Pamban** in Sri Lanka. The first image was captured by NASA's Gemini-11 spacecraft in **1966**, with the ISS 1A satellite later confirming the submerged landmass.



## Scientific Inquiry

In 2017, American TV show suggested that the Hindu myth might have a basis in reality. The **50 km long line of rocks** is believed to be **7,000 years old**, while the sand beneath is about **4,000 years old**, raising the possibility of human construction.



## Historical Access

Research indicates that until the **15th century**, it was possible to walk from Rameswaram to Mannar Island using the bridge. However, a cyclone in **1480** deepened the sea, submerging the bridge due to rising water levels.

## 3.3-Scientific Analysis and Dating

7,000

Years Old

Age of the rocks forming the bridge

4,000

Years Old

Age of the sand beneath the rocks

5,000

Years

Approximate time the bridge has been submerged

3,000

Year Difference

Between rock and sand dating, suggesting human intervention

Scientific inquiry has revealed fascinating details about the Rameshwaram Bridge's composition and age. In December 2017, the American TV show "Ancient Land Bridge" suggested that the Hindu myth of Lord Ram building a bridge to Sri Lanka might have a basis in reality.

The 50 km long line of rocks between India and Sri Lanka is believed to be 7,000 years old, while the sand beneath it is about 4,000 years old. This significant age discrepancy between materials raises the possibility that the bridge could indeed be man-made rather than a natural formation.



# 4. Results & Discussion

## 4.1-Key Findings About Ram Setu

### Ancient Engineering Marvel

The Rameshwaram Bridge demonstrates exceptional ancient engineering and construction skills. Its structure has withstood the test of time and harsh marine environment for approximately 5,000 years, with its formation still clearly visible in satellite imagery.

### Natural Materials

The bridge's construction utilized natural materials readily available in the area, such as rocks and sand. The ingenious use of these materials to create a floating structure across the sea demonstrates advanced knowledge of material properties.

### Cultural Significance

Beyond its engineering aspects, the bridge holds immense cultural and religious significance as a physical manifestation of events described in ancient Hindu texts, connecting mythology with geographical reality.



## 4.2-Geographical Significance of Dhanushkodi



### Strategic Location

After a three-day search, Lord Ram identified the spot near Rameswaram from where a bridge to Lanka could be constructed.



### Proximity to Sri Lanka

Dhanushkodi is located just 18 miles west of the Talaimannar region in Sri Lanka, making it the closest point between the two lands.



### Shallow Waters

Dhanushkodi is the only land boundary between India and Sri Lanka where the sea's depth is shallow enough that land occasionally emerges from the water.

The name "Dhanushkodi" comes from "Dhanush" (bow) and "Kodi" (end), referring to the place where Lord Ram struck his bow. The shape of the bridge built by Nala and Neela resembled a bow, giving this region its distinctive name and significance in Hindu mythology.

# 5. Conclusion and Future Research Directions



## Further Archaeological Studies

Underwater excavations could reveal more about the construction techniques and materials used.



## Dating Analysis

Advanced carbon dating and geological analysis may provide more precise age estimates of the structure.



## Conservation Efforts

Developing strategies to preserve this ancient heritage site from environmental threats and human activities.



## Cultural Documentation

Comprehensive documentation of all references to Ram Setu across various cultural and historical texts.

The Rameshwaram Bridge stands as a remarkable testament to ancient Indian engineering prowess and cultural heritage. **Its** existence bridges the gap between mythology and reality, challenging our understanding of ancient capabilities. As research continues, this mysterious structure may reveal even more secrets about our past, connecting us to the ingenuity of our ancestors.



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*Thank You*