

## Usage of Iron in Tamil Nadu

### Why in news?

Carbon dating of excavated finds in Tamil Nadu pushes evidence of iron being used in India back to 4,200 years ago.

### What is the historical significance Iron?

- Iron is not known to have been used in the Indus Valley, from where the use of copper in India is said to have originated (1500 BCE).
- Iron technology led to the production of agricultural tools and weapons, leading to production required for a civilisation ahead of economic and cultural progress.
- Iron tools were used to clear dense forests and bring land under agriculture.

### What are the findings of the excavation?

- The excavations are from Mayiladumparai near Krishnagiri in Tamil Nadu, about 100 km south of Bengaluru.
- Mayiladumparai is an important site with cultural material dating back between the Microlithic (30,000 BCE) and Early Historic (600 BCE) ages.
- The site is situated in the midst of several archaeological sites such as Togarapalli, Gangavaram, Sandur, Vedarthattakkal, Guttur, Gidlur, Sappamutlu and Kappalavadi.
- Prof Rajan had discovered the site in the 1990s, and the first excavations from there were made in the 1990s.
- The results of dating that used accelerator mass spectroscopy pushes evidence of iron being used in India back to 4,200 years ago.
- The Accelerator Mass Spectroscopy (AMS) dating by Beta Analytical Lab in Florida, US has established three important features
  - Iron appeared in Tamil Nadu as early as 220 BCE
  - The late Neolithic phase was identified before 2200 BCE as there is a cultural deposit of 25 cm below the dated level
  - Black-red-redware was in use the late Neolithic phase itself, in contrast to the wider belief that they were introduced in the Iron Age.
- Before this, the earliest evidence of iron use was from 1900-2000 BCE for the country, and from 1500 BCE for Tamil Nadu.
- The latest evidence dates the findings from Tamil Nadu to 2172 BCE.

*The carbon dating of artefacts in Keeladi, a Sangam Era site near Madurai, and paddy husks found in a burial urn in Sivakalai in Thoothukudi district established their age to 2,600 and 3,200 years old.*

## What is the timeline regarding the iron usage in India?

- In 1979, use of iron was traced to 1300 BCE at Ahar in Rajasthan.
- Later, samples at Bukkasagara in Karnataka, indicating iron production, were dated back to 1530 BCE.
- The date was pushed back to 1700-1800 BCE with excavations finding evidence of iron smelting at Raipura in the Mid-Ganga valley
- It was then pushed to 1900-2000 BCE based on investigations in sites at Malhar near Varanasi and Brahmagiri in North Karnataka.
- Before the latest discovery, the earliest evidence of iron use for Tamil Nadu was from Thelunganur and Mangadu near Mettur, dating back to 1500 BCE.

### References

1. <https://indianexpress.com/article/explained/tamil-nadu-iron-usage-carbon-dating-cultural-significance-explained-7916375/>
2. <https://www.deccanherald.com/national/south/tamils-knew-use-of-iron-4000-years-ago-archaeological-findings-show-1107771.html>

