

4. Decline of Indus Valley Civilization–History

A recent study challenges catastrophic collapse theories, attributing the decline of the Indus Valley Civilisation to recurring multi-decadal droughts (3000–1000 BCE) triggered by Pacific climate shifts. This prolonged aridity forced a transition from urbanisation to rural clusters and a shift in agriculture from water-intensive crops to drought-resistant millets.

Core Thesis of the Recent Study

Shift in Narrative– The study challenges the traditional view that the IVC collapsed suddenly due to a single catastrophic event.

New Conclusion– The decline was driven by centuries-long, recurring droughts that progressively weakened the civilisation's foundations over time.

Timeline of Impact– Harappa and other major settlements were hit by a series of multi-decadal droughts spanning roughly from 3000 BCE to 1000 BCE.

Methodology– Researchers utilized paleoclimate records (analyzing stalactites, stalagmites, and ancient lake levels). Climate model simulations were used to reconstruct the temperature and rainfall patterns of that specific era.

Climatic and Hydrological Triggers

Recurring Drought Cycles– The study identified four major drought events between 2425 BCE and 1400 BCE.

Duration– Each of these events lasted for over 85 years.

Peak Severity– The most devastating drought occurred around 1733 BCE, lasting approximately 164 years, which impacted the entire region.

Hydrological Collapse

Water Bodies– The prolonged dry spells led to shrinking lakes and "playas" (dry lake beds).

River Systems– There was a significant decline in river flows.

Consequences– This led to soil desiccation (drying) and reduced navigability of rivers, which severely hurt trade networks.

Climate Shift in the Pacific (The Root Cause)–

Early Phase (3000–2475 BCE)– The prosperity of the early IVC coincided with La Niña-like conditions, which ensured wetter-than-modern monsoon seasons.

Late Phase (Warming)– As the tropical Pacific region warmed, annual rainfall dropped by 10–20%.

Temperature Rise– Simultaneous temperature increases of 0.5°C amplified the arid conditions.

Socio-Economic Consequences of the Droughts

Agricultural Stress & Adaptation–

Impact– Farming became increasingly difficult, particularly for settlements situated far from perennial rivers.

Crop Switching– Archaeo-botanical evidence reveals a strategic shift in cultivation. *Earlier–* Reliance on wheat and barley (water-intensive). *Later–* Shift to drought-resistant millets to cope with aridity.

Migration and Dispersal

Relocation– Communities were forced to relocate repeatedly to find water-secure areas.

Settlement Patterns– This reshaped the distribution of settlements along the Indus River and its tributaries.

Trade– Trade routes had to be diversified due to changing river navigability.

Governance and De-urbanisation–

Political Strain– Reduced food supplies combined with climatic pressure weakened the political structures, leading to societal fragmentation.

Abandonment– The study notes that a final century-long drought coincided with archaeological evidence of large cities being abandoned.

Ruralisation– Populations dispersed from large urban centres into smaller, rural clusters (de-urbanisation).

Traditional Theories of IVC Decline

Natural Disaster Theory

Floods- Some scholars argue that massive floods destroyed urban centres. *Evidence-* New houses were constructed on top of silt-covered debris, and silt deposits were found as deep as 30 feet above ground level.

Earthquakes- Since the Indus region lies in a tectonically active zone, earthquakes may have altered the landscape. *Mechanism-* Tectonic activity could raise floodplains, blocking natural river flows and forcing water into cities.

River Course Shift Theory

Argument- It is proposed that the Indus River shifted its course away from major cities, leading to acute water scarcity and reduced agricultural sustainability.

Evidence- The presence of wind-blown sand and silt in Harappa suggests the loss of natural water barriers.

Climate Change Theory (Pre-existing View)

Argument- Decline attributed to climatic deterioration, specifically rising aridity and the drying up of the Ghaggar-Hakra river system (often identified with the ancient Saraswati River).

Relevance- This theory aligns closely with the recent study findings, which provide concrete data on the multi-decadal droughts.

Aryan Invasion Theory

Argument- Early scholars suggested that Harappan cities were attacked and destroyed by Indo-European Aryans.

Evidence Cited- Human skeletons found on streets in Mohenjodaro (interpreted as signs of violent death) and references in the Rig Veda to the destruction of 'Dasa' fortresses by the god Indra (Purandara).

Current Status- This theory has been widely rejected by modern archaeology due to a lack of substantial evidence (e.g., no signs of mass warfare weaponry, cultural continuity).

Source- <https://indianexpress.com/article/technology/science/researchers-finally-cracked-why-the-indus-valley-civilisation-collapsed-10391600/>