Overlooked but not Forgotten: India as a Centre of Agricultural Domestication

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Locating Domestication in South Asia

India possesses a unique Neolithic transition that has shaped the cultural and ecological trajectory of the subcontinent. Much archaeological research has focused on the Indus Valley civilization. In contrast, little is known about the Neolithic roots of the wider subcontinent.

During the early Holocene, South Asia was a subcontinent of hunter-gatherers and by 2000 years ago it was mostly inhabited by farmers, with densely populated river valleys, coastal plains, urban populations, states, and even empires. While some of the crops supported these early civilizations had been introduced from other centers of origin (the Near East, China, Africa), a large proportion had local origins from wild plants native to the subcontinent.

This is largely due to recent archaeological sampling which have shown that a number of the earliest staples of the Southern Neolithic were crop domesticates such as horsegram (*Macrotyloma uniflorum*), mungbean (*Vigna radiata*), and browntop millet (*Brachariata ramosa*), native to the wild flora in the Deccan plateau of South India.

Horsegram as a Case Study

Horsegram (*Macrotyloma uniflorum*) is among the most important pulse crops of prehistoric India and remains a major vegetable source for hundreds of millions of Indians today. Horsegram typically outnumbers millets or other crops in South Indian Neolithic samples. Morphometric measurements were carried out on both modern and South Asian archaeological assemblages of horsegram to document evolutionary rates of change during domestication over the course of the Southern Neolithic. Herbarium specimens were consulted to measure and map ‘wild’ specimens.

In India with the expansion of more savannah and with a more restrictive dry season the limited watering holes encouraged the creation of pulse and millet gardens, and territoriality of these weter locales. Wild horsegram does not form extensive stands like wild wheats, barley, or wild rice, rather it is often found in local dense patches in favourable microenvironments, such as springs and at the base of slopes for millets and less disturbed scrub patches. Pulse millet gardens harvested weeds from savannah scrub and forest margins, including *Zaleya decandra*, *Spermococcus* sp., and damp ground like taxa such as *sedges* and *Cocomella*, as well as some weedy savannah grasses. Some of these decumbent species might have been harvested alongside uprooted horsegram, while taller taxa could have been cut with millets.

Conclusions

India had a varied Neolithic transition from foraging to farming in different parts of the subcontinent with domestication and diffusion of different crop species including local domesticates, like horsegram. It is likely that local domestication events in India were occurring alongside agricultural dispersals from other parts of the world in an interconnected mosaic of cultivation, pastoralism, and vegetation management through burning and transplanting. As humans in South Asia increasingly relied on a narrower range of plant species, they became entangled in an increasingly precarious and fixed trajectory that allowed them greater subsistence levels to sustain larger populations and increased sedentism and in a context of distinctive cultural and food traditions.

References


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