Black earth and smelting locations

TRADITIONAL OCCUPATIONS

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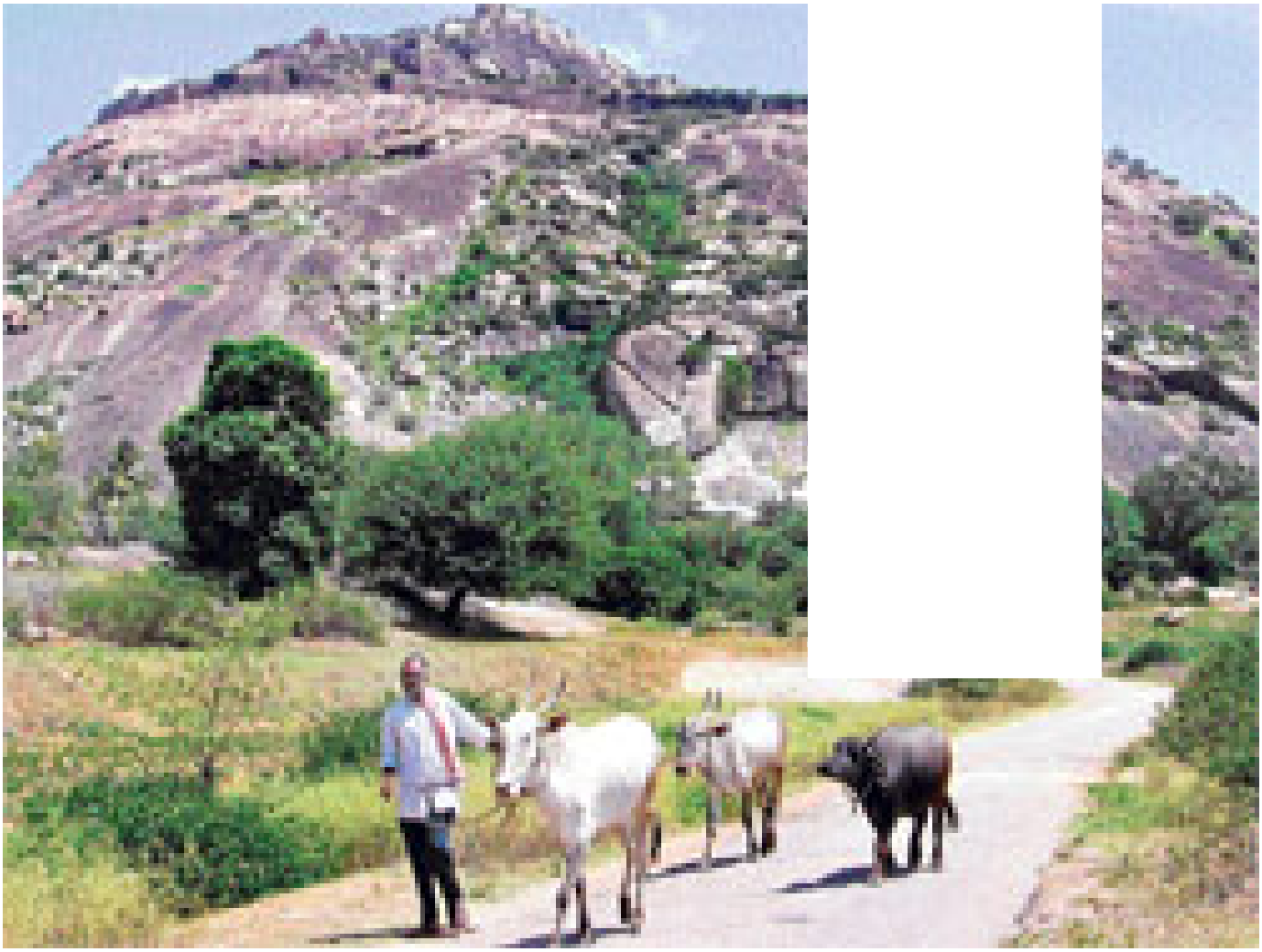
what lies buried? Fields in the Tumkur and Chitradurga regions are rich in i ına



Francis Buchanan in his 'Journey of 1800-1801...' had extensively reported on iron and steel smelting in several parts of erstwhile Mysore, including present-day Tumkur and Chitradurga districts. It was more than 200 years later while retracing his 'Journey' that we decided to investigate what remains of traditional iron smelting along his route.

Driving along narrow village roads in and around Channarayadurga, we asked several villagers if they were aware of iron smelting having been carried out here decades, if not centuries, ago.

The answer was neither forthcoming nor encouraging. One villager, however, asked us to look for an ironsmith in Channarayadurga who had his workshop alongside the road. Once again, our question on iron smelting was met with reluctance; it was only later that we realised that this may have been because people had come asking about iron…not iron smelting but iron ore, which as we know is presently in great demand.

We pulled out our copy of Buchanan's 'Journey' and explained that we were trying to find old smelting sites. The book seemed to have convinced him that we were not in search of ore. He led us to a well ploughed field and picked up a few stones. These were rich in iron, evident from the metallic sound that emanated by knocking two pieces together. But what about smelting sites? He told us he could show us remnants but we would have to come back some other time.

Sites near Channarayadurga

A few weeks later, we decided to go back. We drove around the hill on top of which the overwhelming Channarayadurga fort could be seen. When the terrain began turning a little rocky, we decided to walk. After about a kilometer, as we approached a cultivated plot of land, our friend asked us to look carefully at the ground. We began to notice pieces of pottery and clumps of what looked like molten metal lying all around and across the entire field.

This was not the only field; at each place Buchanan reported from, we were able to trace iron smelting sites, ranging from half an acre to eight acres. Most of the sites are presently under cultivation but even now lay covered with debris of iron slag, pottery pipes and crucibles. The farmers told us that while ploughing the land, the debris keeps surfacing; it would never end. Some of debris collected by the farmers lay in large heaps at the corner of the fields.

The soil in these plots was black, almost like ash. The black earth, we were told, extends to a depth of five feet and in spite of rain over several years, it still remains that way. We checked the adjacent plots; they had a typical brown soil of the region. The size of the sites seemed to be much larger than what Buchanan had seen; making it possible that the scale of operations had increased through the 19th century. Our blacksmith friend from Channarayadurga recollects his grandfather telling him how he melted iron and steel.

We then carried out our search for smelting sites along the Hiriyur-Shirangapatna highway. At Doddabaylikere, we were told the village itself was built on a smelting site. Here we could see debris embedded in the village streets. At another small village, Yelladekere, we struck up conversation with a local tea shop owner but he was unaware of any iron smelting sites. Buchanan had reported from Yelladekere and we were confident there must be some old smelting site here. He promised us he would check with an old man in the village and we should come back after a few days. When we did, he was more excited than us. There was indeed a site…and it was exactly like what we had described. Buchanan must have seen it after all!

When did smelting die?

With loads of debris in the boot of our car, we got back to Bangalore. As the excitement slowly wore off, I began to pose some questions; how important could iron smelting have been 200 years ago, when and why did traditional iron smelting die in this region?
Over the next few months, I unearthed several interesting facts. It was no small village activity; it was carried out extensively across vast regions of the Deccan plateau producing large quantities of iron and steel for agriculture and war. Imagine tens of thousands of soldiers carrying weapons, wearing armours accompanied by cannons and ammunition.

That would amount to a few thousands of tons. Iron and steel was truly an industry. The steel produced in this region was also considered of exceptional properties ideally suited for sword blades. It is called wootz; steel smelted from iron using leaves to increase carbon content. Wootz was even exported from India to several parts of the world.
And then I learnt something quite important; traditional iron and steel smelting required large quantities of charcoal as fuel. Each kilo of metal produced needs anywhere between 70 and a 100 kg of wet wood.

This demand for wood for iron smelting had denuded large tracts of forests across the world, in North America, Europe, England and even Africa. Could this have happened in India too? Searching through records, a statement by the General Dobbs in 1854-1855, Superintendent of the Tumkur District, reported in B L Rice's Gazetteer caught my attention:

"The district generally is very bare of trees. The jungles were however extensive when I first assumed charge in 1835, but these are disappearing fast under the axe of the iron and steel manufacturers…In the immediate neighbourhood of Tumkur (Davaraidrug Hills) where three-fourths of the wooding has disappeared."

"I stopped the progress of destruction by prohibiting iron forges altogether … Even greater ruin was caused in the Chitaldrug District from the same cause…" In spite of the shortage of wood and restrictions imposed on traditional iron smelting, the activity continued for decades even as

From my investigations, it seemed that it was only after the setting up of the Bhadravati Iron and Steel Works in 1923 that traditional smelting declined rapidly. No wonder then that the ironsmith from Channarayadurga could recollect his grandfather smelting iron.
Paradoxically, the Bhadravati plant itself used charcoal as fuel for smelting.

But what surprised me even more was the fact that charcoal making (now from Prosopis juliflora) continues to thrive in this same region and so too does iron-smithy, although at a very small scale. Only traditional iron smelting declined and completely ceased.