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# A comparative study of the forests of Savandurga, Karnataka, between 1800-01 and the present.

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## OVERVIEW

Francis Buchanan, a Scottish geographer and physician surveyed the dominions of Mysore Maharaja in 1800-01. He was specifically instructed to investigate “the state of agriculture, arts, commerce; the religion, manners, and customs; the history, natural and civil, and antiquities”. The report is a 1500 page veritable tome containing valuable information on the socio-ecological characteristics of pre-colonial Mysore.

This mandate was carried out to the complete satisfaction of the sponsors through Buchanan's journey, which started from Madras on 23rd April, 1800, returning to it on July 5, 1801, taking a little over one year and two months. He is very meticulous in observations, with a keen eye for detail. Though a doctor by profession, he displays superb comprehension of such diverse aspects like agriculture and forests, type of trees and vegetation in general, agricultural technology, irrigation technology, various handicrafts like coir making, manufacturing and processing like iron and glass making, the methods of mining, various religious sects, customs of different communities, and several historical details which otherwise we may have missed. Buchanan was a naturalist *par excellence*, acclaimed as the “best Botanist in India” by none other than the pioneering British botanist William Roxburgh.

## PROJECT

On 18th of June 1800, as the monsoons had just set foot on the Mysore plateau, Francis Buchanan was in the town of Magadi -- the erstwhile capital city of the *polygars* from where the founder of Bengaluru city, Kempegowda hails. He was on his way to Bangalore from Srirangapatna. As he had passed through the woods of Savanadurga around Magadi, he made detailed notes of the plants “investigating their productions”. Buchanan’s informants in Savandurga were the traditional woodman of the place who he felt were “a poor ignorant race most of them of the lowest caste called *Whalliaru* but they pretend to know every plant of which the name is asked”. *Whalliaru* essentially means “impure”, a derogatory reference to the a number of *dalit* castes.. His narrative provides a record of the tree specimens that were brought to him for examination.

The primary goal of the project was to *retrace Buchanan’s route in Magadi and surrounding environs to note and document the faunal characteristics and composition*. While in Magadi area, Buchanan records around 69 species of trees, describes the iron and steel making units which were in operation in the area around; and a phantom creature called “Shin Nai” that can even devour tigers. The iron was made partly

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from iron sands (black sand) and iron ore found at Ghettipura, about seven miles from Magadi, which is situated in south-westerly directions of Savandurga. At Magadi, we get a glimpse of how Buchanan approached his mandate of ascertaining the extent of the forests as well as the kinds of trees useful for timber or other economic purposes.

We aimed to ‘botanise’ the landscape and look for floral characteristics that make up Magadi and surrounding environs. To do this, we follow the first volume of the *Journeys*<sup>1</sup> where he records his observation of the Magadi landscape and documents various tree species and their everyday uses.

## METHODS

We borrowed concepts and tools from Ethnobotany, which is the “study of the interrelationship between people of living cultures and the plants of their environment”<sup>2</sup>.

### *Analysis of Archival Material*

In order to help situate the present context, we reviewed archival material contained in colonial and precolonial historical documentation such as gazetteers, topographical maps among others. Furthermore, we analyzed toponyms (place names) to corroborate the historical and geographical information from other sources. Since Buchanan’s time, as the state of taxonomic research has evolved and many species names have undergone change and many may have been wrongly identified. Buchanan also lists anglicised Kannada names for the tree species he encountered. As a formally trained botanist and a taxonomist his disdain and frustration with the ‘native’ approaches towards nomenclature is very apparent. He says “they have also a number of specific appellations such as *Bily* white, *Kempu* red, *Cari* black, *Doda* large, *Chica* small, *Betta* mountain, *Wullay* cultivated, *Cadu* wild, *Timbo* eatable and the like; many of which they often apply to the same species and sometimes the same name to different species with so little accuracy that any person who depends on their accounts will find himself thrown into great confusion” . However, contrary to Buchanan’s observation we were not thrown into great confusion. These descriptive adjectives were extremely helpful in pinning the identity of the tree species. Many of these traditional names have fallen into disuse now. We banked on the labours of the Basel Mission priest, Ferdinand Kittel’s seminal Kannada English dictionary (1894)<sup>3</sup> to ascertain and triangulate the identities of various Kannada names.

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<sup>1</sup> Buchanan, Francis (1807). *A Journey from Madras through the Countries of Mysore, Canara and Malabar*. London: T. Cadell & W. Davies / Black, Parry & Kingsbury. – in three volumes, publishers noted as booksellers to the Asiatic Society and the East India Company, respectively.

<sup>2</sup>Albuquerque UP (2005) *Introdução à etnobotânica*, 2nd edn. Interciência, Rio de Janeiro

<sup>3</sup> Kittel, F. (1894). *A Kannada-English Dictionary* (Vol. 1). Basel mission book and tract depository.

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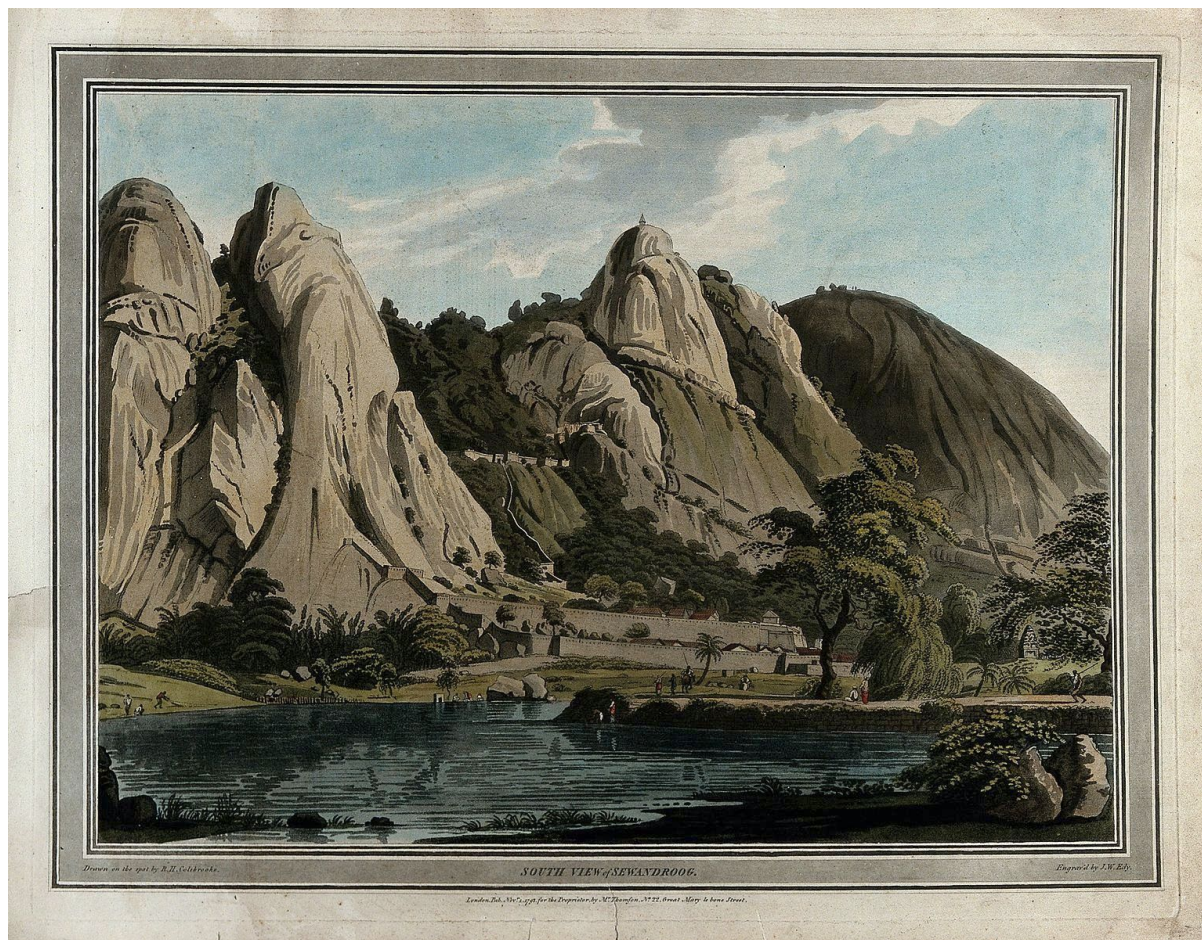
### *Transect walks*

Transect walk is essentially a structured walk through an area to observe particular aspects such as availability and quality of resources, land use and infrastructure in the village etc. We conducted multiple transect walks in Savandurga state forest with our key informant. Despite it being February, the sun was extremely harsh making it difficult for us to trek during afternoons. We divided the transit walks into two sessions one each in the morning and evening when the sun is sort of mild. Each transect walk lasted for over 3 hours during which we would invariably cover around 12-13 kms. We had Mr Narasimhaiah, a forest department watcher as our informant. He is remarkably adept at botanical as well as traditional medicinal knowledge of the plants in the region. We traversed along the slopes of the granitic rocks exploring identifying and understanding the landscape as well as the plants that make up this landscape. We went around identifying the fauna we encountered and initiated a structured discussion on the characteristics, uses and density of those plants and trees. We paid particular attention towards the 69 species described Buchanan in his narrative. During the walk, we also probed for and included other unexpected observations such as the Megaliths there, or a scat somewhere eliciting discussions with our informant. These rich conversations formed the basis for in depth discussions on the availability and quality of resources , state of Savanadurga forests over the years, land use among others.

### **The Landscape**

Our informant Narasimhaiah, a 63 years old former bonded labourer, has been with the forest department for the past 35 long years. He knows this patch of forest, almost 6600 ha of it, like the back of his hand.

You ask for a plant, it is mapped in his head so well, that he can tell where it is in the forest. He can even describe the etymology of a few species' names based on what he has heard. His knowledge of the forest is built over years and years of walking traversing all along the Savanadurga state forest. First as a grazer, tending to the sheep and cattle of the people in whose house he was working in and then as then as a contractual worker associated with the forest department. He's also been closely involved with a forest department project that aims to revitalise local health traditions in India. Savanadurga happens to be one of the few medicine plants conservation areas in Karnataka identified as a priority area for conservation owing to its biological richness.



Coloured aquatint of Savandurga by John William Edy after Robert H. Colebrooke, 1793

Savanadurga hill is an enormous mass of granite standing on a base of thirteen kilometers circumference. The hill is formed by two hills known locally as Karigudda (black hill) and Biligudda (white hill). Narasimhaiah informs us that these hills are in fact two outcrops of the same hill but have acquired different names based on their visual appearance from the western side. He adds that originally the place

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was known as *Nelapatna*<sup>4</sup>, meaning the city on the floor. As documented by Buchanan, most settlements in pre-colonial Mysore had two sections -- a *kote* and a *pete*. Perhaps the name *Nelapatna* is a reference to the *pete* section of Savanadurga. Historical records date the Fort as having been first built in 1543 by Samantha Raya, an feudatory officer in the Vijayanagar Empire. The region later came under the sway of Kempegowda, who had his headquarters at Magadi. Two temples, one each dedicated to Veerabhadraswamy and Lakshmi Narasimha, dot the foothills. The base of the temple is surrounded by a forest; with thick bamboo groves and dense shrubs, this was the first layer of defense that Lord Cornwallis had to get through before capturing the fort in 1791 as part of the third Anglo-Mysore wars.



The latitude of the study area is 12° 55' N and longitude is 77° 19' E and the altitude ranges from 800-1200 m above MSL. The initial stretch of our transect walk is through these thickets, bare rock, small boulders. Narasimhaiah points us towards the first of the many remains of the fort walls. It is dilapidated and forest has been slowly engulfing it for the past two hundred years. Songs of birds such as Blue Rock Thrush, White-browed Bulbul or Rock Agamas offer some respite from the scorching sun. The general terrain is hilly and the major part of the walk consists of small hillocks with interspersed forests. The wind direction is mostly southeast as the wind flow from the western side is blocked due to the mammoth rocky outcrop that is Savanadurga.

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<sup>4</sup> Also corroborated in BL Rice's gazetteer (1876).



Savandurga is the single largest block of rock in Asia and is among the oldest rocks on the planet dating back to at least 3 billion years. With a characteristically rounded shape and smooth and steep sides, it forms part of Closepet granite hills. The watcher reminds me that part of an English film was shot here<sup>5</sup>. As we slowly make our way through scrubby dry deciduous forest, Narasimhaiah enthusiastically introduces each plant and its uses.

“This is the *Kaare gida*, we eat the fruit of this plant. It is tangy but delicious. It fruits early in the monsoon season. That is *Ankale*. Ankale stem is used to mix ragi flour and water to prepare *ragi mudde*. Slowly and steadily the goodness in the Ankale is infused into ragi mudde nourishing us. We will not get any illness. This has been the case since time immemorial.”

“Neldembu is the name of that creeper. We used to roll the creeper, keep it under the pots and carry them. But nowadays there are no such pots. People use some aluminium or steel vessels. This creeper has many medicinal values. It makes a wonderful tonic for cold and cough. Also, the flowers of this plants are used for *gulkan*.”

“This is *Amruthaballi*, we can make *kashaya* from this creeper. It is a very good tonic for fever. Even corona will not come. See, I am not wearing a mask. I never did. This plant is all I needed to protect me.”

We come across a small hillock overlooking the main cliff. At the top of this small hillock there is small shrine-like structure. Narasimhaih says it is “Pandavara kallu”, the residence of Pandavas during their *vanavas*. A closer look there clearly points at a small dolmen like megalith structure. Indian antiquary

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<sup>5</sup> David Lean’s 1984 film *A Passage to India* was shot here.

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makes a mention of this megalith. It also adds that terracotta pots, megalithic burial urns were found here indicating human habitation dating as far back as 2000 years.


















## Species

We present to our informant, a list of species described by Buchanan. Much to our surprise, he was familiar with the Kannada names of each of the species listed there. The most striking change since Buchanan's time is seen in two species -- both formed a substantial part of Buchanan's description. Sandalwood and the lac yielding Jala (Shorea Talura). We could not locate a full grown sandal tree. Felled out of greed even before it reaches a mature age. All we were able to see were a few small shrubs. Narasimhaih feels it has been over twenty years now since he last saw a fully grown sandal tree. Even the Jala tree is dwindling with each passing year. This, he thinks, is due to new invasive insects that cut the phloem and xylem of the plants. The table below gives a full list of species from Buchanan's list we encountered here.




	Name as listed by Buchanan (in Kannada and English)	Our identification	Picture
	Henna Gorivi, <i>Ixora arborea</i> , Roxb. MSS	<i>Ixora arborea</i>	

	Ghendu Gorivi, or Haydarany	an unidentified species	
	Cari Hulivay? Clutia forte stipularis	<i>Terminalia tomentosa</i>	
	Heb, or Bily Hulivay, Chuncoa Huliva, Buch. MSS	<i>Terminalia paniculata</i>	
	Tor Mutti, Chuncoa Muttea, Buch. MSS	<i>Terminalia arjuna</i>	




	<p>Tari, Myrobalanus Taria, Buch. MSS</p>	<p><i>Terminalia bellirica</i></p>	
	<p>Arulay, Myrobalanus Arula, Buch. MSS</p>	<p><i>Terminalia chebula</i></p>	
	<p>Amutty, or Gowda?</p>	<p>an unidentified species, perhaps <i>Lanea coromandelica</i> or <i>Garuga pinnata</i> or <i>Spondias mangifera</i></p>	
	<p>Jugalagunti, <i>Diospyros montana</i>, Roxb.</p>	<p><i>Diospyros Montana</i></p>	





	<p>Tupru, Diospyros Tupru, Buch. MSS.</p>	<p>Diospyros melanoxylon</p>	
	<p>species (Vana Raja, or Asha, Bauhinia.)</p>	<p>Bauhinia</p>	
	<p>Hassur Gunny, Dalbergia?</p>	<p>Dalbergia lanceolaria</p>	
	<p>Pachery, Dalbergia paniculata, Rox.</p>	<p>Dalbergia paniculata</p>	




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	<p>Biridy, Pterocarpus Sissoo. Roxb. MSS.</p>	<p>Dalbergia latifolia</p>	
	<p>Whonay. Pterocarpus santalinus, L. F.</p>	<p>Pterocarpus marsupium</p>	
	<p>Hoingay. Robinia mitis Lin.</p>	<p>Pongamia pinnata</p>	





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	<p>Hurugulu, Chloroxylon quod Swietenia chloroxylon, Roxb.</p>	<p>Chloroxylon swietenia</p>	
	<p>Chandacalu, Chloroxylon Dupada, Buch. MSS.</p>	<p>Boswellia serrata</p>	
	<p>Swamy. Swietenia febrifuga, Roxb. MSS</p>	<p>Soymida febrifuga</p>	




	<p>Gowda, <i>Sweitenia trilocularis</i>, Roxb. MSS.</p>	<p><i>Chukrasia tabularis</i></p>	
	<p>Bili Tali, <i>Bilitalium farinosum</i>, Buch. MSS.</p>	<p><i>Givotia rottleriformis</i></p>	
	<p>Jani, <i>Grewia</i>.</p>	<p><i>Grewia orbiculata/rothii</i></p>	
	<p>Betta Tali, or Betta Tovary, <i>Bombax gossypium</i>.</p>	<p><i>Cochlospermum gossipium/religiosum</i></p>	

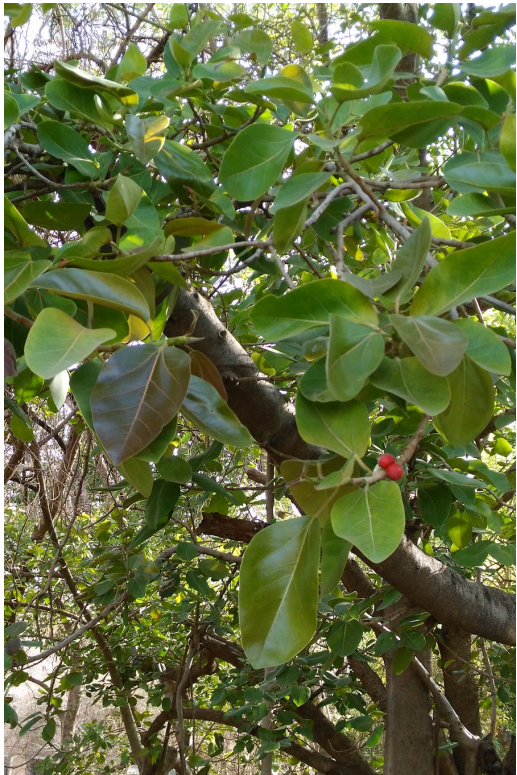


	<p>Rudrashu Neralu, Calyptranthes Jambulana Willd.</p>	<p><i>Syzygium cumini</i></p>	
	<p>Nai, or Cag Neralu</p>	<p>An unidentified species</p>	
	<p>Betta Padri, Bignonia chelonoides</p>	<p><i>Stereospermum chelonoides</i></p>	
	<p>Navulady, Mail elou, Hort. Mal.</p>	<p><i>Vitex altissima</i></p>	






	<p>Wullay Padri, Bignonia spathacea.</p>	<p><i>Dolichandrone falcata</i></p>	
	<p>perhaps Shivuli</p>	<p><i>Gmelina arborea</i></p>	
	<p>Topala, Mimosa <i>leucophlea</i>, Roxb.l.</p>	<p><i>Acacia leucophloea</i></p>	
	<p>Cagali, Mimosa <i>catechu</i>, Roxb.</p>	<p><i>Acacia catechu</i></p>	

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	<p>Mugli, Mimosa Covalum, Buch. MSS.</p>	<p>Acacia suma</p>	
	<p>Wullay Sujalu, Mimosa Tuggula, Buch. MSS.</p>	<p>Albizia amara</p>	
	<p>Betta Sujalu, Mimosa odoratissima, L.</p>	<p>Albizia odoratissima</p>	

	<p>Shalay, Ficus</p>	<p>Ficus species, perhaps Ficus benghalensis</p>	
	<p>Cull Atty, Ficus rupestris, Buch. MSS.</p>	<p>Ficus carica</p>	
	<p>Birsi, Ficus.</p>	<p>Ficus infectoria</p>	




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	Atty, Ficus glomerata, Rox.	Ficus glomerata	
	Devadarum, Erythroxyton sideroxylloides, E. M.	Erythroxyton monogynum	
	Ursina Tayca, Nauclea cordifolia, Roxb	Adina cordifolia	


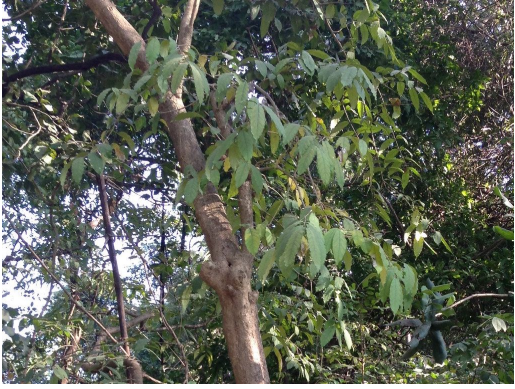

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	<p>Doda Tayca, <i>Tectona robusta</i></p>	<p><i>Tectona grandis</i></p>	
	<p>Dinduga, <i>Andersonia Panchamoum</i>, Roxb. MSS</p>	<p><i>Anogeissus latifolia</i></p>	





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	<p>Sri Gunda, Santalum album. Sandal-wood of the English merchants.</p>	<p>Santalum album</p>	
	<p>Jala, Shorea Jala, Buch. MSS.</p>	<p>Shorea talura</p>	
	<p>Ursina Tayca, Nauclea cordifolia, Roxb.</p>	<p>Adina cordifolia</p>	

	Hadaga	<i>Cordia macleodii</i> (.)	
	Chaningy, <i>Lagerstroemia parviflora</i> , Roxb.	<i>Lagerstroemia parviflora</i>	
	Cadaga, Cadaba, or Cadava, <i>Nauclea purpurea</i> , Roxb.	<i>Anthocephalus kadamba</i>	
	Mitly, <i>Trophis aspera</i> Koenigi.	<i>Streblus asper</i>	




	<p>Tapissa, Ulmus integrifolia, Roxb.</p>	<p>Holoptelia integrifolia</p>	
	<p>Mara halay. Nerium tinctorium, Roxb. MSS.</p>	<p>Wrightia tinctoria</p>	
	<p>Bewu, Melia azadirachta</p>	<p>Azadirachta indica</p>	
	<p>Easy, Premna tomentosa</p>	<p>Premna tomentosa</p>	








	<p>Timbu Bayala, Egle marmelos, Roxb.</p>	<p>Aegle marmelos</p>	
	<p>Chica Hessary, Uvaria cerasoides, Roxb.</p>	<p>Polyalthia cerasoides</p>	
	<p>Heb Hessary. Uvaria tomentosa, Roxb.</p>	<p>Saccopetalum tomentosum</p>	
	<p>Elichi, Rhamnus jujuba, L</p>	<p>Zizyphus jujuba</p>	

	<p>Nai bayla, <i>Limonia crenulata</i>, Roxb.</p>	<p><i>Limonia crenulata</i></p>	
	<p>Narwully, <i>Cordia monoica</i>, Roxb.</p>	<p><i>Cordia monoica</i></p>	
	<p>Cadu Nimbay, or Cadimbay</p>	<p><i>Atalantia monophylla</i></p>	
	<p>Hulu Muruculu. <i>Antidesma alexiteria</i>.</p>	<p><i>Antidesma zeylanicum</i></p>	
	<p>Muruculu, <i>Chirongia glabra</i>, Buch. MSS.</p>	<p><i>Buchanania angustifolia</i></p>	

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	Bideru, Bambusa	Dendrocalamus strictus and Bambusa bambos	
	Gheru, Anacardium semecarpus.	Semecarpus anacardium	
	Chillu, Strychnos potatorum Koenigii.	Strychnos potatorum	

	Cacay, <i>Cassia fistula</i>	<i>Cassia fistula</i>	
	Nelli, <i>Phyllanthus emblica</i> .	<i>Emblica officinalis</i>	
	Mudali. <i>Ochna squarrosa</i> .	<i>Ochna obtusata</i>	
	Hay Cambi, <i>Gardenia latifolia</i> , Roxb	<i>Gardenia latifolia</i>	

	Mara Haralu, <i>Jatropha curcas</i>	<i>Jatropha curcas</i>	
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## CONCLUSION

After the fall of Tippu Sultan in 1799, the goal of setting up a rationalised system of administration and revenue collection was a major impetus behind Francis Buchanan, Colin Mackenzie, Benjamin Heyne and other such “great surveys” initiated by the East India Company. The massive trigonometrical, topographic, cartographic, botanical and statistical surveys, constituting one of the largest techno-scientific projects in the colonial era, were designed to measure, map and acquire rational estimates of revenues that could be expected with a degree of predictability after every harvest. Indeed, the extensive and rigorous botanical surveys of Francis Buchanan provided one of the very sources of data on the revenue potential of the various agricultural and forest produce even as it provided its executor with invaluable plant collections or herbaria that helped him to become a respected naturalist associated with the Royal Society after his eventual return to Britain. Buchanan’s botanical surveys provided important antecedents of the later development of forest assessments, botanical gardens and botanical science. As well as providing data useful for rational administration and governance, the statistics generated by the great surveys also enabled the local officials to make their case to the Board of Governors in London that direct involvement in governance and administration was useful – and profitable – even for a trading company that East India Company was.

We hope that this will throw valuable insights to understand the history of past land use and landscape change in Magadi. A historical perspective will increase our understanding of the dynamic nature of the landscape, the long-term influence of humans as components of functioning ecosystems, and the cultural basis for our land decisions.

Walking in Buchanan’s steps therefore offers us a rare window to South India as it stood at the advent of colonialism. Revisiting Buchanan’s narrative tells us why we have become what we have become- his

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descriptions give us a baseline in the manner in which the society evolved. There is indeed much scope to retrace the route that Buchanan took and to arrive at a fresh account of the same things that he described, which is yet another way of describing the multi-faceted process of change and development. Two hundred years later retracing Francis Buchanan's *Journey* is an interesting way to know ourselves better.