

Regenerating sholas and grasslands

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In 1981, the Central Board of Secondary Education (CBSE) had started an innovative programme. They called it Socially Useful Productive Work (SUPW). We called it Some Useful Periods Wasted. In our adolescent irreverence, we did not quite enjoy the labour involved in digging the soil of the Nilgiris upper plateau to plant saplings of eucalyptus. But then there was the desire to contribute to the larger purpose of afforestation of the hills that had hosted us for our school life. This week, I was back at the Lawrence School, Lovedale, to watch students plant grassland species from the native shola-grassland ecosystem of the Nilgiris in a patch near the main water stream that supplies the institution. The students worked with gusto.



The students of Lawrence School, Lovedale plant native grassland species. Having lived through a dry 2016, they were aware that the shola-grassland ecosystem provided the lifeline of water. Within the limited understanding of teenagers facing multiple pressures, they were aware of the linkages. In the Whatsapp group that links my classmates, there were jokes asking whether it was

Shola aur Shabnam

, caricaturing the name of a 1992 Bollywood movie starring Govinda and Divya Bharati. It is not as if we did not live through weather-related highs and lows during our period in school. In 1979, the Nilgiris faced the brunt of a cyclonic storm. Strong winds whistled through the valleys and it rained heavily for days. There were landslides in different parts of the hills. Many of the highway culverts that were rebuilt after the storm had the 'For 1979' painted on them for years. The bund that impounded the water of the Lovedale Lake breached, turning the lake back to what it was originally – a wetland. There was also a dry period, when water in taps had run dry. Even though we trekked extensively in our campus and in other parts of the hills, we mistook the eucalyptus, wattle and pine stands to be the original forests of the Nilgiris. So much so, that when the then headmaster announced a project to extend the girls school building, one alumnus protested the deforestation that would cause. In fact, the extension project would have removed a few eucalyptus trees – a native species from Australia. The Nilgiris had not yet felt the resource pinch. Living in a period of low population and a rich natural resource base, nobody told us that what the eyes saw was not reality. We did not know of the process that was already underway for converting grasslands into softwood plantations and shola forests into tea plantations. This was an institutionalised process that had begun in the 1950s and 1960s, when the Tamil Nadu Government in its push for promoting industrialisation had started the process of systematically planting pulpwood trees on grasslands, which were deemed to be wasted lands. Eucalyptus and wattle were grown, harvested and sold to rayon and paper mills in the plains. The branches from these trees were also good as firewood for the local population. The second prong of the institutional attack on the environment was when shola forests were converted to a tea corporation, to employ the Tamil tea workers repatriated from Sri Lanka after the accord signed between Lal Bahadur Shastri and J.R. Bhandaranayake in 1966. The State's actions signalled a go-ahead for everybody else. We did not know in our school days was that the Nilgiris was home to the unique shola-grassland ecosystem in the upper plateau, which constitutes 1,800 sq.km out of the total 2,400 sq.km of the district. This ecosystem is found only in the higher reaches of the southern Western Ghats and works in combination with each other. There are grasslands on the hills and the evergreen shola forests in the valleys and groins of the hills.



A typical shola-grassland ecosystem of the Nilgiris. The sholas and

grasslands are climax vegetation types, i.e. they have reached the logical conclusion of their evolutionary process. It is believed that it is because of the ground frost in the upper plateau of the Nilgiris no native tree species grow on the grasslands. Trees grow only in the protected valleys. While the grasslands let the rainwater and the moisture in the fog run off, in the valleys the sholas hold on to this water in black, peaty soil formed from centuries of decaying leaf litter. Like a

sponge, the peat bogs release water all through the year in the Nilgiris. If the water reservoirs in the Lawrence School at Lovedale have water for the local needs, it is because of water flowing in the stream that feeds it all through the year. The stream, in turn gets its water from the shola patch upstream. It is estimated that there are around 1,100 streams in the Nilgiris, originally starting from the shola-grassland ecosystem of the upper plateau. In turn, they join to form four rivers – Bhavani, Moyar, Kabini and Chaliyar. While the first three join the Kaveri, Chaliyar flows west from the Nilambur forests to meet the Arabian Sea near Kozhikode. Rivers, after all, are drainage channels. They carry the water that fall in their catchments into the sea. More rain, more flow; it is as simple as that. It is the ecological health of the forests in the catchment that determines whether a river will be perennial (flow throughout the year) or seasonal (flow only when it rains). Thus the stream originating from the shola forest patch in Lovedale has an importance beyond meeting the local needs – it helps provide (in its minor way) the Kaveri its perennial water flow. In addition to fighting with Karnataka for not releasing enough water in the Kaveri during dry years, Tamil Nadu can strengthen the flow in the catchments originating within its boundaries. The shola-grassland ecosystem holds the key for this. The sholas and grasslands also regulate the temperature regime of upper plateau along with its water flow. Shola patches are a few degrees cooler than the adjoining patches. It is not so under eucalyptus, wattle and pine stands. Even though located within the tropical latitudes, the upper plateau of the Nilgiris provides a temperate climate. It is a sky island protecting a unique plant and animal life. If the temperate climate changes into tropical, the Nilgiris will lose its sky island status. Some of the flora and fauna in the upper plateau have their closest relatives in the Himalayas. For instance, the Nilgiri Tahr is a cousin of the Himalayan Tahr. The Nilgiri Rhododendron also shares a



similar relationship with the Himalayan Rhododendron.

[Rhododendron is a cousin of the Himalayan Rhododendron.](#) The high altitude of the plateau is only partially responsible for the temperate climate profile. If it was the only factor, the Nilgiris would have continued to be cool all through the year. Instead, it is warmer during most of the years and biting cold during the winter months. These extremes could be an indication for climate change in the hills. The impacts of the global-scale climate change are aggravated by the destruction of the sholas and grasslands. A combination of changing land use patterns and the changing climate are changing the man-animal interface on the plateau. We did not have monkeys and gaurs in school during our time in school. The idea of regenerating the shola and grassland in a small patch within the school campus originated from a batch of alumni who completed their course in 1981. The group provides core funding and guidance for the project. Headmistress Sangita Chima, a few teachers and students enthusiastically support the work. During their free hours, the students work in the field planting the grasses. Unlike us, these students are leaving school with an understanding of what the shola-grassland ecosystem is, and how it contributes to conservation of the Nilgiris environment and from there adjoining parts of peninsular India. They would opt for different careers in their lives. But somewhere this understanding will form a foundation layer on which they will build other domains of knowledge and expertise. In 1981, we were right and the eminences at the CBSE were wrong. The time we spent planting eucalyptus saplings were, after all, some useful periods wasted. First published on the author's blog on 26 March 2017

[The Nilgiri](#)