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A NEWSLETTER ON THE EASTERN GHATS

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A TIMELESS LANDSCAPE - THE CENTRAL EASTERN GHATS



The spectacular rock formations and rolling hills of the central Eastern Ghats landscape captivate not just the gentle beauty of the region, but also instantly bring to life the timeless nature of these hills. The central Eastern Ghats are among the oldest geologic formations in the world, having been in existence from the earliest times of the Gondwana supercontinent dating back to a few billion years ago. In this issue, we have a mix of articles that bring to you some integral elements of this landscape such as the hills, trees, and the spectacular savannas.

Sahiti Sanaka talks about the Nallamala hills and how they have been defined and understood by different groups through their relationships with the hills and forests. She is a PhD student and researcher at ATREE, who works on the politics of protected areas, focusing on the history of the Amrabad Tiger Reserve in the central Eastern Ghats of Telangana and the socio-ecological relations between tribal communities and the tiger reserve.

Bidyut Mohanty, working on biodiversity and community based livelihoods in the northern Eastern Ghats of Odisha's Koraput district, brings our attention to the importance of maintaining large woody trees along roadsides in the landscape, and how they can be used by local communities.

Snehalatha Vadigi-Dukka, a post doctoral fellow at CCMB, Hyderabad who's work involves making characteristic observations on the understory vegetation portfolio in the Amrabad Tiger Reserve, describes how the resilient arid savanna landscapes of the central Eastern Ghats region persist with local management activities such as use of fire and grazing.

We hope that these articles reveal some interesting insights into the beauty and intricacies of the Eastern Ghats landscape.

- Vikram Aditya



Image credit: Snehalatha Vadigi-Dukka

NALLAMALA — A NEW INTRODUCTION | SAHITI SANAKA

The central Eastern Ghats that stretch over Nagarkurnool and Nalgonda districts of Telangana and the Kurnool, Nellore, Guntur, Prakasam, Kadapa and Chittoor districts of Andhra Pradesh constitute the Nallamala range of the central Eastern Ghats. The landscape in this stretch of Eastern Ghats is hilly with plateaus, gorges and deep valleys. The forest here is predominantly of tropical mixed dry deciduous forest with an under growth of bamboo and grass. River Krishna after merging with its major tributary Tungabhadra flows through the Nallamala ranges, collecting water from the surrounding forested hills.

Nallamalalas are historically associated, both academically and in popular discourses, with Chenchus. Chenchus are one of the Particularly Vulnerable Tribal Groups (PVTGs) of India, and are considered as traditional inhabitants of the region. Apart from that established association between Chenchus and the forest, there are certain assumptions about Chenchus that are entrenched in the psyches of government and society as well. Some such popular notions are; Chenchus are primarily hunters and gatherers, their economy is kinship bound and subsistence based, their dependence on money and importance of accumulation is minimal and so agriculture is a strict no-no for them.

On the whole the Nallamalalas are represented as the original place of living of native tribes who are not agriculturalists and therefore the Nallamalalas may have remained primarily a forest and not an agricultural landscape. Upon a cursory observation on the state of affairs in the region, one could make out that most of those assumptions are but narrow simplifications and hiding beneath those simplified representations are larger politics of control and power. Historically, there has been a systemic controlling of agrarian livelihoods of Chenchus both by the state and small scale capitalists who came to the region in search of land and livelihood.

Nallamalalas are sites of contestations over a range of issues, resources, and ideologies. During these phases of struggle, there have been changes in power, in opportunities or exit ways available, in exploiting the marginalized, in controlling land and in engaging with the State. The forests of Nallamala were used as retreat ground by radicals who fought the State. Communists and other radicals actively used these forests to wage their war against the Nizam of erstwhile Hyderabad state and feudal landlords. It continued thus from about 1945 till early 2000s. It was during their heydays that the forests were increasing-



Left: In the core area of Amrabad Tiger Reserve, preparation for cotton. Right: A board with an image of the landscape at the entrance of the Tiger Reserve. (Image credit: Sahiti Sanaka)

ly made open to outsiders to 'make lands'. Nallamalalas served as frontier areas for those who were caught in the 'traditional' ways of exploitation in the name of caste and for those who were caught in the grips of capital or for those who couldn't stand up to the bounties of green revolution in the neighboring resource rich areas.

Now, contrasting with associations and assumptions about the landscape and Chenchus who are not agriculturists are the images of cultivating fields, fields in which commercial crops are cultivated with deep dug bores, fields that are being actively guarded against wild animal attacks, demands by people of different other Castes for equal rights to resources, and Chenchus demanding for re-claiming their land and development of their agriculture. Overseeing all these developments, oppressing some, encouraging few local politics and creating new order is Amrabad Tiger Reserve. The Nallamalalas were and still are being actively made through different political processes. It is most inappropriate to still hold on to old assumptions that serve in reproducing the old and also in creating new ways of marginalizing the people of Nallamalalas.

- Sahiti Sanaka is a PhD student at the Ashoka Trust for Research in Ecology and the Environment (ATREE), Bangalore.

"Nallamalalas are sites of contestations over a range of issues, resources, and ideologies."



Farmers going back after spraying insecticides in Bt cotton fields in the Amrabad Tiger Reserve (Image credit: Sahiti Sanaka)

REHABILITATION OF TREES | RANJIT K. SAHU, BIDYUT MOHANTY AND RAVI SHANKAR BEHERA

Trees form the backbone of any rural or urban dwelling by providing both aesthetic value and a natural environment for humans and other beings. However, in recent years due to rapid urbanization and development activities such as road widening, trees are being cut at an alarming rate all over the country. More often than not, the compensatory forestry activities, tagged with any infrastructure development and loss of trees is not undertaken to the level as it should be, resulting in a loss of mature trees and resources in the name of compensatory forestry.

The interpretation of trees as mere commercial elements or obstructions need to change. Trees are more than individual entities. They support a variety of living organisms, such as birds, herbivores etc. They also nurture the soil and plants around them. Studies have indicated that the presence of older trees in the vicinity of young trees helps the younger



Felled trees along the roadside in the KBK region of the Eastern Ghats (Image credit: Bidyut Mohanty)

trees establish better as the older trees provide nutrition akin to a mother nursing her child, called as a 'step mother tree' concept. The provision of local microclimates for younger trees by these mature trees cannot be overlooked. However, one cannot avoid development activities either, as hu-



Large woody trees standing along the highway in the Kalahandi-Bolangir-Koraput region of Odisha's northern Eastern Ghats landscape. (Image credit: Bidyut Mohanty)

mans require space and infrastructure for their sustenance that may be in conflict with tree protection. Alternative possibilities like tree relocation to save trees while accommodating infrastructure needs to be examined. The authors looked at recent reports where the expansion of roadways in the Kalahandi-Bolangir-Koraput districts of southern Odisha spread across the northern Eastern Ghats is bound to result in axing of several trees. This region had a large number of trees planted by erstwhile rulers along roadsides. Approaches need to be made to minimize the number of trees or rehabilitate these trees at the shortest distance possible, rather than axing the old trees. This will help decrease the cost of relocation while also giving trees a better chance at survival. When we consider the rehabilitation of people as important, the relocation and re-establishment of trees that contribute immensely to peoples' survival should be given equal importance.

Although forest rights of people are being discussed in great detail, there is little debate about the rights of local people on such roadside trees that provide firewood. Thus, trees that are to be cut down can be relocated to nearby village commons, a process akin to rehabilitation of the trees. In this way, villages will be able to use the services of the trees for a longer duration rather than a short term use as firewood. Thus, it will be a long term resource than as a one-time firewood use.

-Dr. Ranjit K. Sahu (Ph.D biotechnology, B,Sc (Ag)) is Research Associate Scientist at UVA, Virginia, USA and is a freelance writer with interest in health, environment, education and sustainability.

-Bidyut Mohanty is the Secretary of SPREAD, Koraput, Odisha.

- Ravi Shankar Behera has a B.Sc in Forestry and is currently working as an NRM consultant

SEMI-ARID LANDSCAPES OF THE AMRABAD TIGER RESERVE | SNEHALATHA VADIGI-DUKKA

The summer arrives. Our field work begins, as the scenic beauty of sere deciduous landscape slowly discerns in front of us. While we embark on our trek, winds unfurl the sultry Deccan heat that unapologetically settles down around us. The land, true to its volcanic geological history, is strewn with rocks everywhere; rocks of different sizes and shapes, varying in numbers that bring out a special allure to the place. With no leaf left to shade ourselves under, we continue on our trek and out of nowhere a series of large rock knob formations hit our view taking us back millions of years. They pose as giant natural fort walls, walking amidst them inevitably makes you wonder how long could they have been standing there for? What all could they have stood



Left: Dried lantana bushes in the background with burnt grassy region in the foreground. Right: Lantana greens after a brief period of rain few days earlier. Image credit: Snehalatha Vadigi-Dukka

through in that time? Stricken with a wonderful combination of joy and agony, we further proceed to explore the nooks of tiger hinterlands through the simmering heat and besprinkled rock country.

My task, among the team, involves making characteristic observations on understory vegetation portfolio, but the rocks made me want to study them instead, except I am no geologist. Amrabad Tiger Reserve, as of present conditions, is a beautiful mosaic of deciduous forests, savannas and scrublands; with forests and savannas occupying the major proportion of the land, followed by scrublands. Differentiated largely by the understory vegetation that is present, savannas constitute grasses exclusively, whereas forested areas have tall shrubs with grasses beneath them. So, grasses are extensive through the reserve, even in densely packed rocky

areas, where it is difficult for other shrubs to grow, lithophytic (plants that grow on rocks or the in between stony soil) grasses exist.

Going about our work day in and day out crisscrossing the spectacular semi-arid landscape through its quintessential summer, realization of the seasonal heat and the intensity of its harshness that the plant life in this region has evolved and adapted to endure has become very real. The entire vegetation, except for very few evergreen trees, dry up rather quickly, under massive heat stress. Summer here does not only bring the drought but also fires that spread far and wide, which are initiated by people, to stimulate fresh growth when conducive, for their cattle. As the extensive grassy layer provides quick combustible dry fuel compared to others, surface fires get carried long distances.



The little greens start to say hello through the burnt grass, amazing what a little rain can do! (Image credit: Snehalata Vadigi-Dukka)

The use of annual fires under current practices is in strong contrast to natural fires, which would have occurred supra-annually under exceptional conditions. It should be noted that though trees and other plant forms in this region are fire tolerant, these reasonably recent regime shifts would modify vegetation in the landscape. Therefore, consistent annual fire events coupled with an increase in cattle grazing would have a huge bearing on the future composition of vegetation. On our treks, we observed a strong dominance of invasive species in the understory (native or exotic), which may indicate a weak establishment success of trees; we found *Hyptis suaveolens* in the North-eastern portions, *Phoenix loureirii* in the central portions, *Lantana* spp in different pockets spread across and *Prosopis juliflora* in a small area.

Changes being produced by ongoing local human disturbances interlinked with increasing global aridity and vegetation resilience limits would define the future of these ecosystems. Therefore, it is imperative to deeply understand how resilient the current vegetation system would remain under the complexity of human induced external changes.

- Dr. Snehalatha Vadigi-Dukka is a DST-INSPIRE Faculty (post-doctoral) at LaCONES, CSIR-Center for Cellular and Molecular Biology (CCMB), Hyderabad, Telangana.

EASTERN GHATS FOREST COVER DECREASING, SAYS REPORT

According to the findings of a recent study, the Eastern Ghats have lost 15.83% of their forest area over a span of almost 100 years. This trend is seen across India where all forest types are experiencing noticeable declines, contrary to the official government estimates given by the Forest Survey of India (FSI) which states that India's forest cover increased from 7,01,673 km² in 2015 to 7,08,273 km² in 2017. Scientists at the National Remote Sensing Agency, Hyderabad used medium resolution MODIS satellite imagery to map trends in seasonal green cover between 2001 and 2014 of forests across the country. Their results showed that most of the decline occurred in core areas of tropical moist deciduous, tropical dry deciduous, tropical wet evergreen and tropical semi-evergreen forests. Protected areas across the Eastern Ghats such as the Similipal Tiger Reserve in Odisha recorded significant forest declines. The study showed that the Eastern Ghats have lost 15.83 percent of their forest area over the study period, with an estimated 7.92 percent of forest area converted into agriculture and up to 3.80 percent into scrubland and grassland.

- First published in Mongabay on 15th May 2018 by T V Padma (<https://india.mongabay.com/2018/05/15/reports-say-forest-cover-decreasing-contrary-to-government-claims/>)

Research updates: Krishna Pavan and Rohit Subhedar have joined as interns with Dr. T. Ganesh and Vikram Aditya at ATREE under the project 'Assessing the impacts of hunting and trade on wildlife using local knowledge and field surveys, with a focus on conserving the endangered Indian Pangolin, in the northern Eastern Ghats, Andhra Pradesh'. Krishna and Rohit are pursuing Masters in Wildlife Conservation from the Institute of Environment Education and Research, Bharati Vidyapeeth Deemed University, Pune.



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