Nilgiris - A Call For Help

Voice of a Sentient Highland

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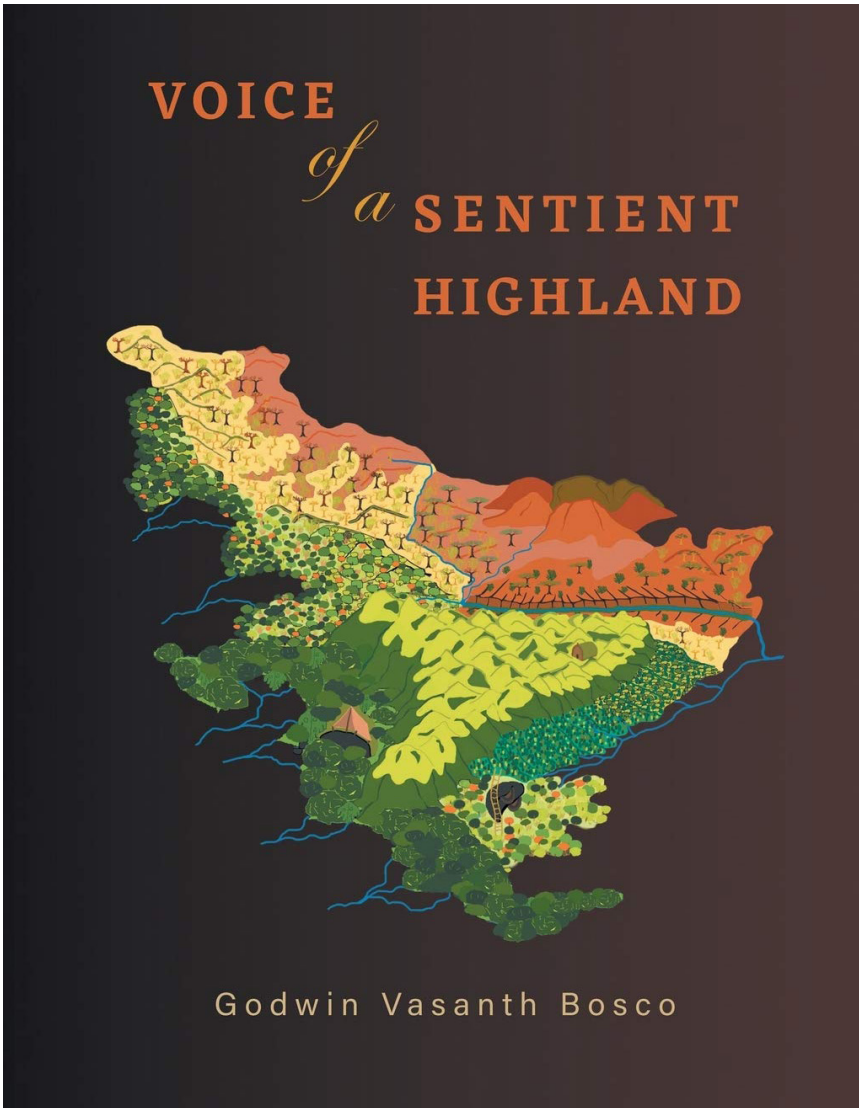
Introduction

The author Godwin Vasanth Bosco, is an ecologist working for restoration of forests and grasslands of Nilgiri highlands and Western Ghats of India. He is the founder of Upstream Ecology and the person who came up with the ideology of holistic ecosystem and grassland restoration effort program in the Nilgiris.



The book bears an intensified treasure of knowledge about Nilgiri highlands and its connected ranges. It takes the reader on a tour in the highlands, where the grasslands, forests, vegetations, landscapes, plants, animals, native, invasive, exotic and endemic species, rivers, valleys, microbes, coral reefs, communities, climate crisis, habitat degradation, anthropogenic activities, carbon sequestration, and emissions are the aspects to be recorded along the journey. The author has upheld to the whole world about nature being sensible and radiating its voice through various signs or indications for us humans to stop degrading the quality of natural habitat and allow the nature to revive itself by providing it time and enough space, which is a potent characteristic of the ecosystem and hence the apt title of the book.

The author has provided us with extraordinary ideas and solutions for the problems

that have been rooted by human beings to rectify and come to a common ground of co-existence in nature through his experiences in the field for almost a decade, his education and applications of the subject, immense research and his passion for comprehending and love towards the Nilgiris and its ecosystem.

Apart from this, at the beginning the book itself explains the modules and how to read the book with ease. The astonishing part of the book is its pictures and graphical representations, the mesmerizing moments captured in the wild that clearly depict the spell bounding beauty of nature that one would get caught with awe. The readability of the book is eased with pictures to relate to, distribution of information placed at different points on the page and small notes inside text boxes.

Chapter wise review:

Chapter 1: Nilgiri Highlands

It consists of 5 topics, and each topic gives a brief introduction about the Nilgiri Mountain range. Readers can easily fall into a reading trap by just looking into the beautiful pictures of *Strobilanthes kunthiana* (Neela-kurinji) and many other pictures of flora and fauna. Contains an introduction to Nilgiris and its connected ranges, formation of Western and Eastern Ghats by splitting away of the Indian plate from an early supercontinent formation, moving out of Gondwanaland and the collision with Eurasian plate. Followed by different types of vegetation range present in this region such as, the mid-elevation evergreen forest, wet evergreen forest, mixed types of hill forest, moist deciduous forest, dry deciduous forest, scrub jungle vegetation and the montane shola-grassland mosaic vegetation. Continuing to this, it mentions about 3,500 different plant species and numerous animal species in the region. It highlights 25 different indigenous peoples, each with their own unique languages, customs and ways of living. It sheds light on how the ecology of the region was not disturbed due these indigenous people living. Addition to this the author has spoken about how the Nilgiri terrain represents nearly every kind of sustainable living, from shifting cultivation, pastoralism, and bartering to hunter-gatherers.

Chapter 2: The Shola Grasslands

The author introduces the reader to the magnificent shola grasslands in this chapter, how sholas make-up as a unique mosaic of tropical montane forests and montane grasslands, and about how distinctly they maintain the edges with the grasslands. Breathtaking pictures of the landscape covered by grasslands are included for better comprehension and to admire its beauty. Sri Lankan and Nilgiri shola highlands slightly differ, and it explains what the differences in these two regions are. Explains about sholas having high endemic plant communities and native tussock grasses, which provides a unique environment for other life forms to survive. There are some fascinating facts explained about the proportion of occurrence of montane grasslands and sholas in the high elevations of the plateau with lower region of the plateaus. There are a total of 600 species of flowering plants and 100 species of grasses in Nilgiri plateau. One can learn about the biogeography of sholas in this chapter and would be surprised to know the sholas are home to plants that evolved 350 million years ago and remnants of

Gondwana and Laurasia time too. The author conveys the antiquity of the grasslands with regards to "The plant *Kalanchoe grandiflora*". Later the topic shifts from evolution to climatic conditions and other topographical features that contributed to forming the shola-grassland mosaic. In the last part of the second chapter, it's all about the crucial ecosystem services the shola forests provide.

Chapter 3: Drastic Changes

In this concise chapter, the author guides us through the evolution of the flora in the Nilgiri Biosphere, examining three distinct periods: pre-colonization, the era of independence, and the present day. The arrival of colonizers brought in new agricultural practices which further led to wiping off pristine forests.

The chapter points out the early 1800s establishment of main towns, after which the entire plant diversity was scrapped off to grow invasives and introduced plants and vegetables. The misinterpretation of grasslands as wastelands formed amongst humans had some serious consequences such as, construction of dams, reservoirs, and hydroelectric projects that led to the submerging of most of the regions within the Nilgiri Biosphere. It talks about gradual diminishing of the quality of soil over time. The author has included pictures to depict the present scenarios. Bitter incidents regarding how the animals due to invasives like *Lantana camara* has and is still affecting their lives and increased fragmentation resulting in human-wildlife negative interactions. The conclusion of this chapter features a detailed schematic representation illustrating the issues, dynamics, and threats confronting the Nilgiri Biosphere in a manner that is easily comprehensible.

Chapter 4: Altered Plant Ecologies

Due to the introduction of exotic species, the landscape of Nilgiri has been highly altered, it is obvious that human interventions are the only cause for these consequences to take place in the natural world. The concept of converting grasslands into commercially valuable plantations for obtaining products for human usage by afforestation, due to ignorance and considering it as wastelands or barren lands in the early 18th century paved ways for invasive trees to take-over the landscapes. It projects how exotic species can become invasive species and what are their impacts on ecosystem in detail such as, the allelopathic effects of these invasives that a native species suffer, hydrological disruption, invasives altering the soil nutrients, out-competing and eliminating the native species, numerous weeds, and ornamental plants other than trees becoming invasives as well. The author stresses, the precious and unique habitat of shola-grasslands being compromised to exotic plants and trees, immediate restoration and conservation actions required to save these grasslands.

Chapter 5: Extant Native Plant Ecology

In this chapter the author explains about the diversity of Nilgiri Biosphere Reserve, and he describes the landscape as a microcosm of earth. The incredible diversity in terms of landscape and flora has been thoroughly mentioned. There is a map showing the current land cover of shola-grassland which shows extant native plant ecology and presently the native plant communities in shola-grassland

are found on the four edges of the plateaus: The Northern edge, Eastern edge, Southern edge and Western edge. The chapter covers the entire diversity of native plants, invasives and endemic plant species that are situated at the edges of northern, eastern, southern, and western edges of Nilgiris. The interesting thing to note about this chapter is there are many glossy images of different landscapes, endemic flowers and shola grassland, its pictures make the book lively. Lastly, it speaks about the only watershed present in the inner plateau of sholas, that has disruptive water flow, its ecology and how sacred the watershed is for the communities and native species of plants existing in that region.

Chapter 6: Regeneration

An extremely intriguing chapter regarding the regeneration of native plant species in a place full of exotic and invasive plant species. It talks about the displacement of native species with large blocks of plantation forests with exotic trees and this has resulted in alteration of plant ecology. The chapter highlights how the regeneration of shola sapling has started to occur underneath several types of exotic tree plantations and this is a major phenomenon that is occurring in the Nilgiris Plateau. The Author has addressed a widely known issue that the monoculture plantations of non-native trees are incapable of supporting native vegetation. Further, this chapter is divided into five sections and subsections that deal with the specification of regeneration, displacing pressure being overcome, influencing factors, example for regeneration and regeneration as whole in Nilgiris. It is surprising to read about the exotic species giving a hope to regrow the native trees and to have an area where coexistence might be possible. Lastly, it has been mentioned about the management that needs to be done to safeguard the regenerative species as well as the ones that will regenerate and the measures that can be taken to help grow and develop a lesser disturbance to them by involving the local communities and working on restorative actions.

Chapter 7: Beyond Resilience

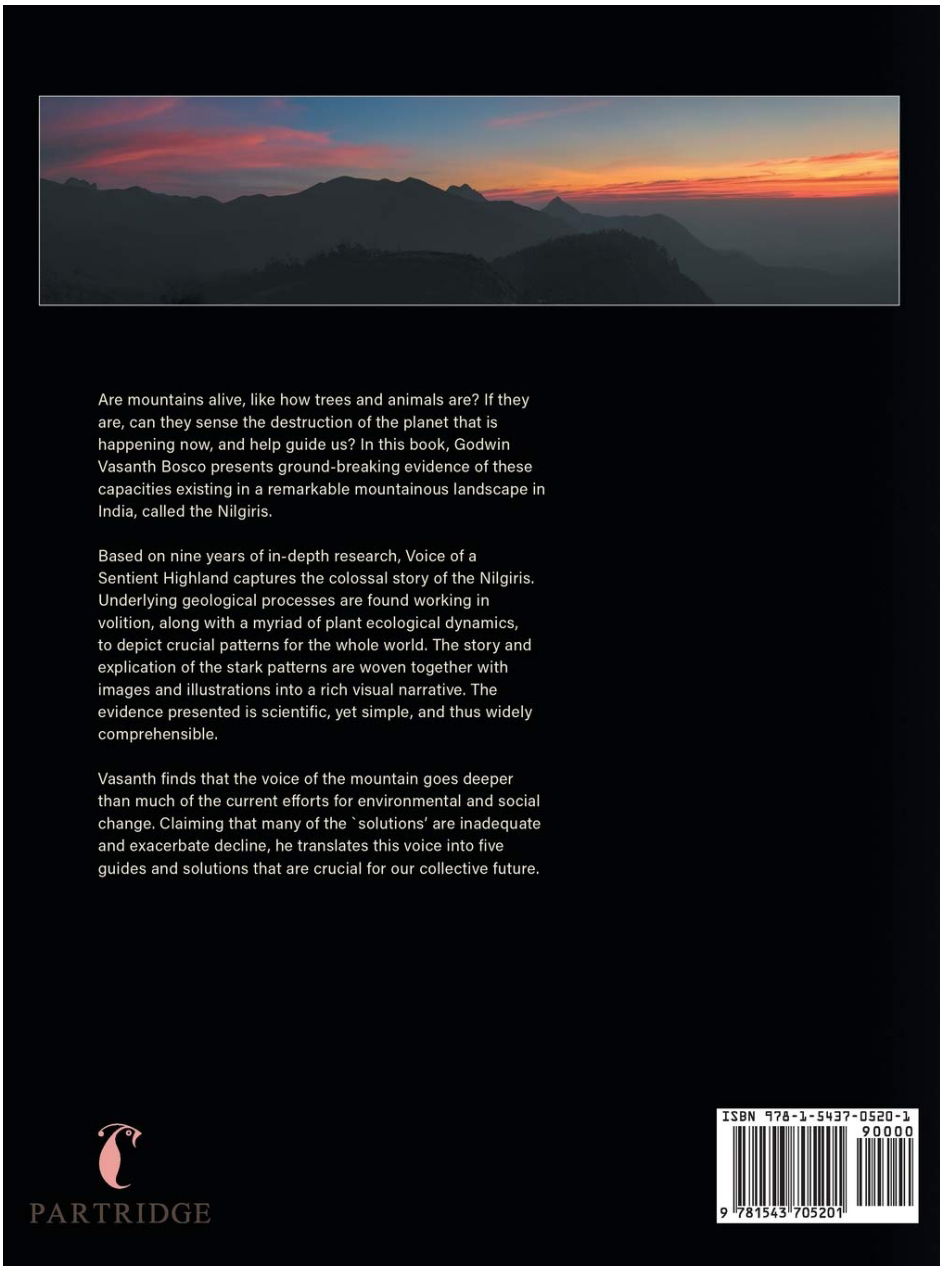
This section of the book portrays the larger picture of environmental degradation due to anthropogenic activities, especially the release of dangerous gases. Author here has done his part of giving evidence from data, examples and trends fathoming the fact that technological solutions cannot fix a depleting coral reef or restore any degraded ecologies or reduce the excessive pressure on land that may reduce carbon emissions. Initially, bringing light to the adverse current situation, he has tried to convince through the industrial matrix to go carbon negative. There lies the depth or in detailed information regarding significance of understanding the level or intensity of damage that has been caused by anthropogenic activities to the ecology, which pushes the wilderness to being incapable of repairing itself even when it has the potential to revive, by not providing time and space it requires. In conclusion, this chapter urges all of us to take necessary actions by learning about ecology to bring back the glory of this sentient highland for a better future.

Costly but Worthy

This section requires a separate discussion area. Mostly a student or an individual wouldn't

be able to afford this book or buy due to the high cost, but whereas universities, libraries, and other organizations can easily afford this book and I say it should be purchased by them, as this book holds solid pillar of knowledge that builds a strong foundation for people to understand their own homeland and its ecology in which they are also a part of and it strikes one's minds with what intensity the nature is being ignored. Based on all the above-mentioned characters the book is **priceless**.

Acknowledgement: We appreciate Godwin Vasanth Bosco for presenting his wonderful book to Dr. Sanjay Molur and to the fellows of RHATC. Thanks to Dr. Molur for initiating the review of the book, as he thought the book and work done by the author is admirable and essential for all to understand. This statement will be agreed once the reader thoroughly reads the book. It aided all the fellows in comprehending the significance of grasslands and forest, misconception towards grasslands and solutions to overcome the ongoing global crisis based on which we, at Ram Hattikudur Advance Training in Conservation course at Zoo Outreach Organization have incorporated the ideology in our learnings to bloom to become conservationists.



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