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Research Article

Ecological Lamentation: An Analysis Through Scientific Literature Of Kannada, Focusing On The Works Of Dr. B.G.L. Swamy And Sri. Nagesh Hegde

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ABSTRACT

Public communication on scientific issues is a good way to fulfill the Indian Constitution's mandate of encouraging scientific temper among the populace. India is a country with a vast legacy of traditional knowledge. With their indigenous wisdom, the people of this country could understand life's intricacies and use it to develop the timeliest remedies. They approached the problems in many forms of life in an inventive way. The development of such a scientific temperament is a fundamental tenet of innovation and societal advancement. Promoting a culture of scientific inquiry and thought among the general public and young people with due consideration of traditional wisdom is essential. We can create a society that is more informed and logical by giving people the means to comprehend and value scientific ideas from ancient times to present. Following this, the Indian government acknowledged the revolutionary potential of scientific thought and made it a fundamental obligation by enshrining it in Part IV-A of the Constitution by the 42nd Constitutional Amendment Act, 1976. According to Article 51A(h) of the Constitution, it is every citizen's essential responsibility to cultivate humanism, scientific temper, and an attitude of inquiry and reform. This clause in the constitution highlights the value of scientific temper in the national character and its function in creating a peaceful, forward-thinking, and affluent society.

The literature with cultural characteristics of Indian society presents the Life science. The Kannada literature presents the potential of using local languages to communicate science. Currently, there are distinct regional dialects of this rich language, which are collectively referred to as Mysore-Kannada, Dharwad-Kannada, and Mangalore Kannada. Other dialectical subdivisions, such as Havyaka, Badaga, Nadava, Koosa, etc., which are regional dialects combined with other linguistic forms, exist within these primary divisions. The ancient, medieval and the modern Kannada literature have presented the way of life with such regional identity, the way of life lead by our ancestors and their connect with the nature. It is required to observe the literature with this perspective and extract the information from various illustrations. This study explores the intricate web of ecological themes woven in Scientific works of Kannada literature, concentrating on the writings of two distinguished authors, Sri. Nagesh Hegde and Dr. B.G.L. Swamy.

Key Words: Dr. B.G.L. Swamy, Sri Nagesh Hegde, Kannada literature, ecology, environmental consciousness, literary discourse, environmental conservation, socio-ecological issues, and narrative strategies.

Introduction:

Before we continue, it is essential to know the authors, Sri. Nagesh Hegde, and Dr. B.G.L. Swamy.

Dr. B.G.L. Swamy

Renowned Scholar in the field of Kannada literature, Dr. B.G.L. Swamy was born on December 25, 1916, in Bellur village, Mandya district, Karnataka, India. His multi-decade literary career is distinguished by a strong love of the natural world, a strong dedication to environmental preservation, and a diverse body of work that inspires new generations of writers. Dr. B.G.L. Swamy grew up in rural Karnataka, where there was an abundance of greenery and peaceful scenery, and he had a close relationship with nature from an early age. His creative endeavors were always inspired by the sights, sounds, and rhythms of the natural world. "Nature is my greatest teacher and muse," he once said. I find comfort, insight, and endless creativity in her embrace. He has written in many different genres of literature, such as poetry, essays, short stories, and literary criticism. His works have a timeless spirituality, a deep sense of introspection, and a lyrical quality that appeals to readers of all ages. Poetry is distinguished by its emotional impact, grace, and simplicity. His poetry inspires awe and wonder since they are frequently filled with moving imagery and detailed depictions of the natural world.

Sri Nagesh Hegde

Nagesh Hegde is an Indian writer, journalist, publisher, environmentalist, and academic who has authored more than 40 Kannada books about science and the environment. He was up in the small Karnataka village of Bakkemane in the North Kanara District. Hegde has a Master's Degree from IIT Kharagpur and an M.Phil from JNU in Environmental Sciences from the Jawaharlal Nehru University, New Delhi. In fact, he was among the first batch of students to get a degree in Environmental Sciences in India. He was also the first to be appointed as an Assistant Professor to teach Environmental Geoscience in Kumaon University, Nainital. Hegde's work on India's iron ore export was debated in the Indian Parliament just prior to the infamous Emergency. This was the impact of his work.

Swamy's Incredible Impact on Environmental Advocacy

B.G.L. Swamy, from the department of Botany-Presidency college- Madras(1972), makes the mention about reference to epigraphy. In 1970s UGC had recommended 'History of Botany' be taught as a part of Botanical training in Colleges and Universities. This takes us beyond 5 decades back. The interested members were perplexed by the dearth of material accessible with regard to the Indian continent and were prompted to engage in a discourse regarding the subject's breadth and content by this idea. It was immediately apparent that the available information was completely out of proportion to the roughly two millennia of written history that this country has. The few published works on specific aspects of plants and humans in ancient India (Majumdar, 1927 and 1935; Om Prakash, 1961; Raghavan, 1964, etc.) only cover the Vedic and early post-Vedic eras up to Varāha-mihira's (6th/7th century A.D.) reign. Table1 presents the summary of the above discussion. However, the absence of source materials is not the cause of the void. A significant amount of knowledge can be found in the literatures of Pāli, Prākṛt, and Sanskrit, as well as in comparable writings in the local tongues. These still need to be examined and evaluated from a botanical perspective. Nevertheless, a significant disadvantage of using literary sources in general is the lack of knowledge regarding the texts' creation dates, which might obscure the proper chronological order. This is the matter of concern as identified by B.G.L Swamy.

Study of Epigraphy

Swamy has suggested the other possibility of data exploration. It is Epigraphy. He mentions that there is still another type of source that offers important data for reconstructing the previous botanical history. These are the lithic and copper-plate documents that the Asoka-era dynasties of kings left behind, spanning the entire length and width of the nation. The epigraphs, in contrast to the literary texts, are frequently datable to the precise year of execution.

Table1: References for Botany in the Indian literature.

<table>
<tr><td rowspan="2">Texts / Works</td><td>Rigveda and others</td><td>Puranas (Agnipurana and others)</td><td>Epics (References from Ramayana and Mahabharata)</td><td>Sushruta Samhita, CharakaSamhita & other texts</td><td>Works of Varahamihira, Vagbhata and other auxiliary texts</td><td rowspan="3">V
O
I
D
in new Textual reference Most of the later texts are developed on the previous doctrines</td><td>Works w.r.t the relation between Plant and Human beings</td></tr>
<tr><td colspan="3">Vedic Era / Early post Vedic time</td><td colspan="2">Post Vedic Period</td><td rowspan="2">1927, 1935- Majumdar,</td></tr>
<tr><td rowspan="2">Timeline</td><td colspan="3">Before 2000years</td><td colspan="2">Till 7th Century</td></tr>
<tr><td colspan="6">19th Century, Om Prakash, 1961; Raghavan, 1964</td></tr>
</table>

Extraction of the Data from Medieval Period

The Satapatha Brahmana has described agriculture as a set of four sequential operations, including plowing, sowing, harvesting, and thrashing. With little to no modification in the design of the tools used in the process, the same technique has essentially survived into modern times. The ploughshare, which was undoubtedly his royal emblem, is depicted in several lithic records of Amoghavarga (9th century a.p.) (e.g. 530 of 1958/9). The Navali inscriptions feature an engraved figure of a plough in its entirety. These kinds of incidents demonstrate the great regard that agriculture was held in the past. Even while our nation has primarily continued to cultivate crops using antiquated techniques, over the past few centuries, shifting cultural preferences and societal changes have led to the introduction of new plant species into cultivation. For instance, betel leaf and betel nut were imported from Malaysia during the early centuries of the Christian era; eventually, coco-nut from the Pacific islands followed. The average contributor, unable to afford such spectacle, had a live milkweed fence erected and an unadorned stone set at the field's corner. Numerous inscriptions from the eighth century (Raya-kottai Copper-plates of the Pallava monarch Skandasisya, for example) include this information. An inscription of the Cola king Rajaraja I indicates that the king acquired control of Kollipakkai, a town that had been contained by a wall of Sulli trees. This indicates that the milkweed hedge was also utilized as an enclosure of minor villages/towns (SII. II. No. 10, a.p. 1020). However, in an even greater number of cases, the "border stones" were actually the plants that were naturally growing in the various directions of the gift land. The Udayendram Copper-plates of the Ganga ruler Hastimalla (Prthivipati IT, 9th century a.p.) serve as an example of this type. Kadai-kottur and Udayacandramangalam, two villages, were combined and given the new name Viranarayanacceri, which was awarded as a brahmadeya gift. A closer examination of inscriptions that provide such precise information is warranted in order to comprehend the kind of gross flora present in the area in question. According to Vira-coda's Pitapuram Copper-plate grant (HI. V. No. 10), the settlements of Molavelli, Ponnatorra, and Alami were merged into a single entity known as Vira-coda-chaturvedimangalam.

Throughout South India, there are a plethora of epigraphs dating from the 7th to the 17th century that provide valuable insights into the flora of particular regions. The floristic composition of a locality's native flora does not seem to have changed significantly over millennia, but the crop plants and the area under cultivation. During the Ganga, Pallava, Chalukya, Rastrakuta, Cola, and Pandya dynasties between the 7th and 13th centuries, several South Indian battlegrounds experienced such oscillations; it was also during this time that hundreds of new settlements, such as Caturvedimangalam, Brahmapuri, etc., came into existence. A thorough examination of the epigraphs pertaining to these cockpits over the course of a few centuries should provide more insight into the changing agricultural and floristic patterns in the affected regions.

For decades, ragi has been the go-to crop for the impoverished in the regions of Karnataka and Andhra. Whether Africa or India is the crop's center of origin is up for debate. This crop does not seem to have been mentioned in literature or epigraphy until the tenth century A.D. The Chalukya king Ahavamalla's inscription warns chieftains known as nalgavundas that they will suffer consequences if they misuse the gruel made from ragi (HC. II. Sb. 477). The grain was being farmed as an agricultural product, according to several 13th-century Pandya inscriptions (EI. XXIV. No. 22; 66 of 1916; 109 of 1904: etc.)

The old stpa- or paika-édstra texts contain more positive data, but much recondite information is still to be recovered from them. This is despite the fact that a thorough study of epigraphic materials can provide some definitive information regarding the food and eating habits of our ancestors, most often in the form of negations. Students with an interest in botany still need to undertake this study and harmonize the material from literature and epigraphy. Swamy has provided the above insights and directed the study of epigraphy for better understanding about the varieties of plants.

Exploring the literature of Swamy

B.G.L. Swamy's artwork serves as a moving reminder of the value of environmental preservation and sustainable lifestyle choices. In addition to showcasing the wonders of nature in his poems, essays, and novels, Swamy encourages readers to take an active role in protecting the environment.

Hasiru –Honnu : The Government of India awarded him the Kendra Sahitya Academy award for his novel Hasiru honnu (Green is Gold). As a result, Gundappa and Swamy were the first father and son to receive the esteemed prize. In order to identify and gather botanical specimens, advanced botany students go on scientific tours with their instructors. In this work Swamy presents a keen sense of observation, a good sense of humor, and a strong interest in the arts, music, architecture, and history. His discussion of the genus and species is merely an introduction to a livelier, non-technical account of the specimen's look, locations, and practical usage. He depicts a specimen's exterior with vivid precision and technical detail.

Sasya-Purana: This book provides a thorough overview of the world of plants by shedding light on its ecological importance, cultural significance, and practical applications. In this work he extracts the information about plants from Ancient Kannada works of Harihara, Pamapa and Basavanna. He is presenting the botanical information of the plants, flowers and leaves described along with its fragrance and medicinal importance. For instance he speaks about the Alvars and Nayanars. The statement - 'ಇವುಗಳ ನಿರ್ಮಾಣವೆಲ್ಲ ದೇವರ ಪೂಜಾನೈವೇದ್ಯಗಳಿಗೆ, ಹೂಗಳು ಪರಿಮಳಗೊಂಡವಾಗಿರಬೇಕೆಂದೂ ಹಣ್ಣುಗಳು ಮಧುರವಾಗಿರಬೇಕೆಂದೂ ಒಪ್ಪಿಕೊಂಡಿದ್ದರೇ ಹೊರತು ಹೂವಿನ ಸೊಬಗನ್ನು ಗಮನಿಸಿದಂತಿಲ್ಲ. ಸ್ವಂತ ಅಲಂಕಾರಕ್ಕಾಗಿಯೂ ಹೂಗಳನ್ನು

ಬಳಸಿದರು; ಅದೂ ಇದೇ ದೃಷ್ಟಿಯಿಂದಲೇ.' says that the purpose of lyrical constructions is to serve as offerings to the gods; the fruits and flowers used must be aromatic and pleasant, but the beauty of the blossoms has gone unnoticed. They decorated themselves with flowers as well. In the works of Harihara Swamy is observing the flowers and fruits described beyond rituals. Pushpa ragale of Harihara has mentioned beyond 30 varieties of flowers and leaves. Maruga(Origanum Majorana and belong to Lamiaceae family -Mint family) –Dhavana (Artemisia pallens Well) etc. are presented here. Swamy offers comprehensive details on several plant species, covering their ecological environments, physical traits, and classification in botany.

Image1: Maruga

Image 2: Dhavana

Swamy talks about the practical use of plants in daily life in addition to their significance for ecology and culture. He emphasizes the various ways that plants meet human needs and improve our quality of life, from food and medicine to building materials and fuel. His taxonomy knowledge was extensive enough to lead to the discovery of new taxanomy.Fresh and dried plant specimens for identification, classification, and even forensic examination used to frequently arrive at Swamy's lab due to his proficiency in taxonomy and anatomy. Jnānaratha (translation from Subramanya Bharati's work), Beladingalalli Aralida Mollé Mattu Itara Prabandhagalu (translation from U. C. Swaminatha Iyer's essays), and Nadédihé Bālou Kāvéri (translation from Chitti and T. Janakiraman's travelogue on the Cauvery River) are just a few of the Tamil books that Swamy also translated into Kannada. Thus study of his literature and approach with keen interest provides insights about the environmental science and the ecological balance of different times.

Nagesh Hegde: Kannada Literature's Beacon of Environmentalism

Nagesh Hegde is a well-known environmentalist, journalist, and social activist. He is renowned for his unceasing efforts to promote social justice, sustainable development, and environmental preservation. Hegde has played a significant role in encouraging people to take action for positive change and in bringing attention to a variety of environmental challenges. Using the standard methodology of journalism, he has made efforts to analyze the global events that pose a threat to the environment and has presented it in Kannada language. The titles of his works are quite thought provoking;

✓ Shatruvillada samara'(War without enemy) – Compendium of contemporary happenings in the Scientific World 2008

His work 'shatruvillada samara'(War without enemy)' indicates that we are continuously supposed to fight against our own irresponsible behavior towards nature. (The above book is the collection of his articles published in 2007).

He mentions the following quote in the foreword-

'If we do not change the direction of our movement as soon as possible, we are in danger of reaching where we need to go.'- Irwin Corey

The above quote is an alarm about our way of life. He mentions that the goal of the entire media is to alert people worldwide to the impending "heat waves." The temperature of the world is constantly rising as a result of human activity. He mentions that scientists warn that we will face extreme risks in the future if we do not alter our current lifestyles. It is never made explicit what the risk is.

He expresses the following concerns;

- Members of the UN committee have been monitoring the state of the planet in different parts of the world since 1988, and are publishing a report once in every five to six years. Although the study hasn't been released in the last five years, scientists claim that there are more indications of rising global warming than ever before.
- Thirty large glaciers are retreating on several continents. The melting of the ice sheet at the North Pole is making life more challenging for polar bears. They moved southward. The killer whales that are roving the chilly waters close to the South Pole have also migrated north at the same time.

- Bangladesh and other landlocked areas are drowned in semi-arid brackish water. Everyone residing there will need to leave right away. In certain interior regions, there may be a lot of rainfall; in other regions, there may be more desert.
- Individuals are not affected equally by hot flashes. In certain nations, it is advantageous for specific forms of vocational agriculture. There might be a better chance for farming in temperate areas. In the South Asian countries where we live, drought can be a persistent problem.
- It may become necessary for farmers to export themselves rather than just agricultural products. Giving advice on who should take what precautions is a difficult issue because global warming will persist for hundreds, thousands, or perhaps millennia.

✓ 'Apaaya bandied, Adagalu Shtalavelli' (The Danger has arrived, where to hide?) is another significant collection of his recent articles (year 2021-22).

- In the previous articles he has presented the thought process of global organizations. In this collection he presents the ecological lamentation. He quotes 'ನಾನು ಮಾತಾಡುತ್ತಿಲ್ಲ. ಭೂಮಿಯೇ ಮಾತಾಡುತ್ತಿದೆ. ಅದು ತನ್ನ ಸಂಕಟಗಳನ್ನು ಕಳೆದ ಇಪ್ಪತ್ತು ವರ್ಷಗಳಿಂದ ಮೇಘಸ್ಫೋಟ, ಮಹಾಬರ, ಅರಣ್ಯಜ್ವಾಲೆ, ಸುಂಟರಗಾಳಿ, ಹಿಮಕುಸಿತವೇ ಮೊದಲಾದ ಪರಿಚಿತ ಸಂಕೇತಗಳ ಮೂಲಕ ಹೇಳುತ್ತಿತ್ತು.' in the foreword. This simply means 'I'm silent. The earth is communicating. It has been using well-known symbols, such as cloudbursts, droughts, wildfires, tornadoes, and avalanches, to tell its story of misfortunes for the past 20 years'.
- Author makes the mention that The same is being said by well-known authors like Amitav Ghosh and Shansi Robinson. Over the previous fifty years, the average temperature of Earth has risen by 1.1 degrees Celsius. In ten to fifteen years, the temperature will climb by two degrees Celsius if we do not wake up now, perhaps even more, according to scientists.
- COVID19

The author says that During the first lockdown phase, several recovery symptoms were seen. The air was pristine. There were wild creatures on the roads. It was possible to observe all of China's engulfed cities in a clear view from space. However, this recuperation was just temporary.

- The author propagates the view of Scientits. Many scientists contend that Earth's biosphere functions as a single biological machine, or organism. We refer to this as Gaia theory. The novel "Malegalalli Madumagalu" opens with Kuvempu stating, ಇಲ್ಲಿ ಯಾರೂ ಮುಖ್ಯರಲ್ಲ, ಯಾರೂ ಅಮುಖ್ಯರಲ್ಲ; ಯಾವುದೂ ಯಃಕಶ್ಚಿತ್ತಲ್ಲ; ಯಾವುದೂ ವ್ಯರ್ಥವಲ್ಲ'. ಯಾವುದೋ ಒಂದು ಜೀವಿ ತಾನೇ ಅತಿಮುಖ್ಯ ಅಂದು- ಕೊಂಡು ತೀರ ಅತಿರೇಕದಿಂದ ವರ್ತಿಸತೊಡಗಿದರೆ ಅಂಥ ಜೀವಿಯನ್ನು ನಿಯಂತ್ರಿಸುವ ನಾನಾ ಸೂತ್ರಗಳು ನಿಸರ್ಗದಲ್ಲಿವೆ. "No one is important here, no one is unimportant; Nothing is guaranteed; Nothing is wasted." There are several formulas in nature to regulate living things that become overly obsessed with them and think they are everything.
- The expresses the concern that the over exploitation has resulted in great ecological imbalance. In the name of development nature's formulas are being challenged and splintered in a matter of only 150 years. The revolutions in the fields of medicine, agriculture, connectivity, and digitalization are becoming irrational.
- In this work he has quoted the adverse effects due to the unscientific production practices in China, and other industry centric countries.
- Thus he has brought the happening in the world to the literature by his writings. These are the learning from the works of Nagesha Hegde.

Observations

B.G.L. Swamy was a committed environmental activist and advocate. He was an outspoken supporter of biodiversity preservation, sustainable living methods, and environmental education. His poems, essays, prose, and lyrical and evocative style are distinguished by their poetic language, striking imagery, and potent emotional impact. Readers and critics alike have praised Swamy for his unique ability to capture the splendor and majesty of the natural world in words. His endeavors to increase consciousness regarding environmental matters and encourage ecological responsibility set him apart as a writer-activist dedicated to effectuating a real change in the world. His works reveal a profound awareness of the interdependence of all living things and the significance of coexisting peacefully with the environment. His work is imbued with a sense of reverence, amazement, and respect for the complex web of life by virtue of his holistic perspective. By studying Hasiru Honnu and other works one gets a view of every known component that goes into this terrible state: perpetual financial shortage as a result of some "economy measure" that the government enforced; incompetent, haughty officials who couldn't give a damn about education; dubious management that clings to the notion that educators and researchers are inherently irresponsible and wasteful with public funds. This persuades about our responsibility towards the global environmental wellbeing. Swamy has taken Kannada literature to global platform. On the other hand Nagesh hedge has presented the discussions of global platforms in Kannada language. Nagesh Hegde has devoted his professional life to educating people about the numerous environmental issues that Karnataka and other regions are facing. He has raised awareness of problems including deforestation, water pollution, industrial waste, and habitat degradation through his writing and

action. He is known for his investigative journalism, which exposes wrongdoing by authorities and businesses, corruption, and environmental infractions. Significant legislative improvements and more responsibility in environmental governance have resulted from his exposés.

Conclusion

The development is to be redefined. Development is a phrase that needs to be carefully studied. It ought to be open to all. Depending on inclusivity, the definition will change from location to location. For example, there are many different types of topography, rivers, tribal territories, etc. in our country. Is it possible to apply a metropolitan city's development paradigm everywhere? Many locations, like pilgrimage hubs, have a distinct cultural or geographical character. In actuality, the de facto model for the modern world is the fundamental economic model, which has an upward development curve that is always growing. This will be achieved by continuously increasing consumption, which must be counterbalanced by rising creation. While nonrenewable natural components like minerals replenish more quickly, certain natural resources, like them, are fast diminishing. This has led to legitimate worries about future. Regional vegetation's impact on water and climate serves as a tool for adaptation in sustainable development. Among the Sustainable Development Goals is access to clean water (SDG6). It is necessary to cultivate natural plants while taking the land, soil type, and local climate into account. There will be a lot of soil runoff without trees. Water will be able to seep into the ground through intermediate tree cover. Soil's ability to hold onto water depends on its organic matter content and porosity. Shrubs, grass, and small trees can all help to support the persistence of soil preservation and water recharge. Examining and revitalizing the scientific literature for best practices is necessary to sustain ecological balance for the benefit of future generations and global prosperity.

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