



PICK THE GREEN FROM THE GREY: SOME DISCUSSION ON RECENT ECO-CENTRIC WRITINGS IN BENGALI LITERATURE

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RESEARCH ARTICLE



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Abstract

In a world where people are increasingly disconnected from nature, literature serves as a Powerful tool to remind us of the rich and qualitative aspects of our environment. While Science is essential for quantifying and assessing the decline caused by globalization and human activities, literature plays a complementary role in helping us understand why these changes are happening. To address the challenges we face, it is essential to combine the insights from both science and literature. While science provides the quantitative understanding of the decline in nature, literature complements it by offering a qualitative understanding, emotional connection, and collaborative platform. Through this integration, we can develop measures to maintain balance, protect our natural heritage, and strive towards a sustainable future. In the present era of the environmental crisis, the field of eco-criticism in literature has emerged as a relatively new approach to examining nature through the lens of literary analysis. By doing so, it endeavours to deepen our comprehension of the environment, identify its condition and challenges. As the history showed us, not only Bengali literature but literature as a whole has maintained a close bond and affinity with nature. From Rabindranath Tagore to Bibhutibhushan Bandyopadhyay, the Bengali language has consistently pursued a harmonious and profound interaction with nature, even in the modern age. Nature itself has served as a character in numerous works of fiction, novels, and short stories, and this is not limited to pre-modern Bengali literature. We are now well-acquainted with critical environmental issues in India, such as air pollution, inadequate waste management, water scarcity, declining groundwater levels, water pollution, habitat loss; In light of these considerations, an eco-centric approach in literature and criticism becomes not only relevant but essential. By embracing ecological principles and promoting environmental care, literature can contribute to the development of wisdom among the wider audience, nurturing a collective consciousness that prioritize the well-being of the Earth and its ecosystems. When it comes to Bengali literature, a bunch of intimate and conscious writers and novelists Came up with their scholarly works mostly from 1990 onwards. First to name is Kinnar Roy in his fiction “Prakritipath (1990)”. Then followed by the series like ‘Meghpatal (1995)’, Amar Mitra’s ‘Haanspahari (1991)’, ‘Krishnagawhar (1998)’, Sadhan Chattopadhyay’s ‘Joltimir (1998)’, Jhareshwar Chattopadhyay’s ‘Charpurnima (1995)’, ‘Samudraduar (2010)’, Utpalendu Mondal’s ‘Bhangan kuler Lokra (2017)’, Sukanti Datta’s ‘Lebupatar Ghran (1998)’, Swapnomoy Chakrabarty’s ‘Phool Choyano (2001)’ and a number of primary Reading on the subject. There are scholarly writings of environmental activist writer Mohit Roy and some good reference readings for secondary source support also. This article would try to address about the last five decades, how the literature is framing the climate consciousness and how they are indicating any sustainable change or solution to the global environmental disaster.

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Let us begin our conversation on recent climate conscious writings in Bengali literature with an old native African proverb where it says, when the last tree shall be cut, last fish would be eaten, last water-resource would dry up, then you shall realize that you cannot eat money. It seems that from the first day, when our old ancestors came to know the that the natural resources of the blue earth, its water, land, Forest, Animals, or airstream must be protected and preserved for future generations, they started to protect it through their folk literature. They selected various mediums, the cave art, the songs, the poetry or maybe in hundreds of folk narratives where every single living and non-living thing had life. Not only in the oral literature, the smritis, Sanhita’s, shastras even in the Ashokan Pillar, it is written that we should guard our land and living. The climate sensibility in the form of mass communication was deep rooted in our ancient culture. In the late nineteenth century, when colonialization and the feeling

to persuade mankind and nature for the sake of individual advantage endangered the overall balance of man and nature, we developed writers like Ralph Waldo Emerson, Aldo Leopold, Rudyard Kipling, Jim Corbett and Bibhutibhushan Bandyopadhyay, where there was a serene call of the wild through their literary expressions. Rachel Carson's 'Silent Spring' (1962) first introduced a new word-nature writing. Then came the environment movements followed in 1960-70's. The most significant to name in India, was the 'Chipko' movement in Garhwal Himalayas and in the Uttarakhand Chamoli area under the leadership of Sundar Lal Bahuguna and Chandi Prasad Bhat, though the movement were carried out mostly by the women followed by 'silent valley' movement in Kerala in 1978 and after the 'Narmada Bachao' movement by Medha Patkar. All of these significant movements were carried out for a single motto to stop hasty industrialization and shelter the natural habitat of the zone.

Bengali literature, with its rich history of social, political, and cultural commentary, has always been a mirror to the times past and times present. Known for its deep-rooted connection with nature, for recent days, has witnessed a surge in eco-centric writings. The relation between literature and environmental consciousness has gained significant momentum in recent decades. With the increasing awareness of climate change, deforestation, pollution, and other environmental crises, literature has emerged as a powerful medium to voice ecological concerns. This paper tries to know how contemporary Bengali literature reflects ecological concerns, portraying the struggle between the Green (nature) and the Gray (urbanization and industrialization), focusing on how writers are addressing environmental concerns, the relationship between humans and nature, and the cultural and philosophical interpretations of these narratives. This essay explores the recent eco-centric turn in Bengali literature, reimagining and drawing instances from the indigenous knowledge systems and cultural traditions. By examining specific texts and themes, we aim to "pick the Green from the Gray"—that is, to identify the ecological consciousness that is emerging amidst the complexities of modern life. Bengali literature has always had a profound engagement with nature.

The connection between Bengali literature and nature can be traced back to its earliest forms. The Mangalkavyas (medieval Bengali narrative poems) often celebrated the natural world as a divine manifestation. For instance, the 'Manasamangal Kavya' worships the snake goddess Manasa, symbolizing the intimate relationship between humans and nature in agrarian societies. Similarly, the 'Chandimangal' reflects the admiration for forests, rivers, and wildlife, which were integral to the livelihoods and spiritual practices of mediaeval Bengal. The Bhakti and Sufi movements in Bengal also emphasized the unity of all creation, fostering a sense of ecological harmony. From the verses of medieval poets like Chandidas and Jayadeva to the lyrical descriptions of the countryside by Rabindranath Tagore, nature has been an integral part of literary expression. In the time of Bengal Renaissance, Rabindranath Tagore and Bankim Chandra Chattopadhyay united ecological themes into their works, sometimes in romanticized forms and other times as critiques of colonial exploitation. Rabindranath Tagore's short stories and lyrical poems are deeply ecological, emphasizing the spiritual and cultural significance of nature. His poetry, songs, and essays often advocate for a harmonious relationship between humans and the natural world. Tagore's Environmental Vision were constructed with His Shantiniketan model to promote education in natural settings and a parallel formal way of education. He wrote extensively on deforestation, advocating for sustainable living. The feeling for nature echoed in Gitanjali like in these words, The same stream of life that runs through my veins night and day runs through the world and dances in rhythmic measures. Bankim Chandra, In The famous novel 'Anandamath', "Vande Mataram" celebrates the beauty of India's nature—rivers, fields, and forests—linking environmental consciousness with patriotism.

In modern Bengali literature, Jibanananda Das painted vivid landscapes of Bengal's rivers, fields, and forests, often lamenting their gradual destruction. The 20th century saw increased industrialization and environmental degradation, which found expression in literature. Aranyak (1939), tell us a tale on environment loss and is perhaps the most ecocritical work in Bengali literature. The protagonist, Satyacharan, initially embraces deforestation for economic gain but later realizes its devastating impact on local flora, fauna, and indigenous tribes. The novel critiques colonial forestry policies and highlights the ethical dilemma of development versus conservation. The trees whispered secrets to him, the author, and the forest was not just trees, but a living entity with a soul. Jibanananda Das was a poet of ecological sensibility, who, often called the poet of nature, infused his poetry with deep ecological consciousness. His famous poem 'Banalata Sen' portrays nature as eternal, while poems like 'Rupasi Bangla' depict the nostalgia for lost landscapes. His poetry mourns the loss of nature and foreshadows environmental destruction. Modern Bengali literature has increasingly engaged with themes of climate change, environmental degradation, and displacement due to ecological disasters. At per comparison to Medha Patkar, in Bengali literary fields, Mahasweta Devi is the one substantial author on Environmental Justice in Tribal Narratives. Mahasweta Devi's works focus on the displacement of indigenous people due to deforestation and industrialization. Mostly all of her fiction and short stories, highlight the environmental and human cost of development projects. 'Aranyer Adhikar' (The Right to the Forest), focus on the struggles of indigenous communities to protect their natural habitats from exploitation. Her writing is a powerful critique of deforestation, industrialization, and the displacement of marginalized groups.

However, recent eco-centric writings shift from mere romanticization of nature to actively engaging with environmental degradation and ecological justice. Ecocentrism, as a philosophical and literary approach, emphasizes the intrinsic value of nature, independent of its utility to humans. It challenges the dominant anthropocentric worldview, which prioritizes human needs and desires over ecological balance. In literature, ecocentrism often manifests through narratives that highlight the interconnectedness of all life forms, the fragility of ecosystems, and the consequences of environmental degradation. In Bengali literature, this eco-centric turn is relatively recent but significant. While earlier works occasionally touched on nature or rather

to say portrayed nature, in contrast, contemporary writings are more critical, interrogating the exploitation of nature and claiming for a more harmonious coexistence. The eco centric themes in Bengali literature are deeply rooted in the region's cultural and philosophical traditions. The concept of Prakriti (nature) in Bengali thought has always been central, with nature often personified as a nurturing mother or a divine force. Moreover, the Bengali Baul tradition, with its emphasis on harmony and interconnectedness, resonates strongly with eco centric principles. Baul songs often celebrate the unity of all life forms and critique materialism and greed—themes that are echoed in contemporary writings. Writers are increasingly engaging with concepts like deep ecology, ecofeminism, and environmental justice, weaving them into their narratives. Like the most contemporary example, Amitav Ghosh's novel 'The Hungry Tide' (2004) is a landmark in Bengali ecocritical literature. Set in the Sundarbans, it explores the fragile balance between human survival and ecological conservation. The novel highlights the threat of rising sea levels, displacement of local communities, and conservation challenges.

Now, how may we judge the 'The Green' segment in our literature is that, there are a number of narratives focusing on the Eco centric Themes in Recent Bengali Literature and there are some basic trends which are being followed to represent the consciousness regarding the same. Firstly, Nature as a Victim of Industrialization and direct effect of that in our daily lifestyles. Several contemporary Bengali writers highlight how unrestrained industrialization encroaches upon forests and rural landscapes. For instance, Adwaita Mallabharman's 'Titash Ekti Nadir Naam' (though written in an earlier era) sets a precedent for depicting the gradual decay of riverine ecology. More recent works such as Samaresh Basu's novels emphasize the environmental costs of urban expansion. Secondly a feeling of deep sorrow which may be named as Ecological Grief regarding the rapid Climate Change in Bengal. Recent poetry and fiction frequently reflect ecological grief, a response to climate change and environmental loss. Bengali poets like Joy Goswami and Subodh Sarkar have infused their poetry with a sense of environmental urgency. Their verses speak of dying rivers, vanishing biodiversity, and the displacement of communities due to ecological disasters. Climate change is another recurring theme. Writers are increasingly addressing the existential threat posed by rising temperatures, erratic weather patterns, and sea-level rise. In the Sundarbans, a region acutely vulnerable to climate change, authors like Jhareshwar Chattopadhyay have written about the struggles of communities facing cyclones, flooding, and salinity intrusion in the coastal Sundarban areas. The most significant surge and interesting trend is Ecofeminism in Bengali Literature where women voices have also contributed significantly. Nabaneeta Dev Sen's essays and fiction often explore the intersection of gender and ecology, illustrating how environmental destruction disproportionately affects women, particularly in agrarian societies. The portrayal of women as guardians of nature, resisting deforestation and corporate exploitation, is a recurring theme in contemporary ecofeminist Bengali writings.

Indigenous and Rural Perspectives on Ecology, also with its rooted connection with the old popular folktales form a gradual reawakening of our conscious towards protecting mother nature. Many recent Bengali novels and short stories document the environmental wisdom of indigenous and rural communities. Writers like Mahasweta Devi and Shirshendu Mukhopadhyay have brought those indigenous perspectives into mainstream literature, showing how traditional ecological knowledge is being lost due to modernization. These works advocate for sustainable living practices rooted in indigenous traditions. Many works draw on indigenous knowledge systems, which emphasize sustainable living and a deep respect for nature. For example, Mahasweta Devi's writings often celebrate the wisdom of tribal communities, portraying them as custodians of the land. Her story 'Jal, Jangal, Zamin' (Water, Forest, Land) critiques the exploitation of natural resources and the displacement of tribal populations, advocating for a return to traditional ecological practices. Indigenous Knowledge and Ecological Wisdom Although written in English, Ghosh's 'The Hungry Tide' is deeply connected to the same feeling. Set in the Sundarbans, the novel explores the fragile relationship between humans and the natural world. Through the characters of Piya, a marine biologist, and Fokir, a local fisherman, Ghosh highlights the tension between scientific conservation and traditional ecological knowledge. Shibshankar Mitra's works on biodiversity on the lowlands, provides an emotional account of life in the Sundarbans, a region on the frontlines of climate change.

Some writers are experimenting with non-human perspectives, giving voice to animals, rivers, and trees. This narrative technique challenges the anthropocentric view and fosters empathy for the non-human world. For instance, in his poem "Gachher Kotha" (The Tree Speaks), poet Joy Goswami personifies a tree, lamenting its destruction and pleading for its survival. Such works blur the boundaries between human and non-human, urging readers to reconsider their relationship with nature. There are also some scopes where the sustainable goals or the worldwide applications of the SDG's are directly addressed by some of the fiction and non-fiction writings in current day's Bengali literature. Pollution and the Erosion of Natural Spaces is one of the concerned points for the same. Bengali literature has begun to address the rapid environmental degradation caused by urbanization. Atin Bandyopadhyay's 'Nilkantho Pakhir Khonje' is one fiction based on the 1947 partition but with deep introspection on how the natural rural environment or the concept of 'Gram Bangla' is changing to urban refugee colonies in Kolkata. from the descriptions of air and water pollution in contemporary short stories highlight the tangible impacts of unrestricted development. There are series of writings of Mohit Roy, where he addresses the rapid changes in the water lands and habitat loss. Environmental Degradation and Urbanization is One of the most prominent themes in recent Bengali literature where it is becoming the critique of urbanization and industrialization. Writers like Sankar have explored how urban expansion and industrial projects disrupt ecosystems and displace communities. For instance, Sankar's 'Jana Aranya' (The Forest of the People) delves into the conflict between development and conservation, portraying the destruction of forests and the marginalization of indigenous peoples. Similarly, poems and short stories by younger writers like Srijato and Mandakranta Sen often depict the

suffocating effects of urban pollution and the loss of green spaces. These works serve as a stark reminder of the environmental costs of "progress."

In this context let us focus in contemporary or the past thirty years of legacy in Bengali Literature of environmental issues. Tripti Santra in her 'Ashtamaitola' series of short stories, depict the soil erosion of the rivers and landslides affecting the nearby localities. The story named 'Gholajaler Urdi' (2005), depicts the decadence where the whole village is gradually sinking in the landslides caused by the nearby river, represented in a literary way by demonstrating the river as a black python. The water level is increasing, and there is a situation where, in seven to ten days, The houses will collapse. Pijush Bhattacharya's 'Lupto Jalashoy' (vanished water-body:2006) addresses the trend of making real estate business after feeling natural water bodies illegally. Jhareshwar Chattopadhyay's story 'Chimney' (1989) triggers against the industry in Sundarban region; 'Sundarban Phosphate and Chemicals'. Nripen, the main character tries to convince the villagers that phosphorite would react to acidic formation in water. In monsoon, it will flood to the nearby ponds, fields which are the veins or the pathways to sea. It will destroy the Garan and Bain trees, the fresh water fish will die, there won't be any export of sweet water prawns to the country of white men, the local fishlike koi, Magur, Lyatha would be finished. Literally, Bengal's Sundarban Area, all these sweet water fish, birds and animals who lived on these fish, like Mecho Biral (water cat), Bhondor (otters), and the Shusuke (Ganges Dolphin) are now obsolete. Sadhan Chattopadhyay has been constantly writing on specific issues related to massive Arsenic Pollution in lower tidal areas over Sundarban. His prominent fiction 'Joltimir' (1998) plunges into the mythical interpretation of Kaliya nag from under the earth's soul as the rage against improper use of water and the chemical process to purify the drinking water. In the scorching heat of summer, the fields are burning and from the cracked parts steam of dust but not water is emerging just like the hood of the nag, just like the arsenic spreads over the hands and mouths after consuming the poisonous water. 'Madhu Baner Bandhura' (The Friends of Madhuban' (2002) by Bhagirath Misra is a short novel written as a children literature. Where Pawan, a woodcutter axes the green forest randomly. Here Bhagirath shows in detail how the trees scream with pain. the branches get crushed, those birds, their nests, their babies fall out in fear. some die because they fall from heights, some despair, the eggs get broken; Pawan is a threatening demon to the woods. Then finally, the woods resist, when Bharat, a land broker comes in for a project replacing the forest with a false promise of re-created version of concrete with artificial greenery, the trees, revolt surprisingly in the leadership of Pawan, with all the animal and birds living in it. The story seems to be projecting the awareness in those young readers' mind. Ansuruddin's 'Shatrupoka Bandhupoka' (the insects which are friend and which are foe), (2007) shares the storyline with those farmers who are directly working in the fields. The story comes with a twist. Rahmat Ali Motaleb, being a farmer himself got invited in a government programme on agriculture. He gave a good speech there about using less pesticides and organic ways of farming. He comes back and realises that his own fields have been affected with bugs which destroy the crops. He picks up the antidotes in his spray machine filled with poisonous pesticides and starts to spray, no wonder, there is a lot of money invested in the field. The author here, satires, Motaleb enfolds his face and mouth and hands with gamocha and gloves and masks before spraying very well, as it is known, the pesticides are detrimental. Swapnamay Chakrabarty, one of the most popular and promising writers in present Bengali Scenario is continuously writing on the climate change and environment for many days. I would like to point out one of his stories that is 'Phul Chonyano' (touching the flowers) (2001). The story also points out about the Arsenic pollution but gives us a very warning message. The protagonist Hirak, who was working to find suitable solutions to the arsenic victims, gets shocked to experience about a local custom started in just few days past. The children, coming from the school are touching each flower, one by one, by their soft fingers restlessly over the whole field. Curious to know the reason, Hirak discovers that because of use of unrestrained toxic pesticides, the Butterflies and Grasshoppers and bees have stopped coming in the fields and the whole pollination process has become immobile. The children, therefore touch the flowers with their fingers from one to another, they get pocket money for this. Here, look at the horrible outcome our very own environment is facing and how poetically the author is communicating the message. This becomes the literary essence with a strong hammering to the readers mind about the consciousness regarding the usage of nature. So, what we may decide is that for the past thirty-forty years or more, is that nature and environmental conscious is rather more characterized in Bengali Literature as a genuine solemn matter from the past inclinations where mostly nature was signified in a nostalgic or romanticised version in narratives. Now in literature what we find is Relationship between humans and non-human entities where Critique of industrialization and environmental destruction is notified. It is representing Indigenous and local environmental knowledge with a very urban theme of highlighting the Ecofeminism and gendered perspectives on nature also. I would like to conclude my dialogue with two stalwart figures in Bengali fiction writing, Kinnar Roy may be called the father of the eco-texts written in Bengali Language with his novel 'Prakritipath' (1990) and 'Meghpatal' (1995), though there are many more to name. Prakritipath is basically a vivid re-reading of the environment surrounding us and detailed description of how and what has been changed with a selected parameter of last fifty years journey of Kolkata and suburbs. Nature, is the central character here and not Satiprasanna, who sees the change but in a very lucid language. 'Meghpatal' focuses a more surprising central character, by name 'Maghpatal' is an elephant. As the immediate outcome of deforestation, Elephants and other big animals like Indian Gour or Royal Bengal tigers are moving out of their normal habitat for food and getting killed by the locals. The forest department also declares those odd ones as 'Rouge'. Nobody cares for the starved thin look of the helpless animal. Kinnar Roy with a pattern of reportage or documentation inscribes the thoughts and updates us with small information's like the elephants generally loves the bushes or the leafy trees which can produce fruits. The long forestation of Eucalyptus or shala planting is forcing them to do so and get killed. The author here, is personifying with the view point of a distressed representative from the opposite. Also to name Shri Amar Mitra, his novels 'Hanspahari' (1991) and 'Krishnagawhar' (1998) (The Black Hole)

focuses on Kolaghat Thermal project with its positive and negative and unlawful uptake from The Stone Quarry in Chotonagpur region of Bengal.

What I feel to my belief is that the upcoming Bengali literature will likely see a greater focus on climate fiction. They will borrow more from the indigenous ecological wisdom like we find in the writings of Nalini Bera. His 'Subarnarenu Subarnarekha' (2020) explores the life and culture in the Chotonagpur plateau but with a number of folk beliefs, customs, rituals and experiences in it. Criticism on Industrial capitalism is also forming shapes in science fiction. Let me note a very interesting short novel by Shirshendu Mukhopadhyay named 'Tin Hajar Dui' (3002AD) where the author reviews the world in the final stage of technical, scientific and industrial growth where there are no boundaries between countries, no concept of joint living, no scarcity of digital living and a world full of latest version of gadgets. But There is no happiness, no individual who have the desire to live, no mother willing to give birth to new generations. The story takes a complete turn when it feels that in this situation, the nature is gradually surrounding those limited human kind living and it is supposed that the nature will now take over the fight and revenge against the misuse till date. it is the call of the wild and those left over humans in the science fiction, finally gets back to the nature as primitive.

Literature teaches us to think, to rest and to move further with sensibility. As the climate crises deepen, literature's role in fostering ecological consciousness shall remain vital. All birds come home, all rivers, all of life's tasks get finished. Let us hope for the positive, let us believe that we shall overcome, someday, co-existing happily, with mother nature.

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References:

1. Bandyopadhyay, Bibhutibhushan, 'Aranyak', Mitra o Ghosh Publishers, Kolkata, 15th printing, 1417.
2. Carson, Rachel, 'The Silent Spring', Penguin Modern Classics, Reprint 2000.
3. Chakrabarty, swapnomoy, 'Shreshtho Galpo', Dey's Publishing, Kolkata, Reprint June 2017.
4. Chattopadhyay, Jhareshwar, 'Kathkuto', Dey's Publishing, Kolkata, June 2018.
5. Chattopadhyay, Sadhan, 'Joltimir O matir antena', Gangchil, Kolkata, 1st Published Sept 2016.
6. Devi, Mahasweta, 'Shreshtho Galpo', Dey's Publishing, Kolkata, Jan 2004.
7. Dwyer, Jim, 'Where the wild books are: A field Guide to Eco fiction', University of Nevada Press, 2010.
8. Ghosh, Amitabha, 'Bhaatir Desh', Translated by Achintyarup Roy, Ananda Publishers, Kolkata, 2004.
9. Misra, Bhagirath, 'Madhubaner Bandhura', Dey's Publishing, Kolkata, Jan 2002.
10. Mitra, Amar, 'Krishnagawhar', Karuna Prakashani, Kolkata, Oct 2019.
11. Mondal, Sushanta Ed., 'Ecocriticism O Bangla sahitya', Diya Publication, Kolkata, Jan 2021.
12. Roy, Kinnar, 'Prakritipath', Dey's Publishing, Kolkata, 1990.
13. Roy, Mohit ed., 'Paribesh Charcha: Itihas O Bibartan', Anushtup, Kolkata, Dec 2015.

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