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The Impacts of the Mining of Uranium on the Rural People of Meghalaya: An Ecocritical Study of Janice Pariat's Novel *Everything the Light Touches*

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Abstract: *The mining practices have been intrinsic to human history and have played a vital part in the development of human societies. However, this development comes at the expense of compromised ecological health and the welfare of those people living in the vicinity of the mineral extraction sites. Amongst all the minerals extracted, like gold, silver, iron, etc., uranium extraction distinctly impacts people and ecology as it is a radioactive mineral. In India, the mining of uranium started in 1951 in Jadugoda, Jharkhand, leaving its indelible imprints on the people of this region. These same imprints were later felt by the people of Meghalaya when, in 1984, exploratory drilling for uranium began there. This initial drilling contaminated the water bodies, leading to fatal diseases in local people and the deaths of aquatic animals. Janice Pariat's novel, Everything the Light Touches, in part, narrates the story of the suffering of these people of Meghalaya lead by the extraction of uranium. By adopting an ecocritical approach, I discuss that this suffering is not just at the physical level but extends to the psychological and existential levels as well. I contend that the mining practices by big corporations and governmental agencies make the inhabitants of Meghalaya skeptical about the former's proposed goals to bring development to their villages forcing internal rifts in the locals of Meghalaya. The paper highlights their resistance to miming activities standing as a threat to their survival. I argue that the mining of uranium raises the fear of displacement and loss of their land, language, culture, and identity.*

Keywords: *Mining, ecology, uranium, existence, survival, land, freedom, skepticism*

Introduction

The extraction of minerals from the Earth is as old an activity as human history itself. However, the rise of the Industrial Revolution during the late 18th century accelerated the exploitation of minerals (Soni 221). The material prosperity these have brought to humanity continued their rampant exploration, extraction, and utilization. There has been a simultaneous evolution of mining and humans, and as civilizations across the world progressed and industries developed, the mining practices rapidly increased (Gregory 259). However, the resulting 'economic boom' comes at the expense of relentless denudation of forests, biodiversity loss, and reduction in soil fertility, among other things. This reckless and unethical exploitation of the Earth has forced a shift in humans' relationship with her where they primarily appear as maleficent beings digging the Earth solely for material gains. The unfair treatment of nature, particularly over the last two centuries, is unanimously agreed upon by climate scientists and humanities scholars across the world that humans have dangerously overwhelmed the life-supporting ability of the earth. The Anthropocene concept covers the very unprecedented human impact on the Earth where humans are considered as the dominant "geophysical and

geological agents" (Bauer and Erle 212) altering the face of the Earth. In this alteration, mining activities have played a crucial part. These activities remove the top layer of the soil impacting its fertility; trees are excessively cut reducing the forest's ability to absorb carbon dioxide; water bodies are contaminated, making them unfit for both human and non-human forms of life.

Besides its harmful impacts on the physical health of humans and animals, the uranium mining practices raise fears of the loss of land and identity, forced displacement, and cultural change. For the rural people of Meghalaya, mining practices stand as a blockade to their growth and development as they suspect the developmental plans are made just to continue the mining prospects of the people in power and not for the people of this place. In this paper, I investigate and highlight the drastic impacts of the mining of uranium on the ruler people of Meghalaya. The state is situated in the northeast of India where mining activities commenced in the late twentieth century. In this ecologically vulnerable state "[e]nvironmental problems associated with mining have been felt severely because of the region's fragile ecosystems and rich biological and cultural diversity" (Singh 252).

The deterioration of nature due to mining has brought changes in people's relationship with her as the mining poisons their rivers, gobbles up their land, and threatens their survival. I ecocritically analyse the novel *Everything the Light Touches* to find out how the practices of mining land bring existential worries, ecological damage, and psychological dilemmas to the rural people of Meghalaya. The study will help to understand that the mining of uranium not only raises major health issues but contributes to socio-psychological problems as well.

Literature Survey

Arafat I. Syed in "A Study of Environmental Issues in Janice Pariat's *Everything the Light Touches*" studies the current environmental issues of adverse impacts of mineral extraction, air pollution, and forest fires on human beings. Beulah Sharon and R. Beulah Jeyashree in "Pioneers of Nature Exploration: Beyond Species Specific Discourse in *Everything the Light Touches* by Janice Pariat" explore the special attributes of nature connectedness and plant empathy in the characters of the given novel. It demonstrates that its characters are not merely amateur nature lovers but the ones who leave their homes to study and be in close association with nature. It also reveals the plant blindness/plant bias of some botanists who study plants just to gain fame lacking actual compassion for the plants.

Uranium Mining in Meghalaya

Uranium is a radioactive mineral which naturally occurs in the earth's crust, largely found in Canada, Kazakhstan, Australia, and Namibia. It is of paramount significance to India's nuclear power programme, especially to the realisation of its goal to harvest 40,000 MW of nuclear power by 2030. In the pursuit of such grand ambitions, many places were explored like Jharkhand, Andhra Pradesh, Telangana, Rajasthan, and Chhattisgarh, where uranium deposits were found and exploited.

Immediately after the independence in 1947, India began to look out for resources to meet her energy demands. Besides harnessing energy from cool, wind, and water, she began to envision nuclear ways of energy generation. For the achievement of this goal, an abundant quantity of uranium was required. In 1948 Atomic Energy Commission was formed that set up the Rare Metal Survey Unit (now called Atomic Minerals Directorate for Exploration and Research) to search uranium deposits across India. It was in 1951 when the group discovered the deposits of uranium in Jadugoda in Singhbum Thrust Belt, Jharkhand and was the first place where such reservoirs were found. But it was Domiasiat Hill in Meghalaya where the Atomic Minerals Directorate traced high-grade uranium ore deposits in 1984 and soon the

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Uranium Corporation of India Limited (UCIL) leased several places in Meghalaya to carry out exploratory drilling. It is estimated that Meghalaya contains 9.22 million tons of superior-quality uranium ore deposits. Although the state government discontinued the permissions for exploratory drilling of uranium in 2009 following local people's widespread outrage against mining practices, it revoked that decision in 2016, granting permission to the UCIL to resume its preliminary explorations of uranium. However, the decision again met with social and political resistance leading to its final revocation in 2019.

Although India aimed to profit from uranium mining, the local people who lived close to these mining sites, unaware of its potential risks, suffered immeasurably from its impacts. As "...uranium possesses both chemical toxicity and radioactivity…" (Dewar et al. 469) its mixing with water and soil proves detrimental for humans, animals, and plants. Its tailings release the radon gas, which is extremely dangerous for all life forms. The victims of this radioactive pollution in Jharkhand (and elsewhere) suffer from the problems of miscarriages, cancer, sterility, and congenital deformities (Panday par. 15). The locals of Domiasiat village of Meghalaya also claimed to suffer from "muscular diseases, seizures, epilepsy and cancer" (Boga par. 2) due to uranium pollution. It was for these reasons that the International Physicians for Prevention of Nuclear War strongly opposed the mining of uranium and in 2010 passed a resolution that highlighted the banning of its extraction and exploitation.

Janice Pariat and *Everything the Light Touches*

J. Pariat is an Indian poet, short story writer, and novelist. Born in Assam, she was brought up in Shillong, Meghalaya. In 2012, she debuted with a collection of stories, *Boats on Land,* and won the Sahitya Academy Young Writer Award for the English Language for it. Her work *Everything the Light Touches* won the Sushila Devi Award and was long-listed for JCB Price for Literature in 2023. Her other works include *Seahorse*, *The Nine Chambered Heart*, and *Kavi Kala.* The novel *Everything the Light Touches* narrates the story of the four characters Shai, Evelyn, Johan, and Carl in a manner which is reminiscent of *Cloud Atlas* style. Each of the characters' stories is revealed in fragments without these characters having any interrelation with each other. The one thing they share in common is their profound love and affection for nature. The novel opens with Shai travelling from New Delhi to her native place Shillong, Meghalaya. She is worried about the bad AQI in Delhi and decides to leave it for some time. Driven mostly by her whims she, to a large extent, lives a directionless life. Her curiosity to care for nature is aroused by her father's devotion towards nature. She visits the Khasi Hills of Mowmalong where she witnesses people's love for nature, their mounting concerns of its exploitation due to mining, and their resistance to protect their land. The rising prospects of foreign agencies to mine in their land puts their freedom, identity, way of life, and survival at stake. Evelyn,a botanist from England, moves to the northeast of India to find her true connection with nature. She challenges the Western means of knowing nature and immerses in indigenous ways to comprehend nature. Johann represents Goethe of Germany reflecting on his work on the plants and other botanical discoveries. Carl is a botanist from Sweden. He moves to India when the country is still under the reign of the British. He is deeply saddened by the vile prospects of imperialists, the destruction of nature, and the human tendency to be completely ruthless towards nature.

Fear and Skepticism

Almost every human activity directed at extracting minerals from the Earth has direct or indirect psychological consequences on people. In the novel, the people of the village Mowmalong, in rural Meghalaya, have experienced in the past how local illegal minors, various governmental agencies, and big corporations have unethically mined their land causing

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widespread environmental deterioration. Eventually, they grow paranoid of the presence or entry of the outsiders into their village suspecting each of them to have turned up for the mining of uranium. When Dajied, a journalist from the city of Shillong, and Daphisha, his girlfriend, visit Mowmalong to know the villagers' contentions about the upcoming project of the construction of a road which would connect them to the outside world, they (mis)construe them as the ones who have solely arrived with their interior motives of mining on their land. The local people declare them as the "[r]ich people from the for the sor–the city–we have no interest in them…" (Pariat 420). Their mounting distrust and suspicion of outsiders is the psychological response to defend themselves and their land from exploitation. This defence, however, comes at a heavy price as it limits the potential progress and development of their village. When Uranium Corporation of India Limited (UCIL) decides to construct the road in Mowmalong, the villagers only sense deceit and trickery behind their supposedly welfare-oriented project. Doubting the intentions of UCIL, one of the villagers opines "[y]ou see why we must resist this plan. We cannot allow UCIL, the organisation that is looking to extract the uranium to build the road that will be used to transport it away (68). The mining, thus, breeds apprehensions in the minds of local inhabitants, who conceive any development in their village not as progress but as a means to seize their land and sovereignty.

However, there is another group of people who prioritize the development of the village. Bah Karmal, a resident making ladles and spoons, speaks in favour of UCIL's developmental projects for the Mowmalong. For him, "the road will allow us access to healthcare, to schools, to jobs… The road will save us and many of our loved ones. (68). This psychological dilemma of whether to resist or allow the new developments triggers a division within their community: one allowing and another opposing the construction of the road. This division symbolises their helplessness to counter the forces hell-bent on confiscating their land as they believe that "[s]ooner or later they will do what they want, the people from centre" (429). Their indecisiveness, besides, puts their future at stake as they struggle to reach any collective decision. Through this collective predicament, Pariat underscores the opposition to development in rural areas is not always a sign of 'backwardness' but a necessity to secure their culture and land against foreign threats.

The mining of uranium has already diluted the quality of land and water in the Khasi hills of Mowmalong. The inhabitants warily consume the water of their rivers. They receive ambiguous notices from the centre regarding the use of land and water for their own needs. The people find these notices disturbing as they fail to comprehend their directives. Confused and worried by these guidelines, one of the villagers says:

> I do not understand…Because this Atomic Minerals Directorate, or whoever, they are always telling us one thing and then another, for good or for bad I do not know, but first they told us they would dig only a little, but they dug a lot. Then they told us that where they were digging, there we should not drink the water. Then later they said that water was perfectly safe. I do not understand. (440).

It is, thus, evident that the people are not merely worried about the upcoming development projects, they are also confounded by the adulterated conditions of their land due to the mining. It is difficult for them to perceive whether their water, which they have been using all their lives, is portable or not. The mining, thus, changes their relationship and perception of their landscapes. Their rivers no longer remain as pristine and pure as they would earlier. In one instance when Shai is travelling to Mowmalong, she stops by a gushing stream to "...cleanse my hands and face…" . Her fellow traveller immediately stops her, telling her "'I wouldn't do

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that if I were you'" (39). It indicates the cautiousness people exercise before utilising water. Nature, in the lap of which they live, thus, turns into a strange and eerie host for them.

Altered Nature of Ecological Systems

The undesirable ecological consequences borne out of the mining of uranium in Meghalaya imperil the survival of both flora and fauna. In Mowmalong, people carry out the open-pit technique of mining. Through this method, deep holes are dug into the ground from which the uranium is extracted. These deep holes prevent the water from flowing into rivers as it seeps inside them leading to the drying up of rivers. Moreover, the mining and processing of uranium releases the radioactive materials into water bodies and soil undermining their potential to sustain humans and animals dependent on them. Generally, it's "unscientific mining of minerals [which] poses a serious threat to the environment, resulting in reduction of forest, erosion of soil at a larger scale, pollution of air, water and land and biodiversity loss (Lapasam 1887). When run-off from mining sites mixes with soil and water, it reduces their pH making the former unfit for agricultural use and the latter dangerous for aquatic and terrestrial animals. Sensing this change in his river ecosystems, one of the locals declares "I am a villager…I do not know how to read or write, but I feel earlier there were fish and fishlings in our rivers, but now I do not know, I do not see them many more. (Pariat 440). The vanishing of fish in their rivers is not the only thing they witness. Slowly and gradually, they begin to notice that their invaluable domesticated animals are also extinguishing from their sight. They helplessly see their birds, cows, and dogs dying, their trees scorching, and their own people getting extremely sick (63). These excruciatingly painful experiences bring the villagers to the realization that the mining of:

> [U]ranium in their land [is] a curse. That radioactive waste is hard to contain. It runs like water, sits like stone, and rises in the air as dust. And even if it's "safely" stored, in our hills the rain can break through rock, the winds rattle sturdiest pines, and earthquakes carve the ground into canyons. We learned that this thing kills slowly. (63).

The ecological hazard, disease and death that the mining brings into Mowmalong provokes a change in people's relationship with their surroundings. Earlier, they "...cared about their land as family" (441), now they hesitate to drink from its streams, to take shelter in its 'serene' shades, and consume the fish it has to offer. Recognising, thus, the untoward repercussions of mining on nature, their lives, and their relationship with the former, they strongly resist the mining on their land. Shai's father, along with his friends Kong Nuramon, and Bah Kyn, launch campaigns against the cutting of trees in their forests. The trio start watching over the trees day and night to prevent them from felling. Their initial efforts to care for nature become acts to restore ecological balance and develop harmonious relationship with nature. This zeal and love to work for the betterment of nature is inspired by their belief that trees have dignity, sentiency, and a language of their own.

Uranium Practices and Human Existence

One of the worst threats that one can face is the threat that imperils one's existence. For the people of Meghalaya, this threat takes its shape when in the late 20th century the Indian government approves mining in the state for various minerals. Realizing its adverse consequences on their lives and health, they raise their voice for its immediate banning. The mining of uranium is not harmful only in terms of its adverse effects on living beings. It is dangerous also in terms of robbing people of their indigenous land on which their survival hinges. In times of such severe threats to one's existence, the basic instincts of survival take precedence. In the novel, the long-held mining prospects of the centre, who care more for the

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national than local welfare, thus, unify the people to collectively put a fight against the uranium activities taking place in their village. Students form a union—Khasi Students' Union—which keeps the villagers informed about the secret mining activities taking place on their land. They hold meetings and devise plans to curb such incidents. It helps them forge internal unity and strength to face the potent forces of the outside world trespassing on their land.

For the villagers, their land offers them freedom to live independently and as long as they are in possession of their land, they believe, they will continue to live with this freedom. For this reason, Kong Spelity, a local land-owning woman, snubs million-dollar offers from UCIL to sell her land. She asserts "how selling this land would be like selling her freedom, and when it is gone, and converted into numbers, and notes, and checks and balances, then what can it buy, really?" (Pariat 456). Although these people lead poor lives, they are not tempted into selling their lands for material gains. They, on the contrary, prioritize their freedom to live with dignity on their ancestral land rather than choosing the material rewards. Denouncing the material wealth of affluent people of the cities, the headman tells his people, "[w]e know people in the city have money… But what will we do with riches? Riches may run out at some point, but not land. Our land has always been there for us, our ancestors tilled it, and we take care of it for our children. Without our land, we are lost. (69). It is apparent that the villagers are against the commodification of their land, the trend brought into vogue by the capitalistic mindset of the developed nations. They are conscious of the fact that no amount of money can return their land to them or restore the balance in their forest ecosystems being disrupted by mining work.

Interconnected with their native inherited land is language, culture, and identity. Their potential displacement from their land due to mining, thus, jeopardizes their valued customs, rituals and indigenous ways of assimilating with natural ecosystems. Bereft of their land, they fear losing their esteemed connection with their history, nature, and community. The potential threat of their eviction from their land, thus, imperils the very foundation of their lives. Amidst the hills of Meghalaya, there once lived a tribe of nomads called "Noniaid". These people had no one place to settle but wandered from one place to another. For their permanent settlement "[t]he Nongiaid were given this land, these houses… and told to stay! There was resistance, they fought, they perished—and now they exist only in song. (437). Deep in the psyche of the villagers, there is a fear of meeting the same fate. They, thus, adopt moderate ways to resist the mining activities on their land, keeping in mind the extreme actions on their part might provoke the people of the centre to eliminate them from their lands as well. This strange dilemma of to what extent they can resist the mining practices brings new challenges to their resistance movement.

Conclusion

Human dependence on mining minerals is inevitable for the overall growth and prosperity of any nation. But it becomes enormously dangerous when these minerals are extracted at the expense of ecological health and human well-being. By adopting the ecocritical framework to analyze Janice Pariat's novel *Everything the Light Touches*, I find that the mining of uranium poses a grave concern for the inhabitants of Meghalaya and causes widespread damage to their surrounding natural world. The villagers constantly fear that their land might be seized from them, making them skeptical of governmental agencies and corporations that promise to work for their progress and development. Being witness to the environmental damage and sickness that mining breeds, they stand on a precipice: whether to allow the development of their village or to protect their land against the alleged developers. The inhabitants remain determined not to sell their land to any agency at any cost. They deem their

connection to the land as a guarantee of their freedom and security and a way to preserve their identity, culture, and nature, all of which stand at the brink of loss due to uranium mining.

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