

Post-Coal Environmental Ontology in Enugu Communities

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ABSTRACT

This study explores post-coal environmental ontology in Enugu communities, interrogating how abandoned coal mines in areas such as Iva Valley, Onyeama, Okpara, and Akwuke have reshaped local understandings of being, nature, and human–nonhuman relations. Drawing on phenomenological and African eco-philosophical frameworks, it examines how decades of mining-induced land degradation, acidic water pollution, biodiversity loss, and landscape alteration have disrupted indigenous ontologies of interconnected existence between people, land, and spirits. Through qualitative interviews and phenomenological analysis with residents of affected communities, the research reveals emergent post-coal ontologies characterised by fractured relationality, resilient adaptive narratives, and calls for ethical re-engagement with scarred environments. Findings highlight how environmental degradation challenges traditional Igbo conceptions of harmony with nature while fostering hybrid ontologies that blend memory, trauma, and hope for reclamation. The study contributes to environmental philosophy by grounding abstract ontological questions in concrete post-extractive realities of the Global South.

Keywords: *post-coal ontology; environmental philosophy; Igbo eco-philosophy; mining legacy; Enugu; land degradation; African phenomenology; extractivism*

1. Introduction

The Enugu coalfields, the oldest in sub-Saharan Africa, sustained Nigeria's industrial ambitions for nearly a century. Opened by the British colonial administration in 1915, the mines at Iva Valley, Onyeama, Okpara, and Akwuke produced millions of tonnes of coal that powered railways, industries, and colonial revenue streams until their progressive abandonment following the oil boom of the 1970s and the formal cessation of large-scale operations in the early 2000s. What the mines left behind is not merely an economic absence. They bequeathed a landscape that is physically scarred, hydrologically toxic, socially fractured, and ontologically disorientating for the communities that remain.

This article is concerned with that ontological disorientation. It asks: how have post-extractive environments transformed the ways in which Enugu coal-mining communities understand existence itself—the being of land, of human life, of nonhuman entities, and of the relations that bind them? For communities whose indigenous worldview conceives of persons, ancestors, land, water, and spiritual forces as constitutively interconnected, the degradation of the material environment is simultaneously an ontological rupture: a fracturing of the very categories through which being is experienced and made meaningful.

Drawing on phenomenological fieldwork conducted in Iva Valley, Onyeama, and Akwuke communities between 2021 and 2023, and on the resources of African eco-philosophy, this study traces the emergence of what it terms post-coal ontologies—new, hybrid frameworks of existence that communities are constructing in the wreckage of extractivism. These ontologies are neither pure continuations of pre-colonial Igbo cosmological thought nor wholesale adoptions of Western environmental categories. They are vernacular

syntheses of memory, trauma, adaptation, and aspiration, forged in the specific conditions of post-extractive liminality.

2. Theoretical Framework

2.1 Ontology, Environment, and African Eco-Philosophy

Ontology, as the philosophical inquiry into the nature and categories of being, has undergone significant revision in the context of posthumanist and multispecies scholarship (Haraway, 2016; Latour, 2004). The “ontological turn” in anthropology and philosophy has challenged the Cartesian dualism that separates human subjects from nonhuman nature, insisting instead on the entangled, relational constitution of all entities (Descola, 2013). These insights resonate deeply with Indigenous African philosophical traditions, which long predated Western posthumanism in articulating relational ontologies.

Igbo philosophical thought, as documented by Eze (1998), Achebe (1958, 2012), and Nwala (1985), posits a cosmological framework in which the visible world (*uwa*) and the invisible world of ancestors and spiritual forces (*mmuo*) are mutually constitutive. The land (*ala*) is not inert matter but a sacred, agential presence animated by *Ala*, the earth goddess, who is simultaneously the source of fertility, the custodian of morality, and the repository of ancestral memory. Human wellbeing is understood as fundamentally relational: dependent on maintaining harmonious obligations to the land, the ancestors, and the community simultaneously.

This indigenous relational ontology is what Metz (2007) has characterised as the African communitarian tradition extended to cosmological scale, and what Naess (1973) would recognise from an entirely different intellectual tradition as deep ecology. The crucial difference is that Igbo cosmological relationality is not merely an ethical stance but an ontological claim about the nature of reality itself: there is no sharp boundary between the human and the more-than-human; all are participants in a web of being.

2.2 Extractivism and Ontological Violence

Extractivism—the large-scale removal of natural resources for export and profit—has been theorised as a form of violence that operates simultaneously at ecological, economic, social, and epistemic levels (Acosta, 2013; Svampa, 2019). Coulthard (2014), writing from an Indigenous North American perspective, has argued that colonial extractivism enacts a form of “ontological dispossession,” severing the relational bonds between peoples and their territories and thereby undermining the very conditions under which Indigenous being is possible.

This concept of ontological dispossession is directly applicable to the Enugu coalfields. Colonial mining did not merely extract coal from the earth; it disrupted ancestral land-use patterns, introduced alien labour regimes, contaminated sacred water sources, and foreclosed the spiritual and agricultural practices through which Igbo communities produced and reproduced their relational ontologies. The subsequent abandonment of the mines, without remediation or restitution, compounded this dispossession by leaving communities with degraded environments and without the economic means to sustain alternative livelihoods.

2.3 Phenomenological Methodology

This study employs phenomenological methodology as articulated by Husserl (1913) and developed for environmental inquiry by Merleau-Ponty (1962) and more recently by Abram (1996). Phenomenology attends to lived experience as the primary site of ontological disclosure—how the world presents itself to embodied, situated subjects. For environmental ontology, this means attending to how communities experience their environments through perception, memory, affect, and practice.

Fieldwork was conducted through 48 semi-structured interviews with residents of Iva Valley (n = 18), Onyeama (n = 16), and Akwuke (n = 14), supplemented by three focus group discussions and participant observation over 24 months. Participants were selected through purposive and snowball sampling to include elders with pre-mining memories, adult residents with active mining-period recollections, youth born in the post-mining era, and community leaders and herbalists whose practices are specifically tied to land relations. All interviews were conducted in Igbo and English, as preferred by participants, and analysed through thematic and interpretive phenomenological analysis.

3. Coal Mining and Its Environmental Legacy in Enugu

3.1 Historical Context

The Enugu coal deposits were discovered in 1909 during the construction of the Eastern Railway, and systematic commercial extraction commenced in 1915 under the Nigerian Coal Corporation (NCC), established by colonial ordinance in 1950. At peak production in the 1950s, the Enugu mines employed over 10,000 workers and produced more than 900,000 tonnes annually. The mines were the principal employer in the region, drawing workers from across Igboland and creating dense settlement patterns around the mine mouths at Iva Valley, Onyeama, Okpara, and Akwuke.

The political and economic conditions of post-independence Nigeria were unkind to coal. The discovery of petroleum oil at Oloibiri in 1956 and the subsequent shift of the national revenue strategy to petroleum rents progressively starved the NCC of investment. The Biafran Civil War (1967–1970) caused significant physical damage to mining infrastructure. By the 1980s, production had declined precipitously, and mine closures accelerated through the 1990s. The Onyeama mine, the last to operate at significant capacity, was officially decommissioned in 2002, leaving the full legacy of nearly a century of extraction for affected communities to inhabit.

3.2 Dimensions of Environmental Degradation

Land subsidence and instability constitute the most physically dramatic legacy. Decades of underground coal extraction have left extensive void networks beneath community settlements, producing surface subsidence events, collapsed roadways, and structurally compromised buildings. Community members report ongoing, unpredictable surface collapse, particularly during heavy rainfall, which has rendered portions of Iva Valley uninhabitable and forced population displacement.

Acid mine drainage (AMD) represents the most persistent ecological threat. Oxidation of iron sulphide minerals exposed by mining generates sulphuric acid, which leaches into groundwater and surface streams, producing highly acidic water bodies with elevated concentrations of heavy metals, including iron, manganese, aluminium, and lead. Stream surveys conducted by the Enugu State Environmental Protection Agency in 2018 recorded pH levels as low as 3.2 in streams adjacent to the Onyeama and Okpara mine sites, well below the threshold for most aquatic life and unsafe for human or livestock consumption.

Biodiversity loss has been extensive. Indigenous forest communities that formerly surrounded the mine areas—providing timber, medicinal plants, game, and habitat for spiritually significant fauna, including the python (eke), held sacred in many Igbo communities—have been fragmented or eliminated by surface infrastructure, spoil heaps, and AMD contamination. Herbalists and elders in the study sample consistently reported the disappearance of plant species central to traditional medicine and ritual practice. Dust, air quality, and respiratory burden constitute a further legacy, particularly for communities adjacent to coal spoil tips.

4. Emergent Post-Coal Ontologies: Fieldwork Findings

4.1 Fractured Relationality

The most pervasive ontological theme emerging from fieldwork is what participants consistently articulated as a fracturing of relationship—between persons and land, between the living and ancestors, between the human community and the nonhuman world. An elder herbalist in Iva Valley, interviewed in 2022, expressed this in terms that resonate with the Igbo cosmological framework: “The land used to speak to us. When you went to the farm, you could feel whether the earth was well or unwell, whether Ala was at peace. Now the land is wounded and silent. It does not speak the same language anymore.”

This phenomenological account of a land that no longer communicates is not merely metaphorical. For communities whose practice of agriculture, healing, and spiritual ritual depended on attentive responsiveness to environmental signals, the contamination and destabilisation of those signals represents a genuine epistemic and ontological loss. Several participants described experiences of ancestral inaccessibility. When ancestral farmland is subsumed beneath a spoil heap, or when the stream where libations were poured becomes acid-contaminated, the material mediation of ancestral communication is severed. “My grandfather’s compound is under there now,” said one participant in Onyeama, gesturing toward a collapsed mine surface. “How do I pour his libation? Where do I go? The ancestors do not know where to find me any more.”

4.2 Toxic Materiality and the Uncanny Landscape

Beyond the experience of loss, fieldwork revealed how communities are developing new ontological categories to make sense of the transformed environment. Particularly striking is the emergence of what several Onyeama participants independently termed “bad water” (mmiri ojoo) as a distinct ontological category—not merely water that is unsafe, which would be a medical or technical category, but water

characterised by malevolent agency, that actively harms, that represents the inversion of what water should be.

This ontologisation of toxic materiality draws on indigenous frameworks (the malevolent agent as *agwu* or *ogwu*) but applies them to phenomena produced by industrial chemistry. The result is a hybrid ontological category: the acid-mine drainage stream is experienced neither purely as a neutral chemical phenomenon nor purely as a supernatural agent, but as something that possesses the agentive, threatening qualities attributed to malevolent spiritual forces, even while participants are fully aware of its industrial origin. This is not confusion; it is ontological bricolage—the creative assembly of available conceptual resources to make sense of a genuinely novel and threatening phenomenon.

4.3 Resilient Adaptive Narratives and the Ontology of Waiting

The fieldwork also revealed forms of ontological resilience. One significant narrative structure is what might be called the ontology of waiting: an orientation toward the future in which the land is understood not as permanently dead but as wounded and sleeping, capable of healing if properly cared for and if the injustices of extraction are eventually addressed. This narrative is grounded in Igbo agricultural knowledge of soil recovery and in broader cosmological frameworks of cyclical restoration. Just as a farm exhausted by cultivation can be allowed to lie fallow and will recover its fertility, participants in all three communities articulated versions of the belief that the coal-scarred land retains a latent vitality that will reassert itself under appropriate conditions.

4.4 Ethical Re-Engagement and the Demand for Ontological Justice

A striking emergent theme across all three communities is a moral vocabulary of obligation toward the damaged land—what participants conceptualise not merely as environmental cleanup (a technical category) but as a form of ethical restitution, analogous to the customary law obligation to make reparation (*ikpe ofo*) for harm done to a person or community. The Nigerian Coal Corporation, the Federal Government, and more recently Chinese investors who have explored coal reactivation projects are all named in this moral discourse as entities that have incurred obligations they have not discharged.

This framing is ontologically significant because it positions the land not as passive matter requiring technical management but as a harmed party with relational claims on those who caused the harm. The demand for “land healing” that appears across the fieldwork data is thus simultaneously an environmental demand, a legal demand, and an ontological one.

5. Discussion

The post-coal ontologies documented in this study defy simple characterisation. They are hybrid formations: drawing on ancestral categories of relational being, cosmological agency, and ethical obligation, while incorporating new experiential knowledge of industrial toxicity, political abandonment, and the limits of both traditional practice and state governance. This hybridity is not a symptom of cultural disintegration but a demonstration of ontological creativity. The finding resonates with Mbembe’s (2001) account of

African postcoloniality as a space of creative reinvention rather than mere mimicry or loss, and with Wiredu's (1980) argument that African philosophical thought must engage critically and constructively with both its own traditions and external intellectual currents.

Dominant frameworks of environmental justice, developed primarily in North American and European contexts, tend to conceptualise justice in terms of distributive equity and procedural fairness (Schlosberg, 2007). These are important dimensions, but they are insufficient for communities whose relationship with environmental harm is also ontological—where what has been damaged is not merely health or economic opportunity but the very framework through which being and community are constituted. A more adequate environmental justice framework for post-extractive communities of the Global South must include ontological justice: recognition of the right of communities to maintain and regenerate the relational ontologies through which they constitute their collective existence.

The phenomenological methodology employed in this study proved productive but not without tension. Phenomenological analysis as developed in the European tradition prioritises individual, first-person experience. Igbo ontology is fundamentally communal and relational. Future research would benefit from methodological innovations that can hold individual and communal dimensions of ontological experience simultaneously.

6. Conclusion

The coal mines of Enugu are silent now. But their silence is not neutral. It is a silence that speaks of ontological rupture—of a land wounded by extraction, of ancestral presences displaced by spoil heaps, of sacred waters turned acid, of communities compelled to fashion new frameworks of being in the shadow of an industry that took everything and left ruin.

Post-coal environmental ontology in Enugu communities is characterised by fractured relationality, the emergence of new toxic categories, resilient waiting narratives, and ethical demands for land healing. These are not merely local curiosities. They are contributions to the global task of rethinking the relationship between human communities, extractive capitalism, and the more-than-human world. Environmental philosophy must learn to take seriously the ontological violence of extractivism, to recognise the validity and richness of African relational ontologies, and to develop frameworks of ontological justice that can respond to the full depth of what extractivism has damaged. The post-coal communities of Enugu are already doing this philosophical work. It is time for the academy to join them.

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