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Capitalism and infectious diseases spread? Narratives of COVID-19 in Nsukka, Enugu State, Nigeria

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Abstract

This study investigates the narratives surrounding COVID-19 in Nsukka, Enugu State, Nigeria. It assesses whether the narratives contained knowledge about the relationship between capitalist accumulation and expansion (CAnE) and the spread of COVID-19. Political ecologists argue that CAnE is associated with the spread of infectious zoonotic diseases like COVID-19. While studies on COVID-19 are growing, there has yet to be an exploration of ordinary people's knowledge of the relationship between CAnE and COVID-19 spread, especially in Africa. Thus, this paper examines the narratives of COVID-19 in Nsukka to see whether they contain information about how COVID-19 spreads through CAnE. The findings revealed a significant evolution in the narratives of COVID-19 in Nsukka over time, reflecting changing perceptions and attitudes within the community. At the pandemic's start, the dominant narratives centred around religious interpretations and scepticism about the virus's reality. However, these initial religious and sceptical narratives gradually gave way to a different perspective, termed spatial othering, as the pandemic continued, suggesting that while acknowledging the virus as real, they believed it could not thrive in Nsukka or Nigeria. This shift was accompanied by the belief that the virus did not originate in the region and thus lacked agency to thrive there. The official government narrative, as observed in public health messages, primarily focused on hygiene and sanitation measures to curb the spread of the virus. Thus, it argues that political ecology knowledge about the pandemic is not acknowledged or endorsed in the ordinary people and government narratives, highlighting the need for diversified sources of knowledge, including non-conventional forms, to reach and educate local communities effectively. Hence, the central argument in the study is that even though CAnE can contribute to the spread of infectious diseases like COVID-19 as formulated by political ecologists; this idea is absent in the narratives surrounding the pandemic in Nsukka. Whilst not discounting other sources of the pandemics and alternative perspectives, the study called for resistance against practices associated with capitalist expansion, highlighting the role of education in raising awareness, resistance and activism to address the vulnerabilities associated with capitalist expansion in the context of public health crises.

Highlights for public administration, management and planning:

- Political ecologists argue that there is an association between environmental change emanating from capitalist accumulation and expansion (CAnE) and the spread of COVID-19.
- Examines the narratives of COVID-19 in Nsukka to see whether they contain information about how COVID-19 spreads through CAnE.
- The capitalism-COVID-19 spread associations are not articulated. Instead, there was a significant evolution in the narratives of COVID-19 in Nsukka over time, from religious interpretations and scepticism to spatial othering.
- The official government narrative primarily focused on hygiene and sanitation measures to curb the spread of the virus.
- Thus, political ecology knowledge about the pandemic is not acknowledged or endorsed in ordinary people and government narratives, highlighting the need for diversified sources of knowledge.

Keywords

Capitalism,
COVID-19 Pandemic,
Infectious Diseases,
Narrative,
Political Ecology

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1 Introduction

It has been argued that the present-day capitalist accumulation and expansion (CAnE) regime of the world has been significantly associated with the spread of infectious diseases and those that crisscross human-animal borders like COVID-19 in diverse ways. This research explores narratives of COVID-19 as a global health crisis in Nsukka town in Enugu State, Nigeria. Scholars, especially political ecologists, argue that the asymmetry of social and political relationships between groups provided avenues for exploitation of the environment, leading to new pathogens that cause infectious diseases (Sotiris 2020; Cárdenas-García et al. 2021). Thus, an overall pivot of how political ecologists explain the socio-nature coproduction of infectious diseases is blaming capitalism. Specifically, they argue that the surge in CAnE leads to the exploitation of the natural environment − causing disturbances to wildlife habitats and engendering the crossover of pathogens from animals to humans. Human societies are exposed to the corridors of animal pathogens flows via CAnE and development (Mehta et al. 2022; Sotiris 2020; Cárdenas-García et al. 2021). CAnE has continued to cause the invasion of new spaces to expand, e.g., commercial agriculture and mining, plus enlarging even now congested conurbations, bringing humans in further closeness to nature, which exposes human populations to fauna that is displaced from their natural homes (Connolly et al. 2020; Guo & Lee 2022; Nwankwo & Ayadiuno 2021). Thus, political ecology blames capitalism for the spread of the pandemic.

In as much as the global CAnE roots of the infectious diseases' pandemic are understood in the realm of scholarly inquiry, we must ask: Do ordinary people's view reflect this political ecologists' idea of how the disease spreads especially in developing countries? This paper explores ordinary people's narratives to assess whether they understand this CAnE and infectious disease spread linkage. This is a gap in the literature on COVID-19 and other infectious diseases. Researching this topic is vital because while the socio-nature exchanges that enhance the spread of COVID-19 cut across multiple scales, the knowledge of these relationships' processes and their results is vital for local people to be abreast of the harmful implications of capitalists' alterations of the balance of socio-nature systems (Liem et al. 2021). In addition, the study is vital because of what Moseley (2021) calls decolonising of the mind, essential to cast off Eurocentric (or Western) views of the world and look at subjects through the perspectives of people living in Global South countries, especially in Africa (see also, Fouberg & Moseley 2017).

Therefore, this study examines people's narratives about the global COVID-19 pandemic in the Nsukka area of Enugu State, Nigeria. The overall question that the study explored was: How do people in Nsukka narrate the global COVID-19 pandemic?. Thus, this study aims to explore the narratives of COVID-19 in Nsukka, South-Eastern Nigeria, to examine whether the narratives contain knowledge about the relationship between capitalist accumulation and expansion and COVID-19 spread. In exploring the people's narratives about the pandemic, it was found that the people's views centred on religious articulations and scepticism fuelled by conspiracy theories and, later, the spatial othering of the virus' agency. However, the people did not articulate the spread of COVID-19 as associated with CAnE. Similarly, official narratives of the pandemic do not acknowledge how CAnE enhances the spread of COVID-19. This suggests that the idea that capitalism is to blame for the rapid transmission of COVID is not acknowledged or endorsed in the ordinary people and government narratives. The paper considers the implications of these finding regarding public health crisis.

This research contributes to the infectious diseases spread literature by bringing some good new data on how COVID-19 affected the Nigerian people, which enhances our understanding of narratives of infectious diseases in Africa. Researching people's knowledge of the pandemic's roots is vital because it offers an appreciation of the public's level of awareness about disease pandemics (Nwankwo 2021a). It shows how people's narratives of the pandemic do not articulate the capitalist root of the spread of COVID-19, especially in Africa. Thus, people are mostly unaware of the theoretical formulation of political ecologists concerning pandemics. Thus, political ecologists' claims may not be universally understood, acknowledged or accepted. They must install accounts that captivate other beliefs to offer a more consistent message to the public and policymakers that could be widely acknowledged and appreciated. The rest of the paper is organised as follows: the next section discusses COVID-19, capitalism-infectious diseases spread, and after that is the methods section. The findings are then presented thematically before the discussion and conclusion.

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2 Capitalist expansion and COVID-19 spread

2.1 Capitalism

The term capitalism in its modern sense originally encompassed various economic and social issues. It was initially tied to British problems, particularly the system of war finance involving borrowing capital for war costs. This concept gained prominence from Charles Louis de Montesquieu's 1748 prediction regarding the British system of government. Public debt, which allowed the executive to bypass legislative dependence, played a role in this transformation- (Sonenscher 2022). Adam Smith's introduction of the division of labour and Louis de Bonald's use of Smith's ideas and Montesquieu's prophecy during the French Revolution debates further contributed to the emergence of the term capitalism (Sonenscher 2022). It became a shorthand for combining the division of labour, public debt, and inequality, which were seen as characteristics of this system (Grassby 1999).

Capitalism was a concept rooted in French royalist and legitimist thought, aiming to expose the limitations of constitutional arrangements during the Restoration and July Monarchy (Sonenscher 2022). It addressed politically and socially explosive issues from the 18th century and the French Revolution, such as war, debt, constitutional crises, and social disruption (Grassby 1999). This original concept of capitalism sheds light on various subjects, including the division of labour, money, comparative advantage, the Rechtsstaat (rule of law state), and the right to work (Grassby 1999; Schumpeter 1997). It also offers a new perspective on the thoughts of Smith, Ricardo, Hegel, and Marx and the transformation of public debt and warfare into social democracy and welfare (Grassby 1999). In this context, public credit was seen as an antidote to capitalism, not synonymous with it (Schumpeter 1997).

Regarding how capitalism is argued to be linked to infectious diseases' spread, the Marxian theory of capitalism is relevant. Marx's framework emphasises the socioeconomic system guiding advanced Western nations, particularly industrial capitalism (Cooper 2014). This system is characterised by wealth accumulation through rapid industrialisation and agricultural development using the capitalist mode of production (Marx 1890). Marx defines capitalism as a system where products are produced as commodities; the dominant character of these commodities is their status as commodities (Marx 1890:127). Profit-making in capitalism is rooted in the production of commodities, which are defined as items that satisfy human needs (Marx 1890:127). These commodities create value and demand, leading to profit through exchange (Kayange 2020). Marx emphasises the link between capital and wage labour as central to profit maximisation (Kayange 2020).

Market relations are another critical aspect of Marx's capitalism, where commodities are exchanged, leading to the accumulation of surplus value (Smith & Sender 1986). The development of the home market arises from the transformation of peasants into wage labourers as they transition from self-sufficiency to buying what they produce (Cooper 2014). This shift often results in exploitation, as labourers purchase products they produce for the bourgeoisie at higher prices. Marx views capitalism critically, referring to it as evil due to its various forms of exploitation, and he introduces the concept of primitive accumulation, where capitalists initially acquire capital through unjust and often violent means (Kayange 2020). This process made labourers dependent on working for capitalists for a wage or as enslaved people.

Marx's concept of primitive capital accumulation involves the initial acquisition of capital and labour power, serving as the starting point for capitalist production and the generation of surplus value (Cooper 2014). This process is distinct from ordinary accumulation and is marked by unethical means, primarily separating people from their means of production, such as land. This separation creates a demand for goods among those deprived of their property (Jarven 2014). Primitive accumulation historically involved strategies like bribery, theft, deceit, and war, which Marx criticised as exploitative and detrimental to human freedom and property rights. It is through this idea of primitive accumulation that political ecologists point to as the channel through which nature and environment are exploited for the sustenance of the capitalist system. Jason Moore indicated that capitalism's rise means we are now in a moment where there is a significant challenge of *"a dialectical antagonism between capitalism's drive to accumulate without end and the demands of ecological sustainability"* (Moore 2003:323). This situation is argued means much for the spread of infectious diseases.

2.2 Capitalism and infectious diseases spread vis-à-vis COVID

Political ecology examines the relationships between social, economic, and political fac-

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tors and how they interact with environmental and health matters (Mayer 1996). The political ecology approach (PEA) examines the historical background, context, and scale of environmental and health issues. From a health perspective, political ecology reveals how these factors shape the arrangements and incidences concerning local diseases (Mayer 1996). Thus, the PEA is an essential framework for appreciating the Coronavirus pandemic. It is grounded in explaining the multifaceted factors of ecological ruin, starvation, and, more lately, infectious disease. Political ecologists have maintained that the rise of the global capitalist economy is deeply connected to many environmental and health problems from climate change to infectious diseases.

Capitalism is argued to fuel ecological change processes via which world ecology (the socio-economic-ecological exchanges between core and periphery states) has been reconfigured significantly (Forsyth 2004). Political ecology's works frequently show how power relations determine how disasters are explained: what knowledge is produced and who can produce it. Political ecology focuses on the structural inequalities critical to vulnerability to infectious disease and spread. In this sense, the political ecology of disasters seeks to denaturalise so-called "natural" disasters by indicating their imbalanced penalties: how the danger of infection and ailment are socioeconomically facilitated (Mostafanezhad 2020).

Political ecology studies on COVID-19 have explored various facets of the pandemic's impact. While capitalism has been critiqued for its role in the pandemic's spread, these studies have diversified their perspectives. Some studies have delved into the pandemic's effect on subsistence livelihoods, such as fishers in Ecuador and farmers in India, Algeria, and Morocco. Pérez & Vina (2021) highlight how the pandemic amplified uncertainties in local communities, particularly in fishing, pushing them to their adaptive limits. Research has also examined resistance by indigenous communities against government and development projects linked to the virus's spread, particularly in the Amazon. Watson & Davidsen (2021) and Menton et al. (2021) discuss how these communities took territorial control to counter capitalist exploitation and state neglect.

COVID-19 has had significant political implications, with pandemic restrictions providing opportunities for nationalism and nationalist parties to gain prominence in various countries. Examples include Hungary's Prime Minister Orban and Romania's Alliance for the Union of Romanians (AUR), which capitalised on anti-restriction sentiments (Doiciar & Cretan 2021). The geographical and political ecology of HIV/AIDS in Southern Africa, rooted in colonialism and structural adjustment programs, have been linked to understanding COVID-19 diffusion and government responses in Malawi (Mkandawire et al. 2021). Studies have explored how COVID-19 triggered care practices among vulnerable groups, such as pastoral communities in Kenya and community kitchens in Berlin (Becerra & Muneri-Wangari 2021). Some works have analysed the biopolitical governance of vulnerable populations during the pandemic, including asylum seekers in the EU borderland between Turkey and Greece (Jauhiainen 2020). This governance involved regulating living conditions based on perceptions of migrants. Structuralist or materialist political ecology has been used to understand the pandemic's effects on food security, emphasising the interconnectedness of social and natural processes in shaping the crisis (Carter & Moseley 2021).

Although political ecology often blame capitalism these studies reviewed provide a multifaceted view of the pandemic's impacts, moving beyond a singular focus on capitalism. They underscore the importance of considering socio-political dynamics, resistance, nationalism, and historical factors when analysing the spread and consequences of COVID-19. While capitalism is still blamed in these studies, they highlight that the pandemic's causes and consequences are complex and multifactorial, involving a range of socio-political and ecological dynamics rooted in the capitalist system. The initial research by Mayer (1996, 2000) on emerging infectious diseases stressed how political-economic processes produce ecological transformations that generate the essential environmental settings for the advent of new epidemiologic threats, especially zoonosis, which typify the origin story of COVID-19. Moore (2003) jettisoned the traditional distinction between society and nature in this sense. Hence, he goes beyond the predominant dualistic narrative of capitalism and the environment, arguing for an innovative and logical connexion of no essential ontological difference between human and non-human nature.

In essence, it is argued that the capitalist crisis results from the exchanges of both the social and nature that articulates the very antagonistic spirit of capitalism: the propensity to the ceaseless accummulation and the decrease of the ecological surplus. This also makes for conceiving the neoliberal order pursued internationally to promote wealth as calamitous regarding protecting health during the COVID-19 pandemic. Sparke & Williams (2021) argue that the disease is a combinatory cascade

of socio-viral co-pathogenesis that they termed neoliberal disease. It is argued that COVID-19 has exposed the cracks in the neoliberal order for its inability to respond effectively to the pandemic in the Western world (Cárdenas-García et al. 2021; Fernando 2020a,b; Sparke & Williams 2021). The limit of capitalism has been exposed in the Virocene era, in which pandemics like COVID-19 disrupt the global capitalist order and racial privilege such that no group could escape from the virus based on race and socioeconomic status.

The capitalist expansion has also been linked with expanded urbanisation processes that lead to infectious disease outbreaks and spread. Capitalist accumulation and development is indicated to engender the spreading out of urban development into environments formerly left untouched and via the enlargement of commercial agriculture, especially poultry and pig husbandry (Sotiris 2020). The expansion of urban spaces is associated with deforestation, rural-urban migration, poor sanitation conditions, and governance that promote the emergence and spread of infectious diseases (see Connolly et al. 2021 for a review) and, specifically, COVID-19 (see Connolly et al. 2020).

Regarding how capitalism is linked to the spread of infectious diseases like COVID-19, the role of globalisation cannot be discounted. Capitalism has driven globalisation, increasing international travel, trade, and connectivity (Connolly et al. 2020, 2021). While globalisation has many benefits, it has also facilitated the rapid spread of infectious diseases like COVID-19. People and goods can move across borders quickly, leading to the swift transmission of pathogens (Connolly et al. 2020, 2021). The genomic analysis of early COVID-19 cases suggests that the virus was initially introduced to humans from animals. However, from December 2019 onwards, the spread of the virus has primarily been driven by human-to-human transmission rather than continuous spillover from animals (Heymann & Shindo 2020). There was rapid transmission within Wuhan, and infected individuals spread the virus through domestic and international travel during the Chinese New Year holidays (Heymann & Shindo 2020).

While global connections and movement enhance the spread of COVID, inequalities can further compound the impact of the pandemic. Diseases causing pandemics like COVID-19 spread along inequality fissures, making inroads into susceptible populations (Farmer 2001,p. 50; Del Casino Jr. 2018). For example, the Ebola epidemic in West Africa is argued that it emerged from the convergence of long-term economic, social, technical, discursive, and political exclusions and injustices (Wilkinson & Leach 2015:137). People with lower socioeconomic status are usually close to ecological conditions associated with the emergence of infectious diseases, such as living in peri-urban areas and working in industrial livestock facilities (Carter & Moseley 2021). As we can see, political ecology blames capitalism for the spread of the pandemic. This paper explores ordinary people's understanding of this CAnE, and infectious disease spread that political ecologists claim is the amplifier of the pandemic using COVID-19 as an empirical referent.

3 Methodology

3.1 The study area

The study was conducted in Nsukka Town, also called Nsukka Urban (see Fig. 1), in the Nsukka Local Government Area of Enugu. It is situated in the northernmost part of the Igboland. Nsukka region is lies between latitudes 6° 30' and 7° 54' north, and longitudes 6° 54' and 7° 54' east. Among large settlements in northern Igboland, including Obolo-Afor and Enugu Ezike, Nsukka Urban is the principal settlement. The Nsukka town is home to The University of Nigeria, and cultural edifices like the Catholic Church Cathedral and physical landscape features like plateaus, grasses, and caves typify it (Nwankwo & Ayadiuno 2022).

3.2 Data collection

The study used a qualitative approach and gathered data from primary (interviews and observations) and secondary (documents and social media posts) sources. The interviews were conducted between March 2020 and March 2021, and a follow-up was conducted in December 2021. The interview participants included 43 persons, amounting to 72 interviews, because some were more than once for clarifications. As indicated in Table 1, the participants have diverse social and economic backgrounds that allowed a broader perspective of the subject to be captured. Relevant to this article are their everyday experiences of living in Nsukka, which underpinned this study. They included people from the age of 18 to over 65 years. They have diverse educational qualifications from primary to postgraduate studies: most have university and secondary education (55.8%). Those with primary school education are 6.98%, and those with postgraduate education are 18.6% of all the participants. In addition, the interviewees have diverse oc-

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Fig. 1 Google Map image of Nsukka Town

cupations, from artisans (11.6%) to health workers (11.6%), government officials (6.98%), educational professionals (18.6), farmers (11.6%), and transport workers (9.3%) among others.

The sampling method used was systematic random sampling. Health workers in various private and government health facilities and staff at the Nsukka Town Planning and Environment Departments were interviewed. Further, interviews were conducted with people by moving across the streets in the town and randomly interviewing willing participants (Nwankwo 2021a:125). The interviews were semi-structured and conducted in the Nsukka Urban. In addition, places like newspaper stands, markets, pubs (beer parlours), and shopping centres where people converge and converse on current affairs were targeted for willing participants.

Standard ethical ideals for interviewing participants were strictly followed (voluntary participation and confidentiality of participants): participants' consent was sought before conducting interviews. Participant information sheets and consent forms were given to each participant before they were interviewed, and only those who agreed to participate were asked questions. The participants' views on COVID-19 spread, and the implications of COVID-19 formed the material data for the analysis. Apart from the introductory questions for familiarising the respondents and the interviewer and explaining the subject and objective of the research, the questions in Table 2 are the main questions the respondents were asked. Depending on the responses, the participants were asked follow-up questions case-by-case to explore grey responses. The interviews lasted an average of 25 minutes. The follow-up questions mainly were: What informed this view of yours about COVID-19?, Where do you get your information from about the coronavirus?, Why did you say the virus cannot survive in Nsukka?, What makes Nsukka not conducive for the virus to thrive?, Why did you think it is the virus a devil's pan as you stated?. The interviewees are coded A1, A2…An! and cited interviewees are listed in Supplement 1.

Table 1 Profile of participants

	Age				Gender		Education				Profession									
	18-30	31-45	46-65	65	M	F	Pry	Sec	Dip	B	PG	ATS	HW	GO	EDU	TRD	UE	ST	FAR	TRAN
F	10	14	11	8	25	18	3	12	4	16	8	5	5	3	8	7	2	4	5	4
\%	23.3	32.6	25.6	18.6	58.1	41.9	6.98	27.9	9.3	37.2	18.6	11.6	11.6	6.98	18.6	16.3	4.65	9.3	11.6	9.3

Pry-Primary education; Sec-Secondary education; Dip-Diploma; B-Bachelor's Degree; PG-Postgraduate degree; ATS-Artisan; HW-Health worker; GO-Government official; EDU-Teachers, academics and education professional; TRD-Traders; UE-Unemployed; ST-Students; FAR-Farmer; TRAN-Transport worker

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Table 2 The main questions participants were asked

Questions
Have you heard about the coronavirus?
How can you describe the Coronavirus situation in Nsukka?
How has the COVID-19 pandemic affected your everyday life?
How can you describe the spread of the coronavirus?
How did the coronavirus spread across the globe?
How do you get information about the coronavirus pandemic?
Is there any other thing you would like to say about the pandemic?

The messages the Nigeria Centre for Diseases Control (NCDC) and the Federal and State Ministry of Health propagated via their websites and social media pages, including Facebook and Twitter, were explored. In addition, using a Boolean query (COVID-19 AND capitalism; COVID-19 AND environment), I explored the stories published on the websites of Nigerian newspapers to understand how knowledge about COVID-19 is articulated. The selection criteria for the newspaper followed the approach used by previous studies on issues of great public interest and national significance (Nwankwo 2021b). Of the over 50 online newspapers in Nigeria, those with a renowned reputation for their reportage and at least 60,000 national daily circulations were shortlisted. From the list, a quick search of the Boolean query on their website was done to see those with stories related to the subject of investigation. Only newspapers that have published stories related to the subject of inquiry were selected for the final study: Punch, Guardian, Nigerian Tribune, Daily Trust, and Sun Newspapers.

3.3 Analytical approach

The data collected (interviews and documentaries) were analysed as discourses. The interpretive–explanatory approach to discourse analysis was used, which is employed chiefly for analysing discourse in critical geography. It is deployed to unearth the meanings of individuals' or groups' engagements via the interpretation of their beliefs and discourses (Imbeau et al. 2021:81). It is vital because it has been applied to qualitative research on knowledge about human health and illness experiences (Thorne et al. 1997). Tuathail (2002) indicated that it enables analysts to situate their findings via thoughtful connections to the existing body of knowledge, unlike the traditional phenomenological approach that assumes the absence of a theoretical foundation for the researched discourse.
The meaning of discourse is broad, an articulatory practice that establishes a contingent hegemonic moment (Nwankwo 2020). It is commonly seen as a shared way of seeing, talking, thinking about events and things around us and afar through relations of elements and moments in a discursive system via articulatory practice (Nwankwo 2022). discourse is an assemblage of elements and moments that let us shape and offer a sense of our world and our activities and practices (Tuathail 2002:605). The analysis entailed detecting and assessing themes and patterns from the interviews and documents and defining how these themes and patterns support answers to the questions posed (Nwankwo 2022). The following section discusses the people's narrative of the pandemic in Nsukka.

4 Understandings of COVID-19 in Nsukka: from religious narratives and scepticism to spatial othering

The understanding of the COVID-19 pandemic in Nsukka reflects the narratives articulated by the people. In early 2020, many narrated that the virus was God's plan to end the world or the devil's. Simultaneously, there was scepticism about the virus being real. The religious narrative gradually shifted to a spatial view in which the scepticism about the virus being real has been reduced. However, the virus was thought to not belong in Nigeria and, in turn, Nsukka, hence unable to survive and thrive. Most people draw their narratives from a combination of listening to views from the media, including social media and those voiced by religious leaders and their everyday interactions with the local community members—Table 3 and Figure 2 present the frequency of interviewees' narratives of the pandemic across different periods.

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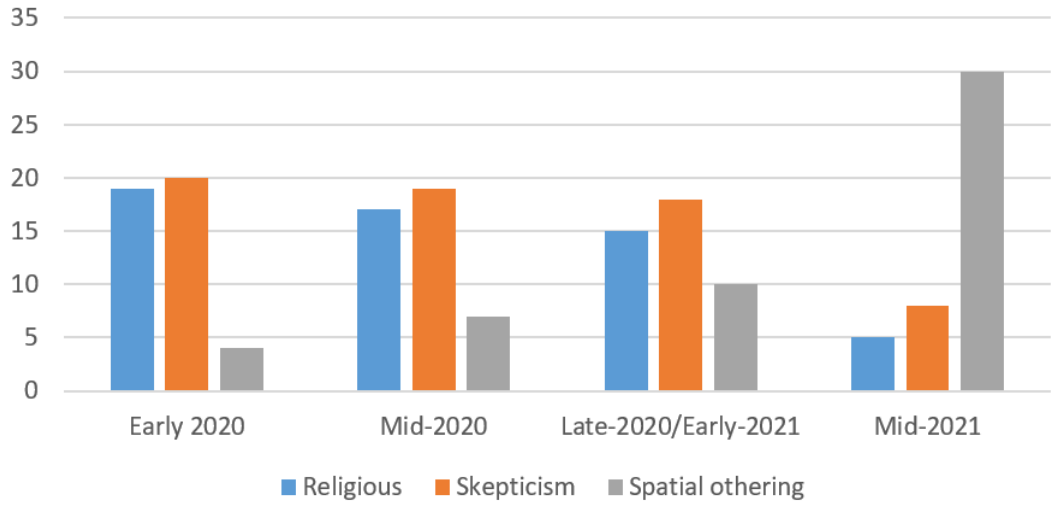

Fig. 2 Frequency of interviewees' narratives of the pandemic

Table 3 Frequency of interviewees' narratives of the pandemic

Narratives	Early 2020	Mid-2020	Late-2020/Early 2021	Mid-2021
Religious	19 (44.19%)	17 (39.53%)	15 (34.88%)	5 (11.63%)
Scepticism (virus not real)	20 (46.51%)	19 (44.19%)	18 (41.86%)	8 (18.60%)
Spatial othering	4 (9.30%)	7 (16.28%)	10 (23.26%)	30 (69.77%)
Total	43	43	43	43

4.1 Religious interpretations and scepticism

At the start of the pandemic, the discourse centred on whether the virus was real and whether the pandemic was a way God wanted to end the world. A greater number of people I interviewed during the early stages of the pandemic in Nigeria (Early March to May 2020) considered the virus a sign of the end of the world, an invention of evil forces, especially among religious ones. As indicated in Table 3 , in Early 2020, 44.19% of interviewees mentioned religious narratives in relation to the pandemic. This percentage remained relatively stable in Mid-2020 (39.53%) and Late-2020/Early 2021 (34.88%) but significantly decreased in Mid-2021 (11.63%). Thus, over time, there was a decline in the prominence of religious narratives among interviewees, suggesting that the initial impact of religion on pandemic perceptions decreased as the pandemic progressed. The words of one respondent seamlessly reflect the religious narrative:

They call this coronavirus; many people do not know that God is angry with us and that the world is ending. I think it is the end of the world, and have you not heard it from prominent men of God saying it? It is there on the internet, even on social media, on Facebook, they are saying it, and you better believe it and repent before you go to hellfire (Interviewee A1).

Another respondent argued, *"The Coronavirus is just a devil's agenda and the plan of the devil to destroy the world"* (Interviewee A2). Another participant states, *"I think the Coronavirus is the devil's plan to destroy the children of God"* (Interviewee A3). In addition, there is the discourse on whether the virus was real or not real, which runs simultaneously with the religious narrative. Most people I interviewed then believed the virus was non-existent in the area. As Table 3 shows, in Early 2020, 46.51% of interviewees expressed scepticism about the virus's reality. This scepticism remained high in Mid-2020 (44.19%) and Late-2020/Early 2021 (41.86%) but dropped significantly in Mid-2021 (18.60%). Hence, while scepticism about the virus's existence was prevalent among interviewees, it decreased over time, indicating a shift in perceptions or greater awareness of the virus's reality as the pandemic continued. Many participants thought the virus was not real, while others considered it factual. Later, most people thought the virus was real but not viable in Nigeria and non-existent in Nsukka. The people who argued that the virus was not real cited conspiracy theories circulating on social media. As a respondent noted, *"The virus is not real. Did you not hear that it is a plan to control the world population and reduce Africa's population?"* (Interviewee A5) This shows that people learn from

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various sources, including social media, religious leaders, and everyday interactions. These conspiracy theories and religious narratives dominated the pandemic discourse in Nsukka in 2020. Still, they shifted towards a spatial othering discourse by mid-2021 after the Nigerian government declared no further lockdown and no known virus case in the area. However, that is not to say there was no recorded case in Enugu State. In early June 2020, a nurse at the National Orthopedic Hospital tested positive, forcing over 25 doctors, nurses, and other non-health workers to 14 days in isolation (Ede 2020). In fact, as at the time of completing this paper in December of 2021, there have been over 2000 COVID-19 cases in Enugu State.

4.2 Spatial othering

Since mid-2021, the narrative of the pandemic shifted, and most people interviewed at that time thought the virus is real but not viable in Nigeria and non-existent in Nsukka. Table 3 indicates that the narrative of spatial othering was less prominent in the early stages of the pandemic (9.30% in Early 2020) than in the latter stages. It increased substantially in Mid-2020 (16.28%) and Late-2020/Early 2021 (23.26%) and reached its peak in Mid-2021 (69.77%). Thus, spatial othering narratives, which create distinctions between "us" and "others" regarding the potency of Covid based on geographical location, became increasingly dominant over time. This shift suggests a growing focus on recognising the realness of the pandemic and potentially the emergence of regional differentiation in attributing agency to COVID-19. The spatial othering discourse that dominates now gives the virus a spatial differential agency. The virus is considered powerless in Nigeria and unable to survive in Nsukka. *"Nsukka is calm as the virus seems to be non-existent"*, says a respondent (Interviewee 6).

The people in Nsukka do not associate the spread of infectious diseases (not least COVID-19) with capitalist-environmental change dynamics. They conceive COVID as a *"different kind of infectious disease that has no connection with Nsukka"* as the *"virus does not belong here"* (e.g., Interviewee A22). Another respondent who spoke in Pidgin English noted, *"Wetin you call COVID-19 no dey here, E no fit survive for here. Na for outside Nigeria the thing dey happen"* (Interviewee A23), suggesting the virus is not in Nigeria or Nsukka and only found outside Nigeria. The interviewees' understanding of the pandemic does not associate CAnE with the spread of COVID-19. Most respondents agree that even if the virus enters Nsukka, it will not survive. This is what people believe, but it is vital to point out that it is erroneous to consider the virus to only survive in a specific locality, as there have been recorded cases, not least in Enugu State. Nevertheless, they consider the virus not adaptable to this place and hence cannot thrive. This shows how place is associated with COVID, such that only certain viruses or diseases can thrive in Nsukka as much as in Nigeria. People interviewed argued that Nigeria and other countries in Sub-Saharan Africa have environmental conditions that do not allow the virus to survive, especially the availability of sunlight throughout the year. Again, this feeds back into a narrative that emerged early in the pandemic that considered the coronavirus unable to survive in sunlight.

The locus is that even though the virus is real, it does not originate from here, so it lacks the agency to reproduce and thrive here. This shows that there is spatial othering of the virus in the narrative of the virus. Many think the virus did not originate from Africa, Nigeria, or Nsukka. Thus, it lacks the agency to thrive in Nigeria and the Nsukka environment. This narrative creates spatial othering in which the agency of the virus is articulated differently concerning multiple sites and locations. One respondent stated, *"From my knowledge, I do not think there have been any major cases of Coronavirus in Nsukka. None has been publicly reported, confirmed, or announced by the NCDC"* (Interviewee A6). Another respondent argued:

"As for today, the coronavirus is the least problem facing us as the indigenous people of Nsukka. The nature of the Nsukka environment does not support the coronavirus since the virus survives only in cool or temperate regions with the equator, which Nsukka is part and parcel of." (Interviewee A7).

We may attribute this to the area's absence of known disease cases. In addition to the idea that the virus does not belong there and hence cannot thrive, some participants said it is non-existent because of *"widespread awareness and enlightenment among the people that made them very hygienic, regular washing of hands and so on"* (Interviewee A10). This level of awareness can be attributed to the campaigns by the Nigerian government through relevant agencies. As shown in the next section, the government narrative about COVID-19 centres on sanitation.

Also, the lack of testing and partly the unavailability of incidence data at the district level may be attributed to the narrative of spatial othering. A few oppositional voices indicate that people cannot be sure the virus is non-existent in the study

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area because no testing is done. One respondent argued, *"The situation of Coronavirus in Nsukka is undetermined since there is no facility to detect the virus here. Therefore, we cannot say there is no coronavirus or there is. However, one can argue that there is little or no virus since the symptoms are not prevalent in Nsukka"* (Interviewee A8). Another respondent indicated,

"One issue is that the cost of COVID-19 tests is expensive, and many people cannot afford it. So, we do not know when we have the virus because we cannot test for it. Hence, people now believe the virus does not exist in the area" (Interviewee A9).

Indeed, a COVID-19 PCR test costs about ₦39,500 in Enugu, approximately $122 at that time (2020−2021) and less than five testing centres in the state, but the government has not made testing compulsory. Most testing centres are in or near cities, especially the state's capital, miles away from most rural areas. The Federal Government's COVID testing centre for South-Eastern Nigeria is the University of Nigeria Teaching Hospital (UNTH), located at Ituku, a suburb near Enugu. There are two other private testing centres. All suspected COVID cases from any region are transferred to UNTH. COVID testing and treatments at government centres are free of charge.

One respondent with a surprising solo view indicates, *"I think COVID-19 is in Nsukka, but in the form of malaria and other forms of sickness depending on immunity"* (Interviewee A11). Another stated that it could be that "people in Nsukka have not contacted people who have the virus" (Interviewee A12), but this is hardly the truth as people come from different parts of the country into the town because the University of Nigeria is located there. Indeed, the people might have developed immunity to the virus, having lived with it without testing to diagnose or vaccinate. Any other respondent does not support this opinion on immunity. Still, it does say a lot about the lack of recorded cases of COVID-19 in the area and does not ultimately dismiss the likelihood of its presence because there has yet to be testing. This is corroborated by a member of the COVID-19 committee in Nsukka who indicated no record of anyone who contracted the virus there (Interviewee A40). The following section shows the official narrative about the pandemic.

5 The official narrative of the COVID-19 pandemic in Nigeria

The government narrative about the COVID-19 pandemic centres on sanitation. The typical message propagated by the Nigeria Centre for Diseases Control describes the virus as *"a new strain of the virus that has not been previously identified in humans. SARS-CoV-2 is the virus that causes the coronavirus disease (COVID-19)"* (NCDC 2020). There is no attempt to describe its cause(s) or link it with environmental changes or capitalist exploitation. Efforts have emphasised the importance of following government guidelines on limiting the spread of the virus, including social distancing and lockdown and the widespread sensitisation of people regarding sanitation. As the national agency for detecting and responding to infectious disease outbreaks and other public health emergencies in Nigeria, the NCDC led the national response to control the COVID-19 pandemic since February 2020. The NCDC counseled the public to prioritise good hand hygiene to halt the spread of the COVID-19 virus. The NCDC messages draw extensively from the World Health Organization's (e.g., see Fig. 3 and 4) and do not attempt to talk about the causes of the pandemic outbreak.

Similarly, most other avenues for government messages about the pandemic seldom talk about the sources of the virus spread. The focus has been on sanitisation, e.g., the billboard at Opi Junction in Nsukka (Fig. 5). This billboard location is a transport hub that connects Nsukka to various parts of the state and neighbouring Benue and the Kogi States. In 2020, a few newspaper stories articulated the environmental linkages of the outbreak of the virus regarding how poor sanitation conditions can enhance the spread of the virus and how to deal with the hazardous medical wastes generated during the pandemic (Osibanjo 2020, Punch Newspaper). In other stories, the pandemic is argued to have positively impacted the environment because the national lockdowns cut down on emissions and industrial waste (Osibanjo 2020, Punch Newspaper).

However, these articulations do not consider the pre-pandemic human impacts on the environment that political ecologists link with the spread of infectious diseases. Hence, the capitalism-COVID spread linkages are not articulated. Instead, the emphasis is on maintaining good hygiene and a clean environment to curb the spread of the virus. Thus, the discursive strategy promotes remedy knowledge rather than the knowl-

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Fig. 3 World Health Organi zation advice on COVID-19

Fig. 4 Various COVID-19 messages propagated by the Nigerian NCDC's Facebook page from 2020-2021

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Fig. 5 A billboard at Opi Junction with Enugu State Government's COVID-19 Christmas message

edge of how the virus became widespread. Also, they focus on how the pandemic potentially reduced economic growth and increased food insecurity, poverty, and unemployment (e.g., Guardian Nigeria 2021). In an interview with Suleiman Idris of the Nigerian Television Authority (NTA) published on 26 January 2021 on the NTA's website, the Nigerian National Primary Health Care Development Agency (NPHCDA) indicated that:

Coronaviruses are viruses that circulate among animals, with some infecting humans. Bats are considered natural hosts of these viruses, and several other animals are also known to act as sources. For instance, Middle East Respiratory Syndrome Coronavirus (MERS-CoV) is transmitted to humans from camels, while Severe Acute Respiratory Syndrome Coronavirus-1 (SARS-CoV-1) is transmitted to humans from civet cats…COVID-19 spreads from person to person (human-to-human transmission) through direct contact (National Television Authority 2021).

This NPHCDA statement shows that government agencies understand how disturbances in wildlife habitats can spread infectious zoonotic diseases like COVID-19. However, the message does not acknowledge or endorse capitalism as implicated in the emergence or spread of the virus. Instead, as shown in Fig. 4, various strategies for curtailing the virus are widely broadcasted and rearticulated. Hence, the political ecology account of the pandemic seems to be subverted or silenced while strategies for fighting COVID-19 are emphasised. Thus, it appears that the political ecology view about the spread of the pandemic has not been widely appreciated and acknowledged or endorsed in the realm of ordinary people and the government.

6 Discussion

The paper has shown how the narrative of COVID-19 in Nsukka has evolved, beginning with the articulations of whether the virus was real and whether the pandemic is a way God wants to end the world. Mostly, people initially considered the virus as not real. This moment was spurred by conspiracy theories circulating on social media, which are then re-narrated in everyday conversations among the people. Also, at the beginning of the pandemic, a larger proportion of people considered the virus a sign of the end of the world or an invention of evil forces, especially religious ones. Most people think the virus is real but not viable in Nigeria and non-existent in Nsukka. This discourse that dominates now gives the virus a spatial differential agency. While the virus is considered potent in Europe and America, it is seen as powerless in Nigeria and unable to survive in Nsukka. There was no articulation of the spread of COVID-19 emanating from CAnE, the core explanation offered by political ecologists.

Therefore, while religious and scepticism-related narratives decreased in prominence, spatial oth-

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ering narratives increased significantly. This narrative shift reflects changing perceptions, awareness, and attitudes toward the pandemic. These narratives offer essential insights into how individuals and communities respond to and make sense of a public health crisis based on the perceived agency of the pandemic. Thus, these narrative shifts have policy implications for public health messaging and interventions. Demonstrating the pandemic's potency can stimulate acceptance of public health warnings that could encourage adherence to safety measures.

Further, the study confirms findings from existing literature on COVID-19 discourse in Nigeria. First, it confirms that religion (Chimuanya & Igwebuike 2021; Ossai 2021) and conspiracy theories (Gagliardone et al. 2021) played a crucial role in how COVID-19 was narrated. Hence, narratives *"which are embedded in peculiar Nigerian socio-religiosity and religious economy,"* namely "corona disease is an invention of the devil and other dark evil forces, and corona disease is a sign of the end of times" or long-awaited Armageddon (Chimuanya & Igwebuike 2021). These false constructions heightened doubts about the pandemic, producing nervousness and dread among the religious who preach spiritual alertness for Armageddon. As (Chimuanya & Igwebuike 2021:399) argued, the discourses "reflect counter belief and quasi-religious ideologies" that are ingrained in multifarious religious dogmas embedded *"in antichrist or mark of the beast view, socio-religious ideologies of dominionism and overcommernism"*. The study also confirms that, as Gagliardone et al. (2021) noted, conspiracy theories shaped the understanding of the pandemic in South Africa and Nigeria. Nevertheless, this study shows that these religious discursive moments gave way to a spatial moment where the virus is indicated as real but non-existent in Nsukka, imbuing the pandemic with a spatially differential agency.

Notwithstanding the falsehood of the religious narratives about COVID-19 in Nigeria, it has been argued that the relations of religion, religious practices, and the pandemic should not be ignored entirely in the political ecology studies of the pandemic, especially in the protection of vulnerable religious groups against inequality in the dealing with the pandemic (Kim 2021). In addition, this can be vital to how political ecologists understand how religious groups' practices shape pandemic politics. This perspective can be seen in Mehmood et al. (2021:534) study that indicates that religious communities in India and Pakistan shaped the urban political (eco)pathology with their unsettling possibilities, which changed biosecurity regimes and enhanced health risks. This highlights the importance of exploring uncommon actors in political ecology research and a novel understanding of human–nature exchanges by including religion and religious beliefs in comprehending the outbreak and spread of infectious diseases (Mehmood et al. 2021:534). This perspective can make sense from Friedler (2021:17) calls for a biocultural approach to pandemics like COVID-19 because of the biocultural exchanges between people, animals, and pathogens across diverse scales.

Since the religious moments in COVID-19 discourses shape much of the pandemic's understanding, they can affect public health management because it could mean that people can be disorientated. After all, the religious and conspiracy theories mask the real roots and factors spreading the pandemic. In a study in Nsukka, (Ossai 2021:48) looked at religion's influence on how believers perceive and deal with COVID-19, arguing that religion could have a negative influence on people's views about, and responses to, diseases, which could be a significant risk to public health in Nigeria. Thus, this calls for better articulation of how the pandemic emerged, its root drivers, and circulation processes. In doing this, we must also go beyond capitalism and incorporate other perspectives (e.g., Public Health, Health/Medical geography, Sociology and Epidemiology). Moreover, Sedlacek (2023) reminds us that *"Capitalism does not destroy the environment (as much as communism)"*, where he compares two different regimes in terms of environmental approaches and care for the health and well-being of the population. We must integrate this knowledge into diverse forms and sources of non-conventional knowledge to make them accessible to local folks.

Without acceding entirely to the view that capitalism is the sole driver of infectious disease spread and emergence, if the role of capitalism must be tamed, there must be resistance against its associated practices. Examples include animal culling like dogs (Srinivasan 2013), the role of wealthy hunters who kill wild animals for fun (O'Brien & Creţan 2019) and protests against such activities, especially dog culling, practices which have not appeared in the current democratic world (Creţan 2015). Such resistance is needed to tame the capitalist expansion to limit its impact on public health. For example, in Brazil, Menton et al. (2021) show that confirmed COVID-19 cases and deaths among indigenous peoples clustered *"around tourism hotspots, mining sites, and other development projects"* (p. 1). These

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dangers and long-term battles connected to land grabbing and resource larceny associated with development sometimes reinforced communal bonds and augmented the volume of vigorous resistance. Also important is the everyday form of resistance related to how discursive articulation is deployed for resistance by producing, as Gidwani (2008:101) puts it, "formidable …counter tales that can be affective of thought and conduct in different normative ways". He continues, *"As a positive practice, hegemonic (or counter-hegemony) is not only about staking out oppositions but also about producing alternative possibilities for living and becoming"* (Gidwani 2008:101). Developing 'formidable counter tales' is useful… as is emphasising resistance and producing alternative possibilities–representations. Suppose political ecologists' views can be upheld as universally correct (which is not the case). In that case, they must deploy narratives that captivate other scientists' thoughts to present a more cohesive message to the public and policymakers. In doing this, political ecologists must now move beyond knowledge production and communicate their ideas via non-conventional processes, such as using social media to keep people well abreast of these dynamics to confront vulnerabilities and their fundamental power mechanisms well-positioned in the capitalist system and processes. This can be seen from the indigenous movements in the Amazon, which, via enrolment of a new cohort of indigenous youth who had access to advanced education, deploy social media and indigenous-led court cases to fight against politics of extermination involving neglecting the health system to indirectly sentence the people to a genocide that has been exacerbated by the COVID-19 pandemic (Menton et al. 2021:1). Other avenues via which the pandemic emerged and spread beyond capitalism must be acknowledged, and education is crucial here. It might be intuitive to think that an above-average representation of respondents with a university education can distort the results obtained in this study. However, as indicated in Table 1, 37.2% of the interviewees have a Bachelor's degree or equivalent, and 18.6% have a postgraduate degree, accounting for 55.8%. Thus, an above-average representation of respondents with a university education may not distort the results. Nsukka is a university town; hence, the absence of the CAnE and COVID-19 relations narrative did not occur by chance because there is a significant presence of people with university education. Thus, adjustments in syllabuses and scholastic memos are needed to accentuate the inter-connexion of CAnE, environmental change, and the pandemic. The adjustments must be implemented in post-primary and tertiary curricula that embrace modules that detail the capitalism-environmental change-pandemics nexus and other perspectives in environment-related disciplines. These adjustments are vital because, as the saying goes, knowledge is power, and proper education is needed to recognise capitalist ills and other factors contributing to a public health crisis. This plan makes sense for the emancipation of the most vulnerable from the ills of capitalist expansion, and other sources of ecological disturbances especially through activism and resistance. For the reason that religious discursive moments gave way to a spatial moment in which the virus is indicated to be real but non-existent in Nsukka, imbuing the pandemic with a spatially differential agency, it is pertinent that political ecologists should explore the temporality of disease ecology discourses in other regions to offer us a broader perspective. Religion has a significant place in the everyday life of Nigerians as well as in other African countries defining political and social choices and relations (Nwankwo 2019). thus, further research can also explore how the practices of uncommon actors such as religious groups shape pandemic politics towards a novel understanding of human–nature exchanges that could benefit from Friedler (2021:17) biocultural approach to pandemics.

7 Conclusion

This study aimed to investigate the narratives surrounding COVID-19 and assess whether these narratives contained knowledge about the relationship between capitalist accumulation and expansion and the spread of COVID-19. The central argument in the study was that while capitalist expansion, through environmental exploitation and degradation, can contribute to the spread of infectious diseases like COVID-19 as formulated by political ecologists, this idea is absent in the narratives surrounding the pandemic in Nsukka. The findings revealed a significant evolution in the narratives of COVID-19 in Nsukka over time, reflecting changing perceptions and attitudes within the community. At the start of the pandemic in early 2020, the dominant narratives centred around religious interpretations and scepticism about the virus's reality. Many believed that COVID-19 was either a divine plan to end the world or a conspiracy theory, with 44.19% expressing religious narratives and 46.51% expressing scepticism about the virus's existence during this period. However, these initial religious and sceptical narratives gradually gave way to a dif-

ferent perspective, termed ”spatial othering,” as the pandemic continued. By mid-2021, 69.77% of interviewees subscribed to the spatial othering narrative, suggesting that while acknowledging the virus as real, they believed it could not thrive in Nsukka or Nigeria. The study revealed that this shift was accompanied by the belief that the virus did not originate in the region and thus lacked agency to thrive there.

Therefore, notably, the study found a significant gap in knowledge regarding the role of capitalist accumulation and expansion in the spread of infectious diseases like COVID-19. While religious and spatial narratives dominated the discourse, there was little mention or understanding of how capitalist activities, such as environmental exploitation, contribute to the emergence and spread of such diseases. The official government narrative, as observed in public health messages, primarily focused on hygiene and sanitation measures to curb the spread of the virus. It did not address the issues political ecologists emphasise as the underlying drivers of the pandemic, such as environmental changes associated with capitalist activities. Thus, it argues that political ecology knowledge about the pandemic is scarcely acknowledged or endorsed universally in Nsukka and, by extension, Nigeria. If political ecologists must propagate their ideas to be widely accepted and endorsed, they need diversified sources of knowledge, including non-conventional forms, to reach and educate local communities effectively. While not discounting other sources of the pandemics and alternative perspectives to the emergence and spread of the pandemic, the study called for resistance against practices associated with capitalist expansion, such as wildlife exploitation and environmental degradation. It highlighted the role of education in raising awareness and advocated for adjustments in educational curricula to include modules that detail the connections between capitalism, environmental change, and pandemics. It emphasised the need for proactive education and activism to address the vulnerabilities associated with capitalist expansion in the context of public health crises.

Data availability

Relevant data are included in the paper. Others are available upon reasonable request.

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Supplementary material

Supplement 1 Cited interviewees

Participants	Age	Sex	Occupation	Education
Interviewee A1	40	M	Artisan	Secondary education
Interviewee A2	34	F	Teacher	Bachelor's Degree
Interviewee A3	32	M	Farmer	Secondary education
Interviewee A4	56	F	Academic	Postgraduate degree
Interviewee A5	45	M	Government Official	Bachelor's Degree
Interviewee A6	37	F	Health worker	Diploma
Interviewee A7	35	M	Transport worker	Postgraduate degree
Interviewee A8	43	M	Academic	Postgraduate degree
Interviewee A9	46	F	Health worker	Diploma
Interviewee A10	45	M	Government official	Bachelor's Degree
Interviewee A11	37	F	Health worker	Bachelor's Degree
Interviewee A12	33	M	Health worker	Bachelor's Degree
Interviewee A22	36	F	Education professional	Bachelor's Degree
Interviewee A23	26	M	Trader	Secondary education
Interviewee A40	55	F	Government official	Bachelor's Degree