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Climate Change and Human Security in the Niger Delta: Pathways to Peace and Resilience

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Executive Summary

This briefing examines how climate change is reshaping human security and driving communal tensions in the Niger Delta. Data from PIND's P4P Peace Map and community interviews show that recurrent flooding, coastal erosion, and erratic rainfall, compounded by decades of environmental degradation, are disrupting farming, fishing, and small businesses, deepening poverty, displacing households, and heightening competition over scarce land and water.

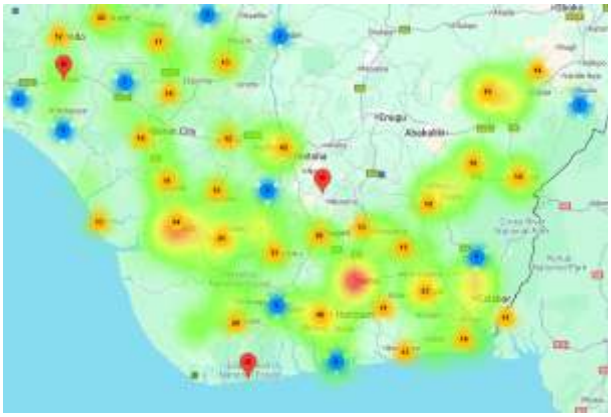
Climate-related losses, including destroyed farmlands and unequal access to relief, are fueling localized conflicts and weakening social cohesion. Communities are adapting through measures such as elevating homes, shoreline reinforcement, collective clean-ups, temporary migration, and environmental education, but policy gaps and limited locally led adaptation continue to hinder resilience.

The briefing calls for stronger community structures, better disaster early warning and preparedness, stronger environmental regulation, climate-smart and conflict-sensitive planning, and closer collaboration among stakeholders to safeguard livelihoods and support sustainable peace in the Niger Delta.

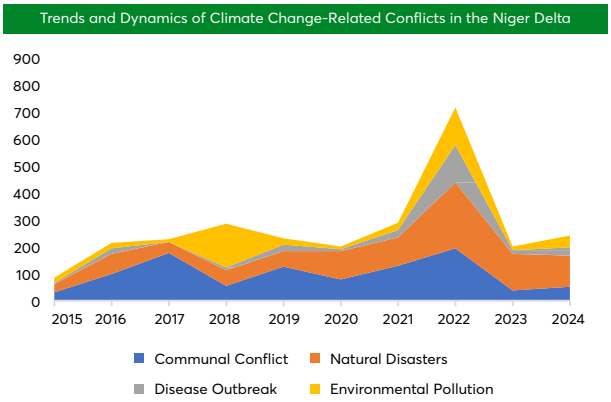
Introduction

Climate change, broadly defined as long-term shifts or variability in temperature and overall weather patterns, has emerged as one of the most pressing global challenges of the 21st century, with serious implications for the environment and human well-being. It manifests through extreme weather events such as irregular torrential rainfall, storm surges, rising sea levels, cyclones, droughts, and heatwaves, which continue to disrupt ecosystems and threaten livelihoods.

Beyond ecosystems disruption, these climate-induced events intensify social, economic, and political vulnerabilities, thereby posing direct threats to human security. As a driver of ecological transformation, climate change intensifies flooding, coastal erosion, storm severity, and resource depletion, undermining community resilience, heightening competition over land and water, and often fueling instability, conflict, and threats to human security.



Heat Map showing the geographical spread of climate change-related lethal violence in the Niger Delta, January 2015 to December 2024.



Climate Change Related Fatalities in the Niger Delta from January 2015 to December 2024.

Human security, mainly concerned with the survival, livelihoods, and dignity of individuals, is increasingly shaped by transboundary environmental factors such as industrial pollution and multinational extractive operations. Recognizing these interconnections, the United Nations Environment Programme (UNEP) identifies climate change as a foremost environmental challenge requiring coordinated global action that integrates environmental management, conflict prevention, and sustainable development.

In Nigeria's Niger Delta, the impacts of climate change are particularly severe due to the region's heavy dependence on climate-sensitive livelihoods such as fishing, farming, and artisanal oil refining.

Over the past two decades, the region has experienced an increasing convergence of environmental degradation and climate variability, which has deepened its ecological fragility and socioeconomic vulnerability.

Long-standing challenges, such as oil extraction, deforestation, and rapid urbanization, have severely degraded local ecosystems. More recently, climate change impacts in coastal and riverine communities have become increasingly visible. Rising sea levels and coastal erosion are damaging farmland and displacing populations, while irregular rainfall patterns have reduced agricultural productivity and heightened livelihood losses, including disruptions to supply chains. Frequent flooding and erratic rainfall continue to disrupt traditional economic activities such as fishing, farming, and trading.

These environmental changes are compounding existing socioeconomic stressors and fueling communal grievances. As food security declines and economic opportunities shrink, competition over increasingly scarce natural resources have intensified. The resulting environmental stress is undermining local economies, intensifying social tensions, and threatening peace and stability in already fragile communities. Statistics indicate that between January 2015 and December 2024, climate-induced conflicts resulted in over 1,800 fatalities across the Niger Delta.

This conflict briefing examines the intersection of climate change and human security in Nigeria's Niger Delta, exploring how climate-related stressors affect livelihoods and influence conflict dynamics across the region. It analyzes the drivers of climate change, its impacts on local economies and human security, and the emerging risks that exacerbate social and environmental vulnerabilities.

The briefing also outlines strategies stakeholders can adopt to mitigate these risks, strengthen community resilience, and promote sustainable development in the Niger Delta. The analysis draws on data from PIND's P4P Peace Map, complemented by desk reviews, interviews with 48 residents of climate-affected communities, and focus group discussions with key stakeholders, including farmers, fisherfolk, traders, community leaders, environmental NGOs, and officials from State Ministries of Environment and Agriculture, as well as State Emergency Management Agencies (SEMAs) across Bayelsa, Delta, Ondo, and Rivers States.

01 CLIMATE CHANGE RISKS IN THE NIGER DELTA

Nigeria's Niger Delta region, located along the Gulf of Guinea, covers over 70,000 square kilometers and encompasses 185 of Nigeria's 774 Local Government Areas (LGAs) across nine of the country's 36 states: Abia, Akwa Ibom, Bayelsa, Cross River, Delta, Edo, Imo, Ondo, and Rivers. According to the 2006 national population census,22 the region is home to over 30 million people, representing more than 23 percent of Nigeria's total population, with an estimated population density of 265 persons per square kilometer.

The Niger Delta, rich in oil and gas reserves, remains central to Nigeria's economy. However, decades of extensive extraction have left a lasting legacy of environmental degradation, including polluted ecosystems, contaminated water sources, and the decline of agricultural and fishing livelihoods. A female trader from Gbagira, Ondo State, lamented: "Many of our fishermen complain that crude oil spills affect the fish in the water, and they often see dead fish floating. Sometimes they only catch a small number of fish and crayfish to bring to the community, which affects us, the sellers." This ecological fragility has, in turn, heightened the region's vulnerability to the escalating impacts of climate change, compounding the effects of long-term environmental damage. Consequently, climate change has become a threat multiplier, worsening vulnerabilities and creating new risks to ecological sustainability and human security.

The Niger Delta's low-lying geography makes it highly vulnerable to climate change. Much of the land lies less than three meters above sea level, and the region's flat terrain, extensive rivers, and proximity to the Atlantic Ocean increase its exposure to sea-level rise and coastal flooding. Studies suggest that a one-meter rise in sea level could submerge over 15,000 km of land, displacing more than seven million people across the region. Already, annual flooding along the River Niger and its tributaries causes severe damage to agriculture, housing, and livelihoods.

In addition to natural factors, human activities have further increased the region's climate vulnerability. Dam construction, dredging, river channelization, sand mining, and unregulated urban expansion into floodplains have disrupted natural hydrological systems, weakened wetland resilience, and altered drainage patterns. A community leader from Ayakoro, Bayelsa State, explained: "Apart from heavy rainfall, flooding is worsened by construction on water channels and poor waste disposal, which blocks drainage systems." These human pressures, combined with a changing climate, have intensified flooding, coastal erosion, and ecosystem degradation, increasing exposure to climate risks.

02 LIVELIHOOD DISRUPTIONS AND THREATS TO HUMAN SECURITY

Climate change poses a critical threat to livelihoods and human security in the Niger Delta. For many residents, climate change is no longer an abstract concept but a lived reality-evident in unpredictable rainfall, severe flooding, rising sea levels, coastal erosion, and soaring temperatures. A 41-year-old farmer from Sagbama, Bayelsa State, lamented: "The changes in rainfall are really affecting our farming. Sometimes when we expect rain, only the sun shines and dry up the crops, so we have to plant again. Then when we need the sun for the crops to grow, heavy rain and flood will come and destroy everything in the ground."

Flooded Houses in Biseni Community, Yenagoa Local Government Area, Bayelsa State.

A Compound Submerged By Floodwaters In A Community In Ondo Town, Ondo State.

These changes undermine local livelihoods, leaving farmers and fishers struggling to support their families. Flooded farmlands and damaged crops are increasingly common, leading to outbreaks of infectious diseases, declining food production, and worsening household insecurity. Rising temperatures, erratic rainfall, storm surges, and other extreme weather events, exacerbated by decades of environmental degradation from oil extraction and deforestation, further weaken ecological resilience and increase vulnerability to climate shocks.

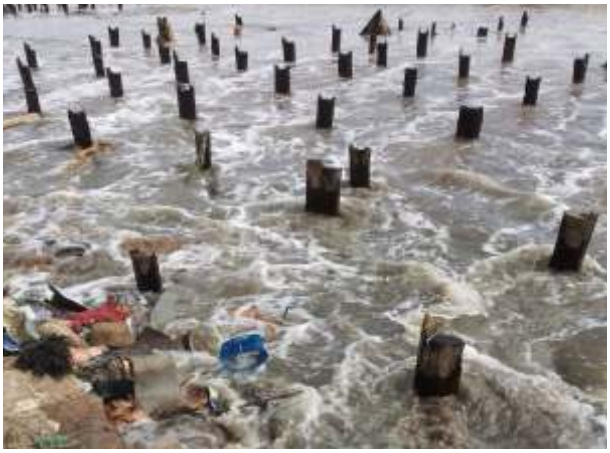
Floods and shifting rainfall patterns have disrupted agriculture, destroyed crops, and reduced arable land, leading to lower yields, income loss, and food insecurity. Fishing communities face declining fish stocks due to rising sea temperatures, salinity changes, and ocean acidification, which undermine livelihoods. Most participants identified declining fisheries and limited land availability as major factors undermining people's ability to provide for their families. A resident of Ebedebiri, Bayelsa State, explained: "In our community, we plant cassava, yams, and other crops, but frequent flooding

destroys our farms. The floodwaters enter the community, damaging crops and houses, and making it very difficult for businesses to survive. Fishermen are also badly affected, as the heavy rains drive the fish away." These trends threaten traditional smallholder livelihoods in fishing and farming, reducing household income and food availability thereby contributing to broader food insecurity. Land, an essential resource in the rural economy, has become increasingly scarce due to sea encroachment, with roads, farmlands, and homes lost to coastal erosion. A 40-year-old community leader in Gbagira, Ondo State, lamented: "There is no land left in Gbagira anymore. Erosion has washed everything away. The whole community has been taken over by water." This has caused livelihood losses and consequently, heightened competition over land and water, often fueling communal tensions and human insecurity in the region.

At the same time, rural–urban migration, driven by occupational and environmental displacement places additional pressure on urban infrastructure and employment opportunities. Even those who relocate inland face significant challenges accessing the resources needed to rebuild their lives. This growing scarcity intensifies competition over land and other critical resources, particularly among displaced communities, creating conditions for social tension and conflict at both household and community levels. A 30-year-old artisan from Ogoda, Rivers State, explained: "During the flood, everyone runs to stay safe, but when they come back home, they often find that their houses have been burgled. People also fight over the relief materials."

For many Niger Delta communities, climate change is a collective experience that is reshaping relationships with land, water, and livelihoods. Deep cultural attachments to rivers, farmlands, and fishing ecosystems, which are central to community identity and belonging, are

Residents paddling a canoe through floodwaters in Bayelsa.



A flooded fishing settlement in a coastal community in Ilaje, Ondo State

being eroded due to recurrent flooding and the loss of arable land. As these disruptions deepen, the self-esteem, sense of belonging, and uniqueness that underpin social cohesion and resilience are increasingly weakened, posing serious threats to human security, particularly mental health and social wellbeing.

These climate-related impacts unfold within complex social systems, manifesting as depression, anxiety, post-traumatic stress, grief, and frustration, often exacerbating pre-existing mental health conditions. Broader psychosocial effects include heightened anxiety, a diminished sense of security, and weakened attachment to place—commonly described as eco-anxiety or climate anxiety. A farmer in Ogoda, Rivers State, lamented: "We are afraid to farm now because when the flood comes, it carries everything away."

These pressures are further compounded by inadequate social amenities such as healthcare, clean water, education, and electricity, which increase community vulnerability and exacerbate human insecurity. As a 25-year old female resident of Ikebiri, Bayelsa State, explained: "Mosquitoes are a big problem during the flooding period. We see a lot of malaria and typhoid around that time because the mosquitoes increase. It is also very hard to get healthcare because everywhere is crowded and movement is difficult."

Flood-related public health risks, coupled with limited access to healthcare, often lead to high mortality among residents, particularly the elderly, women, children, and persons with disabilities. A 42-year-old community leader in Ebedebiri, Bayelsa State, lamented: "During the floods, the death rate usually rises, especially among older people and children. Some people who cannot swim drown. Sicknesses like malaria and other cold-related illnesses are common and widespread. The hospitals are often overcrowded, and the cost of drugs goes up." These health and environmental stressors not only threaten lives but also disrupt livelihoods, deepen poverty, and weaken human security in affected communities.

03 CLIMATE CHANGE AND CONFLICT DYNAMICS IN THE NIGER DELTA

Climate change is creating environmental, social, and economic pressures that directly and indirectly trigger conflict, particularly at the family and community levels. Although political, ethnic, and economic grievances remain significant, climate-induced resource scarcity is increasingly fueling localized violence. A 30-year-old woman from Odi, Bayelsa State, explained: "We see people having conflicts during the floods. When you move in with someone and you are not bringing anything, conflict is bound to happen. People also fight over relief materials when the NGOs bring them." Similarly, a 50-year-old man from Mbiama, Rivers State, added: "When the roads are covered by water, people try to create new routes by passing through another person's land, and this often causes conflicts between individuals and even between communities." These accounts illustrate how climate-related stressors heighten social tensions and conflicts within communities.

Declining fish stocks, lower agricultural yields, and deepening poverty have made climate change and environmental degradation key drivers of conflict and insecurity in the Niger Delta, compounding existing risks like communal tensions, criminality, political competition, inequality, and social exclusion. A local peace actor who doubles as a woman leader in Okwuzi, Rivers State, narrated: "The effects of recurrent flooding and environmental degradation on farming and fishing have pushed many of our young men into illegal activities like artisanal oil bunkering just to survive. Another issue is that government security forces often bomb the illegal refining sites in the bush. In fact, they were here just three days ago."

In recent years, climate change has triggered new conflicts and worsened existing ones, especially in communities affected by flooding, sea-level rise, land degradation, and biodiversity loss. A resident of Akiogbologbo in Ahoada West LGA, Rivers State, narrated: "Boys whose livelihoods have been disrupted by flooding often stand on the road trying to collect 200 naira from tipper drivers, which sometimes leads to fights. There is also conflict over the distribution of relief materials during flooding. Resources brought to the community often don't reach the people." The resident further recounted: "One time, relief was brought to an IDP camp, but some people claimed it for themselves, and those who truly needed it didn't get anything. This caused tension in the community." These dynamics reveal how climate-related disruptions to livelihoods and resources can directly trigger conflicts and heighten community tensions.

The oil and gas industry adds another layer of environmental stress in the Niger Delta, contributing to both pollution and broader environmental insecurity. While globally recognized as a major source of greenhouse gas emissions, local communities primarily experience its impacts through direct pollution of rivers, soil, and air, which devastates ecosystems, livelihoods, and public health—often with little awareness of its wider contribution to climate change. As a civil servant in Omoku, Rivers State, explained: "The presence of oil company operations in our community, especially oil spills and gas flaring, affects us badly. Illegal refining activities also harm the environment. When the military destroys illegal refinery products, it further affects the environment and the health of everyone in the community."

Taken together, these experiences and reports from residents underscore the complex ways in which climate change, environmental degradation, and industrial activities intersect to undermine livelihoods and human security in the Niger Delta. Recurrent flooding, declining agricultural productivity, shrinking fisheries, and rising health risks are not isolated challenges—they interact with socio-economic vulnerabilities, competition over resources, and institutional gaps to fuel tension and conflict. Climate-induced disruptions not only threaten immediate survival but also erode social cohesion, exacerbate poverty, and limit the ability of communities to recover from shocks.

04 COMMUNITY COPING MECHANISMS AND RESILIENCE PATHWAYS

Communities across the Niger Delta have developed diverse coping and adaptive strategies in response to the growing impacts of climate change, drawing on indigenous knowledge, collective action, and traditional resilience practices. In many coastal and riverine settlements, residents elevate homes on pillars or raise floor levels to remain above floodwaters. A 40-year-old community leader in Gbagira, Ondo State, explained: "We reinforce and elevate our buildings by planting sticks around them to help them withstand the floods."

During severe flooding, communities construct temporary wooden or sandbag bridges to maintain access, and families relocate to higher ground or migrate when necessary. A farmer in Ogwashi-Uku, Delta State, described: "During flooding, we use logs of wood and bags of cement filled with sand to create a walkway so people can pass, but cars cannot. Some of us, especially farmers, have to use canoes to move around. When the flooding gets worse, many people leave the community and move to nearby upland areas until the water goes down." Similarly, a youth leader in Ayakoro, Bayelsa State, noted: "We, as a community, clean our gutters and keep the surroundings tidy so that snakes don't have places to hide during the floods." These measures reflect practical adaptation and resilience grounded in local experience.

At the collective level, communities undertake cooperative efforts to mitigate climate impacts and sustain livelihoods. Local groups build embankments and drainage systems, while farmers adopt climate-smart practices such as ridging and raised-bed cultivation. Households reinforce shorelines with sandbags and vegetation to curb erosion. A 20-year-old businessman in Opuama, Delta State, observed: "The front part of our community has been built up with concrete, which helps stop the flood from coming in, but the other parts are still badly affected." A 42-year-old man from Ebedebiri, Bayelsa State, added: "In preparing for the flood season, we buy sand to block the water from entering the community. Sometimes our community leaders buy waterproof materials and block the areas where water comes in, but it is not enough. The government provided the concrete roads you see, working through our community leaders." These community-led efforts underscore the resilience, creativity, and collective action of local populations in defending their resources and livelihoods against escalating environmental threats.

Beyond physical adaptation, psychosocial resilience—the emotional, cognitive, and social capacities that enable individuals and groups to cope and function effectively during crises—has become a

critical pillar of community response. In the Niger Delta, solidarity networks, faith-based coping mechanisms, and collective problem-solving foster hope, optimism, and mutual support. A 30-year-old seafood vendor in Ayetoro, Ondo State, stated: "We cry for help so people will notice our situation. We live in fear because when you sleep at night, you don't know what will happen by morning. When the floods come, we shift our houses to safer places. When there is nowhere else to move, we relocate entirely. But we don't move alone; the whole community moves together, so displacement doesn't feel as bad. Our religion is our tradition; that is why I say we live by the grace of God." This account underscores relocation as an adaptive strategy, alongside the role of collective action, shared faith, and mutual support as key coping mechanisms. It reflects how psychosocial resilience and spiritual beliefs are closely intertwined in sustaining community well-being amid environmental crises.

Hope, in particular, sustains wellbeing and drives community-based climate action. It fosters belief in the power of collective effort to achieve meaningful change. Across the Niger Delta, environmental education, youth-led green initiatives, and participatory planning forums are translating this hope into tangible action—strengthening social bonds, enhancing adaptive capacity, and promoting inclusive decision-making for a more sustainable and peaceful future. A 77-year-old leader in Ita-Ogbolu, Ondo State, explained: "The community contributes to maintaining the environment and training people to do the same. The youth talk to and sensitize others about proper waste management. They also plant trees and shrubs to protect our surroundings. We, the elders, plant grasses as an example for the community to follow." An environmentalist in Rumuekpe, Rivers State, added: "Our youths carry out environmental education to raise public awareness about climate change and environmental hazards. The youths also educate the community on how to keep drainage clean and also address pollution from artisanal refining." These efforts demonstrate how collective awareness, alongside youth-led individual and community initiatives, can drive practical adaptation and strengthen long-term resilience.

Overall, communities in the Niger Delta exhibit deep and multifaceted resilience to climate change. Through physical adaptation, collective action, psychosocial support, and environmental education, residents protect their livelihoods, strengthen social cohesion, and sustain hope. These locally grounded and socially inclusive coping mechanisms enhance adaptive capacity, enabling communities to navigate current and future environmental challenges.

05 POLICY GAPS AND CHALLENGES

Nigeria's national and state governments have developed several frameworks to address climate change, including the National Strategy and Plan of Action on Climate Change (NASPA-CCN) and the Climate Change Act (CCA). However, significant gaps persist in translating these commitments into coordinated and inclusive local action. While these frameworks prioritize adaptation, they often rely on top-down approaches that limit local participation and overlook indigenous knowledge, which has long supported resilience in Nigeria's fragile ecosystems. In contrast, locally led adaptation strategies, rooted in traditional experience and community action, have proven more responsive and sustainable, yet their integration into formal policy remains weak, limiting both their reach and impact.

These gaps are particularly evident in the Niger Delta, where flooding, coastal erosion, and saltwater intrusion continue to damage farmlands, displace communities, and deepen poverty, food insecurity, and migration pressures. These environmental stressors also intensify social tensions and conflict risks, while weak environmental governance and poor health infrastructure further heighten human insecurity and vulnerability to climate-sensitive diseases. As a 30-year-old female resident in Kaiama, Bayelsa State, lamented: "Government interventions have not really worked because the problems have not been addressed properly by the relevant agencies. Most of us try to prepare and fend for ourselves."

Addressing these policy and institutional gaps requires integrated, multi-level governance that aligns national goals with local realities. Embedding locally led, conflict-sensitive, and climate-smart adaptation into subnational frameworks, while fostering collaboration among government agencies, are critical for advancing sustainable and peaceful climate action in the Niger Delta.

Recommendation

1. Achieving climate resilience in the Niger Delta requires a shift from reactive coping to transformative adaptation that balances immediate needs with long-term sustainability. This should include shoreline protection and erosion control through improved drainage systems and water channels, alongside stronger regulation of waste management and construction on floodplains to reduce flood risks. Short-term responses should also be complemented by investments in mangrove restoration and renewable energy to enhance environmental stability and improve human well-being.
2. To reduce the impacts of flooding and displacement, stakeholders should establish internally displaced persons (IDP) camps with access to essential services, supported by civil society oversight. Gender-sensitive relief supplies, including menstrual hygiene products, should also be stockpiled in advance of the flood season to enable a timely and inclusive response.
3. Early warning systems should be strengthened using traditional and local communication channels to ensure timely, accessible, and actionable information for effective community preparedness and response.
4. Building resilience requires coordination and partnerships, supported by inclusive governance systems that can manage environmental shocks and guide adaptation. Strengthening both formal and informal institutions, alongside community-based organizations to manage resources and prevent conflict, will enhance local resilience.
5. Recurrent flooding makes migration a potential adaptive strategy if managed carefully. Ensuring displaced and host communities have equitable access to livelihoods, education, and healthcare, along with dialogue and shared resource management, can reduce tensions and strengthen social cohesion.
6. Climate change has significant impacts on mental health, psychosocial well-being, and community cohesion. Adaptive strategies should integrate healing dialogues and psychosocial support services to restore hope, strengthen resilience, and foster lasting peace in affected communities.
7. Climate adaptation and resilience planning should be grounded in peacebuilding principles, including inclusivity and conflict sensitivity. Government agencies, development partners, and community leaders should collaborate to design and implement integrated frameworks. This will improve coordination, strengthen shared responsibility, and promote stability.

Conclusion

Climate change is intensifying ecological stress and undermining human security in the Niger Delta. Recurrent flooding, erosion, and decades of environmental pollution—combined with social and economic vulnerabilities—have eroded livelihoods, heightened conflict risks, and weakened community well-being. Building resilience therefore requires integrated approaches that promote environmental education and sustainability, inclusive governance, psychosocial support, and conflict-sensitive adaptation. By strengthening local systems and prioritizing community-led action, stakeholders can protect livelihoods and foster sustainable peace.

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