



doi:10.5281/zenodo.15308550

# **The Effect Of Oil And Gas Exploration On Youth Development In Yenegoa Metropolis**

**Epem Ubodiom & Dr. Ekpotuatin Charles Ariye**

**Department Of History and Diplomacy  
Isaac Jasper Boro College of Education, Sagbama, Bayelsa State, Nigeria**

## **ABSTRACT**

This study investigates the multifaceted impacts of oil and gas exploration activities on youth development in Yenegoa Metropolis, the capital city of Bayelsa State in Nigeria's Niger Delta region. Through a mixed-methods approach combining surveys (n=312), focus group discussions (n=6), and key informant interviews (n=15), the research examines how the presence of extractive industries affects educational attainment, employment opportunities, health outcomes, and socio-cultural development among youth aged 15-30. Results indicate paradoxical effects: while oil and gas activities have created some employment and educational scholarship opportunities, they have simultaneously contributed to environmental degradation, health challenges, and social disruption that negatively impact youth development. The study found that only 23% of surveyed youth reported direct benefits from oil and gas operations, while 68% identified significant negative consequences. Notably, communities closer to exploration sites exhibited poorer health indicators and higher school dropout rates. The findings underscore the need for more inclusive development policies, improved corporate social responsibility frameworks, environmental remediation efforts, and youth-centered initiatives to mitigate negative impacts while enhancing positive outcomes in Nigeria's oil-producing regions.

**Keywords:** Oil, Gas, Exploration, Youth, Environmental, Impact and Socioeconomic

## **INTRODUCTION**

The Niger Delta region of Nigeria has been at the center of global attention for decades due to its vast oil and gas resources and the complex socio-economic, environmental, and political challenges that have emerged from their exploitation (Okonkwo et al., 2023). Yenegoa, the capital city of Bayelsa State, represents a microcosm of these dynamics, where extractive activities have transformed the landscape, economy, and social fabric of local communities since commercial oil production began in Nigeria in the 1950s (Adebayo & Williams, 2024). The youth population, typically defined in the Nigerian context as individuals between 15 and 30 years of age, constitutes a significant demographic group particularly vulnerable to and affected by these transformations (National Bureau of Statistics [NBS], 2023).

The relationship between resource extraction and community development has been characterized by what scholars term the "resource curse" or "paradox of plenty" (Sachs & Warner, 2001; Ross, 2015). This paradox is particularly evident in Yenegoa, where despite the wealth generated by petroleum resources, many communities continue to experience poverty, environmental degradation, and social challenges (Elum et al., 2024). Understanding how these contradictions specifically affect youth development is crucial, as today's youth represent both the present workforce and future leadership of these communities. Youth development encompasses multiple dimensions including educational attainment, employment opportunities, health status, and socio-cultural integration (Onokerhoraye & Maticka-Tyndale, 2022). In

resource-rich but infrastructure-poor settings like Yenegoa, these development indicators can be significantly influenced by extractive industry operations. The introduction of oil and gas exploration activities brings potential benefits such as employment opportunities, infrastructure development, and corporate social responsibility (CSR) initiatives, but also introduces challenges including environmental pollution, social disruption, and economic inequality (Ibekwe & Johnson, 2024).

The youth of Yenegoa face a unique set of challenges and opportunities shaped by their proximity to one of Nigeria's most lucrative industries. On one hand, the oil sector potentially offers pathways to economic advancement through direct employment, supplier contracts, and corporate social investment in education and training. On the other hand, environmental degradation from exploration activities may compromise health outcomes, while the influx of wealth and external actors into traditional communities can disrupt social cohesion and cultural continuity (Obi & Amaize, 2023).

Furthermore, the political economy of resource extraction in Nigeria has created patterns of patronage, corruption, and conflict that directly impact youth livelihood options and civic engagement (Ukiwo, 2022). The phenomenon of youth militancy that emerged in the Niger Delta in the early 2000s exemplifies the complex relationship between resource extraction, governance failures, and youth development outcomes (Omolade & Adeyemi, 2023). While violent mobilization has diminished following the 2009 amnesty program, the underlying structural issues affecting youth development persist and continue to evolve in urban centers like Yenegoa (Edozie & Ukeje, 2022).

The educational landscape in Yenegoa illustrates these contradictions. The presence of oil companies has led to the establishment of scholarships, technical training centers, and improved school infrastructure in some communities. However, environmental pollution has rendered other areas uninhabitable, disrupting educational continuity, while the allure of quick money from the informal oil economy has contributed to school dropout rates among male youth especially (Ibaba & Oluwaniyi, 2023). Understanding these nuanced dynamics requires research that captures both quantitative indicators of youth development and qualitative experiences of living in an oil-producing urban center.

### **Statement of the Problem**

Previous research has extensively documented the environmental impacts of oil and gas activities in the Niger Delta, including oil spills, gas flaring, and habitat destruction (Osuji & Onojake, 2022; Nriagu et al., 2023). Similarly, studies have explored the broader socio-economic implications of resource extraction in the region (Idemudia, 2022; Watts, 2024). However, there remains a gap in understanding how these factors specifically converge to shape youth development outcomes in urban centers like Yenegoa, where extractive activities, urbanization pressures, and traditional community structures intersect. This research gap is particularly significant given that Nigeria has one of the youngest populations globally, with approximately 70% of its citizens under the age of 30 (NBS, 2023). The development trajectory of this youth cohort will largely determine the future stability, prosperity, and sustainability of the Niger Delta region. Understanding how oil and gas exploration activities affect various dimensions of youth development is therefore crucial for formulating effective policies and interventions. This study therefore aims to investigate how oil and gas exploration activities in Yenegoa Metropolis affect multiple dimensions of youth development, including educational attainment, employment opportunities, health outcomes, and socio-cultural integration. By adopting a mixed-methods approach that combines surveys, focus group discussions, and key informant interviews, the research provides a comprehensive analysis of both the measurable impacts and lived experiences of youth in this context. The findings contribute to both scholarly understanding of resource-development linkages and practical interventions aimed at fostering positive youth development in resource-rich environments.

### **Purpose of the Study**

The main purpose of the study is to investigate the multifaceted impacts of oil and gas exploration activities on youth development in Yenegoa Metropolis, the capital city of Bayelsa State in Nigeria's Niger Delta region. Specifically, the study seeks to:

1. Investigate the socioeconomic impacts of oil and gas exploration activities on youth development in Yenegoa Metropolis

2. Assess the environmental consequences of oil and gas operations and their effects on youth health and well-being
3. Evaluate educational and employment opportunities available to local youth in relation to the oil and gas industry
4. Analyze the effectiveness of corporate social responsibility programs targeting youth development
5. Examine youth participation in decision-making processes regarding resource management in their community.

### **Research Questions**

Based on the stated research objectives, the following research questions guided the study:

1. What are the socioeconomic impacts of oil and gas exploration activities on youth development in Yenegoa Metropolis?
2. How have the environmental consequences of oil and gas operations affected youth health and well-being in Yenegoa Metropolis?
3. What educational and employment opportunities are available to local youth in relation to the oil and gas industry in Yenegoa Metropolis?
4. How effective are the corporate social responsibility programs of oil and gas companies in addressing youth development needs in Yenegoa Metropolis?
5. To what extent do youth participate in decision-making processes regarding resource management in Yenegoa Metropolis?

### **Literature Review**

#### **Theoretical Framework**

#### **Resource Extraction and Community Development**

The relationship between natural resource extraction and community development has been theorized through multiple frameworks, each offering distinct perspectives on the complex dynamics at play in resource-rich regions like Nigeria's Niger Delta. The "resource curse" thesis, pioneered by economists Sachs and Warner (2001) and further developed by scholars like Ross (2015) and Auty (2020), posits that countries and regions abundant in natural resources, particularly non-renewable resources like oil and gas, often experience poorer development outcomes than resource-poor regions. This counterintuitive relationship has been attributed to factors including currency appreciation that undermines other economic sectors, revenue volatility, weak institutional capacity, corruption, and increased risk of conflict (Badeeb et al., 2023).

In the Nigerian context, scholars have applied and critiqued this framework extensively. Ikelegbe (2022) argues that the resource curse manifests in the Niger Delta not merely as economic underperformance but as a complex interplay of environmental degradation, political marginalization, and social fragmentation. Obi (2023) extends this analysis by emphasizing that the curse operates differently at national and sub-national levels, with oil-producing regions like Bayelsa State experiencing unique challenges related to their position as sites of extraction within a federated political system.

An alternative but complementary framework is the "political ecology" approach, which examines how power relations mediate access to and control over natural resources and their benefits (Bryant & Bailey, 1997; Robbins, 2020). Applied to the Niger Delta, this perspective highlights how colonial legacies, ethnic politics, and corporate strategies interact to shape who benefits from and who bears the costs of oil extraction (Ikelegbe & Umukoro, 2023). Watts (2024) employs this framework to analyze what he terms the "oil complex"; the network of political, economic, and military relationships that sustain resource extraction despite resistance from affected communities.

More recently, the "environmental justice" paradigm has gained prominence in analyzing the impacts of extractive activities on local communities (Schlosberg, 2023). This framework emphasizes distributive justice (how environmental benefits and burdens are allocated), procedural justice (how decisions about resource use are made), and recognition (how cultural identities and traditional knowledge are respected in resource governance). Okereke and Zalik (2023) apply this framework to analyze youth responses to

environmental degradation in the Niger Delta, arguing that demands for justice have evolved from purely compensatory claims to more complex assertions of rights to participation in resource governance.

These theoretical frameworks provide complementary lenses for understanding how oil and gas extraction activities might impact youth development in Yenegoa. They suggest that these impacts will be shaped not only by the material realities of extraction (environmental changes, economic opportunities) but also by power relations, institutional arrangements, and historical trajectories that determine how extraction proceeds and how its benefits and costs are distributed.

### **The Niger Delta Context: Oil, Environment, and Society**

The Niger Delta region encompasses nine states in southern Nigeria, covering approximately 70,000 square kilometers and home to over 30 million people belonging to more than 40 ethnic groups (Nigerian National Petroleum Corporation [NNPC], 2023). The region contains Africa's largest wetland ecosystem and mangrove forest, which has been significantly impacted by oil and gas exploration activities since the discovery of commercial quantities of oil in Oloibiri (Bayelsa State) in 1956 (Omolade et al., 2023).

Oil production in Nigeria reached 2.1 million barrels per day in 2023, with the Niger Delta accounting for over 90% of this production (NNPC, 2023). This extraction has generated enormous wealth—oil revenues contribute approximately 65% of government budgets and over 90% of foreign exchange earnings for Nigeria (World Bank, 2023). However, the distribution of these benefits has been highly uneven, with oil-producing communities often experiencing limited improvements in living standards despite bearing the environmental and social costs of extraction (Eyinla & Ukpo, 2022).

Environmental impacts of oil and gas exploration in the Niger Delta have been extensively documented. Osuji and Onojake (2022) report that between 1976 and 2022, over 9,000 oil spill incidents occurred, releasing approximately 3 million barrels of oil into the environment. Gas flaring, despite being technically illegal since 1984, continues in many locations, releasing toxic compounds into the atmosphere (Social Action, 2023). These environmental changes have severely impacted traditional livelihoods based on farming and fishing, forcing many communities to adapt their subsistence strategies (Nriagu et al., 2023).

The social impacts of oil extraction have been equally profound. Displacement and migration patterns have shifted as environmental degradation renders some areas uninhabitable while economic opportunities attract migrants to others (Ukiwo, 2022). Traditional governance structures have been challenged and sometimes undermined by the introduction of new wealth, new actors, and new forms of conflict (Watts, 2024). Youth restiveness emerged as a significant issue in the late 1990s and early 2000s, with groups like the Movement for the Emancipation of the Niger Delta (MEND) engaging in activities ranging from peaceful protest to armed insurgency against the state and oil companies (Obi, 2023).

The government's response to these challenges has evolved over time. The creation of the Niger Delta Development Commission (NDDC) in 2000, the Ministry of Niger Delta Affairs in 2008, and the Presidential Amnesty Program in 2009 represented attempts to address development deficits and security challenges in the region (Ikelegbe, 2022). Oil companies have also expanded their corporate social responsibility programs, funding infrastructure projects, scholarship schemes, and skills acquisition programs (Idemudia, 2022). However, critics argue that these interventions have been undermined by corruption, poor implementation, and failure to address underlying structural issues (Ukeje, 2023).

Yenegoa Metropolis exemplifies many of these regional dynamics while possessing unique characteristics as an urban center and state capital. With a population of approximately 700,000 (NBS, 2023), Yenegoa has experienced rapid urbanization driven partly by oil-related migration and the administrative functions associated with its status as Bayelsa's capital since 1996. The city is surrounded by oil facilities including flow stations, pipelines, and gas flaring points, creating a complex interface between urban development and extractive infrastructure (Elum et al., 2024).

### **Youth Development in Resource-Rich Contexts**

Youth development is a multidimensional concept encompassing physical, cognitive, social, and emotional growth processes that prepare young people for productive and fulfilling adult lives (Larson, 2022). In resource-rich contexts, these developmental processes can be significantly influenced by the economic, environmental, and social changes associated with extractive activities.

Educational outcomes represent a critical dimension of youth development with long-term implications for life chances. Research from various resource-rich contexts has identified mixed effects of extractive activities on educational attainment. In Ghana's gold mining regions, Hilson (2022) found that mining operations created incentives for early school leaving as youth pursued immediate income opportunities in the mining sector. Conversely, in Chile's copper mining regions, Arellano-Yanguas (2023) documented how resource revenues invested in educational infrastructure improved access to quality education for local youth.

In the Niger Delta specifically, Ibaba and Oluwaniyi (2023) identified a complex relationship between oil extraction and educational outcomes. Their survey of 500 households in Rivers State found that proximity to oil facilities correlated with higher dropout rates, particularly for boys attracted to informal employment in the oil economy. However, they also found that in communities where oil companies had invested substantially in educational facilities and scholarship programs, completion rates were higher than the regional average. This suggests that corporate social investment can potentially mitigate negative educational impacts when effectively implemented.

Employment and livelihood opportunities constitute another critical dimension of youth development. The introduction of extractive industries typically creates both formal employment opportunities within the industry and informal opportunities in ancillary services and supply chains. However, research indicates that the distribution of these opportunities often favors youth with existing advantages in terms of education, connections, or location (Okorobia & Brown, 2023).

A significant study by Omolade and Adeyemi (2023) surveyed 1,200 youth across three Niger Delta states and found that only 8% had secured formal employment with oil companies or their contractors, despite 67% expressing a desire for such employment. The authors identified a significant skills mismatch, with oil companies requiring technical qualifications that most local youth lacked. This mismatch contributes to frustration and potentially to conflict, as suggested by Ukeje (2023), who found correlations between youth unemployment rates and participation in protest activities across 45 oil-producing communities.

Health outcomes represent another crucial aspect of youth development potentially affected by extractive activities. Environmental changes associated with oil and gas exploration—including water contamination, air pollution from gas flaring, and exposure to crude oil through spills—have been linked to various health problems (Nriagu et al., 2023). A longitudinal study by Mmom and Igwe (2022) tracked health outcomes among 320 youth in Rivers State over five years and found significantly higher rates of respiratory disorders, skin conditions, and reproductive health problems among those living within 5 kilometers of gas flaring sites compared to a control group in non-flaring areas.

Psychosocial development and identity formation may also be affected by the changes associated with resource extraction. Traditional pathways to adulthood in many Niger Delta communities involved apprenticeship in fishing, farming, or crafts, combined with cultural initiation ceremonies (Onokerhoraye & Maticka-Tyndale, 2022). The disruption of these traditional livelihoods and the introduction of new values associated with oil wealth have created what Ikelegbe and Umukoro (2023) term "developmental disjunctures"—gaps between traditional expectations and contemporary realities that youth must navigate. These psychosocial challenges are compounded by exposure to conflict and insecurity. Obi and Amaize (2023) conducted life history interviews with 50 youth in Bayelsa State and found that exposure to oil-related conflicts, including community protests, military interventions, and inter-community disputes over resource benefits, significantly impacted youth mental health and social trust. They argue that these experiences create developmental vulnerabilities that may persist into adulthood.

Despite these challenges, research also indicates youth resilience and agency in resource-rich contexts. Ukiwo (2022) documented how youth organizations in the Niger Delta have evolved from primarily cultural associations to sophisticated advocacy groups engaging with oil companies and government agencies. Similarly, Obi (2023) analyzed youth-led community monitoring programs that track environmental impacts and hold companies accountable, demonstrating how adverse circumstances can sometimes catalyze positive civic engagement.

### **Corporate Social Responsibility and Youth Development in the Niger Delta**

Corporate Social Responsibility (CSR) initiatives by oil companies represent a significant intervention intended to mitigate negative impacts and share benefits with host communities. These programs have evolved substantially over the decades, from ad hoc charitable donations to more structured community development agreements and social investment portfolios (Idemudia, 2022).

In relation to youth development specifically, oil companies operating in the Niger Delta have implemented various initiatives including scholarship programs, skills acquisition centers, sports facilities, and entrepreneurship schemes (Ibekwe & Johnson, 2024). The effectiveness of these programs in supporting positive youth development outcomes has been the subject of several studies with mixed findings.

A comprehensive evaluation by Idemudia (2022) of Shell's youth development programs across 24 communities found significant variations in impact. Communities where programs were designed with substantial youth input and aligned with local economic opportunities showed higher rates of successful transition to employment or entrepreneurship compared to communities where programs were implemented with minimal consultation. This underscores the importance of youth participation in program design, a finding echoed by Okorobia and Brown (2023) in their assessment of Chevron's initiatives in Delta State.

The sustainability of CSR initiatives has been identified as a particular challenge. Eyinla and Ukpo (2022) found that many skills acquisition programs failed to create lasting employment outcomes because they were not connected to actual market demand or ongoing support structures. They noted that youth often received training in trades already saturated in local markets or requiring capital investments beyond what was provided by the programs. This highlights the need for more comprehensive approaches that consider the entire pathway from skill acquisition to sustainable livelihoods.

Another critique concerns the distribution of CSR benefits. Watts (2024) argues that corporate programs often exacerbate existing inequalities by favoring youth with better educational backgrounds, political connections, or residence in more accessible communities. This selective benefit distribution can create new tensions within and between communities, potentially undermining social cohesion rather than enhancing it.

Despite these critiques, some innovative approaches show promise. Elum et al. (2024) documented a collaboration between ExxonMobil and a local university in Akwa Ibom State that combines tertiary education with industry-specific training and internship opportunities. Their three-year follow-up study found that 62% of program graduates secured employment in the oil sector or related industries, compared to 17% of graduates from similar programs without the industry partnership component.

The 2021 Petroleum Industry Act (PIA) introduces new frameworks for community benefit-sharing, including the requirement that companies contribute 3% of their operational expenditure to host community development trusts (Federal Republic of Nigeria, 2021). While not yet fully implemented, this legislation potentially creates new opportunities for youth development initiatives with more sustainable funding and community oversight (Obi, 2023).

## **METHODOLOGY**

### **Research Design**

This study employed a mixed-methods research design combining quantitative and qualitative approaches to investigate the multifaceted impacts of oil and gas exploration on youth development in Yenegoa Metropolis. This methodological triangulation allowed for both measurement of impact patterns across a relatively large sample and in-depth exploration of lived experiences and contextual factors (Creswell & Creswell, 2023). The research was conducted between January and August 2024.

The study adopted a convergent parallel mixed-methods design, where quantitative and qualitative data were collected concurrently, analyzed separately, and then integrated during interpretation (Schoonenboom & Johnson, 2022). This approach facilitated a comprehensive understanding of both the extent and nature of oil and gas impacts on youth development.

## Study Area

Yenegoa Metropolis, the capital city of Bayelsa State, was selected as the study area due to its significant exposure to oil and gas exploration activities while functioning as an urban administrative center. The metropolis is situated in the central Niger Delta and spans approximately 706 square kilometers with a population estimated at 700,000 in 2023 (NBS, 2023). The city is surrounded by numerous oil wells, flow stations, and gas flaring points operated by several multinational oil companies and their local partners.

For this study, six distinct zones within Yenegoa Metropolis were identified based on their proximity to oil infrastructure and socioeconomic characteristics:

1. Amarata (central urban, moderate proximity to oil facilities)
2. Swali (peri-urban, high proximity to oil facilities)
3. Tombia (peri-urban, moderate proximity)
4. Igbogene (rural-urban transition, low proximity)
5. Biogbolo (urban, low proximity)
6. Agudama-Epie (urban, high proximity)

This zoning approach ensured representation of different community contexts while facilitating analysis of how proximity to oil facilities might correlate with youth development outcomes.

## Target Population and Sampling

The target population comprised youth aged 15-30 years residing in Yenegoa Metropolis for at least one year. This age range aligns with Nigeria's National Youth Policy definition of youth (Federal Republic of Nigeria, 2019) and captures individuals at various stages of transition from adolescence to adulthood.

For the quantitative component, a stratified random sampling technique was employed. The six zones identified above served as the primary strata. Within each zone, households were randomly selected using a systematic sampling approach, with every fifth household on selected streets approached for participation. In each selected household, one eligible youth was invited to participate in the survey. If multiple eligible youth were present, simple random selection was used.

Sample size was determined using Cochran's formula with 95% confidence level and 5.5% margin of error, yielding a target of 312 respondents. The actual sample achieved was 312, distributed proportionally across the six zones based on estimated youth population.

For the qualitative component, participants were purposively selected to ensure diversity in age, gender, educational background, and relationship to the oil industry (directly employed, indirectly employed, not employed in oil sector). Focus group participants were recruited through community-based organizations, educational institutions, and youth associations, while key informants were identified based on their expertise and roles in youth development, environmental management, oil industry operations, or community leadership.

## Data Collection Instruments

### Survey Questionnaire

A structured questionnaire was developed to collect quantitative data on multiple dimensions of youth development and perceptions of oil and gas impacts. The instrument contained 68 items organized into six sections:

1. Demographic information (12 items)
2. Educational experience and attainment (14 items)
3. Employment status and opportunities (11 items)
4. Health status and environmental exposure (13 items)
5. Social integration and cultural participation (8 items)
6. Perceptions of oil and gas impacts (10 items)

The questionnaire utilized multiple response formats including Likert scales, categorical choices, and numeric inputs. It was initially developed in English and translated into Nigerian Pidgin, with back-translation to ensure conceptual equivalence. The instrument was pilot-tested with 30 respondents not included in the final sample, resulting in minor modifications to improve clarity and cultural appropriateness.

### **Focus Group Discussion Guide**

A semi-structured discussion guide was developed for the focus group discussions, covering six main thematic areas:

1. Community changes attributed to oil and gas activities
2. Educational opportunities and challenges
3. Employment experiences and aspirations
4. Health concerns and environmental impacts
5. Cultural continuity and social cohesion
6. Coping strategies and recommendations

The guide included open-ended primary questions with probing follow-up questions to facilitate in-depth discussion. Visual elicitation techniques using photographs of local oil facilities and community changes were incorporated to stimulate reflection and dialogue.

### **Key Informant Interview Schedule**

A separate interview schedule was developed for key informants, with questions tailored to their specific expertise and role. Common topics across all interviews included:

1. Historical perspective on oil and gas development in Yenegoa
2. Observed impacts on youth development trajectories
3. Effectiveness of existing policies and programs
4. Recommendations for improvement
5. Future outlook for youth in Yenegoa

The schedule allowed for flexibility to explore unique insights emerging from each informant's experience while ensuring comprehensive coverage of research themes.

### **Data Collection Procedures**

#### **Survey Administration**

The survey was administered by ten trained research assistants who were familiar with the local context and fluent in both English and Nigerian Pidgin. Face-to-face administration was employed to maximize response rates and ensure proper understanding of questions. Surveys were conducted at respondents' homes or other convenient locations, typically requiring 30-45 minutes to complete. Digital tablets with ODK Collect software were used for data capture, allowing for real-time validation and secure data storage.

#### **Focus Group Discussions**

Six focus group discussions (FGDs) were conducted, one in each of the identified zones. Each group comprised 8-10 participants with balanced gender representation. Discussions were facilitated by the lead researcher with assistance from a note-taker and lasted approximately 90-120 minutes. Sessions were conducted in locations accessible to participants, including community halls and school classrooms. With participants' consent, discussions were audio-recorded for accurate transcription and analysis.

#### **Key Informant Interviews**

Fifteen key informant interviews were conducted with:

- Youth development officers (2)
- Environmental regulators (2)
- Oil company representatives (3)
- Community leaders (3)
- Educators (2)
- Health professionals (2)
- Youth organization leaders (1)

Interviews lasted 60-90 minutes and were conducted in settings chosen by the informants. With consent, interviews were audio-recorded and supplemented with researcher notes.

### **Data Analysis**

#### **Quantitative Analysis**

Survey data were exported from ODK to SPSS version 27 for cleaning and analysis. Descriptive statistics including frequencies, percentages, means, and standard deviations were calculated for all variables.



Bivariate analyses using chi-square tests, t-tests, and ANOVA were employed to examine relationships between proximity to oil facilities and youth development indicators. Multiple regression analysis was used to identify predictors of key outcome variables while controlling for demographic factors.

To facilitate integrated analysis, a composite Youth Development Index (YDI) was constructed combining indicators from educational attainment, employment status, health status, and social integration dimensions. This index was then analyzed in relation to oil and gas exposure variables.

### Qualitative Analysis

Audio recordings from FGDs and interviews were transcribed verbatim and, where necessary, translated into English. Transcripts were imported into NVivo 14 software for systematic coding and analysis. A combination of deductive and inductive approaches was employed, beginning with a coding framework derived from the research questions and literature review, but allowing for emergence of new themes from the data.

## RESULTS

### Demographic Characteristics of Respondents

The survey sample comprised 312 youth respondents from across the six zones of Yenegoa Metropolis. Table 1 presents the demographic profile of participants.

**Table 1: Demographic Characteristics of Survey Respondents**

Characteristic	Category	Frequency (n)	Percentage (%)
Age Group	15-19 years	87	27.9
	20-24 years	118	37.8
	25-30 years	107	34.3
Gender	Male	162	51.9
	Female	150	48.1
Educational Level	No formal education	12	3.8
	Primary education	27	8.7
	Secondary education	142	45.5
	Tertiary education	131	42.0
Employment Status	Student	96	30.8
	Employed (formal)	67	21.5
	Self-employed	83	26.6
	Unemployed	66	21.1
Residential Zone	Amarata	57	18.3
	Swali	62	19.9
	Tombia	48	15.4
	Igbogene	43	13.8
	Biogbolo	51	16.3
	Agudama-Epie	51	16.3
Years of Residence in Yenegoa	1-5 years	68	21.8
	6-10 years	83	26.6
	11-15 years	72	23.1
	>15 years (born there)	89	28.5

The sample achieved good representation across age groups, gender, and residential zones. The educational profile indicates relatively high educational attainment, with 42% having accessed tertiary education, reflecting Yenegoa's status as an urban center with several higher education institutions. Employment patterns show diversity, with approximately equal proportions of students, formally employed, self-employed, and unemployed youth.

### **Perceived Impacts of Oil and Gas Activities**

The results indicate that respondents perceived both positive and negative impacts across different dimensions. Economic opportunities (+0.8) and infrastructure development (+0.6) received moderately positive ratings, while environmental quality (-1.7) and community health (-1.3) received strongly negative ratings. Educational development showed a slightly positive rating (+0.3), while social cohesion (-0.4) and cultural continuity (-0.9) were perceived negatively.

When asked to provide an overall assessment of oil and gas impacts on youth development specifically, respondents were divided: 23

When asked to provide an overall assessment of oil and gas impacts on youth development specifically, respondents were divided: 23% reported overall positive impacts, 68% reported overall negative impacts, and 9% reported neutral impacts. However, these aggregate figures mask important variations by location, gender, and other factors that are explored in subsequent sections.

Qualitative data from focus groups and interviews provided context for these quantitative findings. Participants frequently described the impacts of oil and gas activities as "paradoxical" or "double-edged," recognizing benefits in some areas while acknowledging significant costs in others. As one youth leader explained:

"Oil companies have brought some good things; scholarships for some students, jobs for some youth, roads in some areas. But they have also brought many problems; pollution that destroys our fishing and farming, health problems, conflicts between communities. So, it's hard to say if the overall impact is good or bad. It depends on who you are and where exactly you live." (Male, 28, Youth organization leader)

This perspective of differential impacts emerged consistently across the qualitative data and is explored further in the following sections.

### **Educational Outcomes**

#### **Educational Attainment and Oil Industry Presence**

Analysis of educational indicators revealed complex relationships with proximity to oil facilities. While overall educational attainment in Yenegoa was relatively high compared to national averages, significant disparities were observed between zones. Table 2 presents key educational indicators by residential zone.

**Table 2: Educational Indicators by Residential Zone**

<b>Zone</b>	<b>Secondary Completion (%)</b>	<b>Tertiary Enrollment Rate (%)</b>	<b>School Dropout Rate (%)</b>	<b>Access to Oil Company Educational Support (%)</b>
Amarata	78.9	47.4	14.0	10.5
Swali	66.1	32.3	24.2	21.0
Tombia	72.9	39.6	18.8	12.5
Igbogene	81.4	46.5	11.6	7.0
Biogbolo	84.3	52.9	9.8	5.9
Agudama-Epie	64.7	35.3	27.5	23.5
Overall	74.4	42.0	17.9	13.5

Chi-square tests revealed statistically significant associations between zone proximity to oil facilities and educational outcomes. Zones with high proximity to oil facilities (Swali and Agudama-Epie) showed lower completion rates, lower tertiary enrollment, and higher dropout rates compared to zones with low

proximity (Igbogene and Biogbolo). However, these high-proximity zones also reported greater access to oil company educational support programs, suggesting targeted corporate interventions in the most affected areas, though apparently insufficient to fully offset negative impacts.

Regression analysis controlling for demographic factors confirmed that proximity to oil facilities was significantly associated with school dropout rates ( $\beta = 0.28$ ,  $p < 0.01$ ), even after controlling for family income, parental education, and household size.

Qualitative data illuminated the mechanisms behind these patterns. Focus group participants from high-proximity zones described how environmental conditions affected educational engagement:

*"When there is gas flaring, the classrooms become too hot, students get headaches, can't concentrate. Sometimes schools even close early on bad days. How can you learn properly in such conditions?"* (Female, 17, Student, Swali)

*"Some students drop out to work in the oil economy; not necessarily with the companies themselves but in all the small businesses that serve oil workers or in bunkering [illegal oil refining]. The money is faster than staying in school."* (Male, 24, Teacher, Agudama-Epie)

Conversely, oil company educational initiatives were acknowledged as valuable by those who could access them:

*"I got a scholarship from [oil company] that covered my university fees. Without it, I wouldn't have been able to continue after secondary school. But these scholarships are very competitive; only a few students get them each year."* (Female, 22, University student, Amarata)

Key informants emphasized the uneven distribution of educational benefits:

*"The oil companies have built some school blocks, provided computers, given scholarships. But these interventions are not systematic; they might renovate one school but ignore five others in greater need. And they don't address the underlying environmental issues that affect learning."* (Male, 45, Education administrator)

### **Educational Content and Relevance**

Beyond quantitative indicators, the study examined perceptions of educational relevance to local economic opportunities, particularly those related to the oil and gas industry. Only 31.7% of survey respondents agreed that their education had prepared them adequately for available employment opportunities in Yenegoa.

Focus group discussions revealed a perceived mismatch between educational curricula and industry requirements:

*"We study theoretical petroleum engineering, but the companies want specific technical certifications and experiences that our universities don't provide. So even after graduation, you can't get hired without additional training that most youth can't afford."* (Male, 26, Engineering graduate, Tombia)

This perception was confirmed by industry representatives:

*"Local institutions don't fully align their programs with industry standards. We often have to hire from outside Bayelsa or provide extensive retraining for local recruits. We're working with some institutions to address this gap, but progress is slow."* (Female, 41, Oil company HR manager)

### **Employment and Economic Opportunities**

#### **Youth Employment Patterns and Oil Industry Connection**

Survey data on employment status revealed that only 8.3% of respondents were directly employed by oil companies or their contractors, while an additional 13.1% were employed in businesses serving the oil sector (hospitality, transportation, retail, etc.). Among the formally employed subset ( $n=67$ ), oil sector employment represented 38.8% of formal jobs, indicating its significant role in the formal economy despite limited direct employment of local youth.

Analysis of employment rates by zone revealed that zones with moderate proximity to oil facilities (Amarata and Tombia) had the highest rates of oil-related employment (26.3% and 22.9% respectively), rather than the highest-proximity zones. This pattern suggests that ideal access to oil employment opportunities may involve proximity to the industry without the most severe environmental impacts.

Qualitative data offered explanations for limited local employment in the oil sector:

"Companies bring most technical workers from Port Harcourt or Lagos. They say we don't have the skills, but even for positions that don't need much training, they prefer outsiders." (Male, 27, Unemployed graduate, Swali)

"To get even entry-level jobs with oil companies, you need connections; someone inside who can recommend you. Without that, your application just disappears." (Female, 25, Retail worker, Biogbolo)

Industry representatives provided a different perspective:

"We have local content requirements that mandate hiring from host communities. But we struggle to find qualified candidates for technical roles, and when we do hire locally, we sometimes face pressure to favor certain families or groups, which creates its own problems." (Male, 52, Oil company community relations officer)

### Indirect Economic Effects

Beyond direct employment, the survey examined broader economic effects. When asked how oil and gas activities had affected their household income, respondents reported mixed impacts: 34.6% reported positive effects, 41.3% reported negative effects, and 24.1% reported no significant change.

Regression analysis revealed that perception of economic impact was significantly associated with zone ( $F=8.32$ ,  $p<0.001$ ), employment sector ( $F=12.46$ ,  $p<0.001$ ), and gender ( $t=2.87$ ,  $p<0.01$ ), with males more likely to report positive economic impacts than females.

Focus group discussions highlighted how environmental degradation undermined traditional livelihoods:

"My father was a fisherman, but the fish populations declined so much due to pollution that he had to stop. Our family income decreased significantly. I had to find work in the city instead of continuing the family tradition." (Male, 23, Security guard, Swali)

However, participants also acknowledged economic diversification effects:

"The oil economy has created demand for services; restaurants, hotels, transportation, entertainment. Some youth have found opportunities in these sectors even if they don't work directly with oil companies." (Female, 29, Restaurant owner, Amarata)

### Health Outcomes and Environmental Exposure

#### Self-Reported Health Status and Environmental Exposure

Survey respondents were asked to rate their overall health status and report specific symptoms potentially associated with environmental exposure. Table 3 presents self-reported health conditions by residential zone.

**Table 3: Self-Reported Health Conditions by Residential Zone**

Zone	Excellent/Good Health (%)	Respiratory Symptoms (%)	Skin Conditions (%)	Frequent Headaches (%)	Gastrointestinal Issues (%)
Amarata	68.4	21.1	14.0	26.3	15.8
Swali	51.6	40.3	32.3	45.2	25.8
Tombia	66.7	25.0	16.7	29.2	14.6
Igbogene	76.7	16.3	9.3	18.6	11.6
Biogbolo	74.5	19.6	11.8	21.6	13.7
Agudama-Epie	47.1	43.1	37.3	49.0	29.4
Overall	63.8	28.2	20.8	32.4	18.6

Chi-square analysis confirmed statistically significant associations between zone and all health indicators ( $p<0.01$  for all comparisons). Zones with high proximity to oil facilities reported substantially worse health outcomes across all measures. Controlling for age, gender, and socioeconomic status in logistic regression analysis, residence in a high-proximity zone remained a significant predictor of reporting respiratory symptoms ( $OR=2.84$ , 95%  $CI=1.76-4.59$ ) and skin conditions ( $OR=3.41$ , 95%  $CI=1.98-5.87$ ).

Perceived environmental quality was strongly correlated with self-reported health status ( $r=0.67$ ,  $p<0.001$ ). When asked to identify environmental concerns in their communities, respondents in high-proximity zones most frequently cited air pollution from gas flaring (87.6%), water contamination (82.3%), and noise pollution (63.7%).

Qualitative data provided rich descriptions of perceived environmental health impacts:

*"When the flaring is heavy, everyone suffers—burning eyes, difficulty breathing, coughing. The elderly and children suffer most, but even young people feel the effects. Sometimes the rain water has an oily film. How can we stay healthy in such conditions?"* (Female, 21, Student, Agudama-Epie)

*"I developed this skin condition three years ago after swimming in the creek near my house. The doctor said it was from contact with contaminated water. Now I have to apply expensive creams, and it still hasn't fully healed."* (Male, 18, Student, Swali)

Health professionals confirmed these observations while noting the challenges of establishing direct causation:

*"We see higher rates of respiratory conditions, dermatological problems, and certain cancers in communities closer to oil facilities. While multiple factors contribute to these patterns, the correlation with proximity to oil activities is strong and consistent with the international literature on petroleum pollution health effects."* (Female, 48, Public health physician)

### **Psychological Well-being**

Beyond physical health, the study examined psychological well-being using a modified version of the WHO-5 Well-Being Index. Mean well-being scores were significantly lower in high-proximity zones ( $M=12.3$ ,  $SD=4.1$ ) compared to low-proximity zones ( $M=15.8$ ,  $SD=3.7$ ),  $t(310)=7.42$ ,  $p<0.001$ .

Focus group participants described stress related to environmental uncertainty:

*"There's anxiety about living here, worry about the next oil spill, the next health problem, whether it's safe to drink the water or eat local fish. This constant stress affects your mental health even if you're physically okay."* (Female, 26, Teacher, Swali)

Others mentioned frustration and helplessness:

*"We've complained many times about the flaring, written petitions, held peaceful protests. Nothing changes. This feeling that you can't control what happens to your own community, your own health; it affects your spirit."* (Male, 30, Community activist, Agudama-Epie)

### **Social and Cultural Dimensions**

#### **Social Cohesion and Community Relations**

The survey included items assessing perceptions of social cohesion using a 5-point Likert scale. Analysis revealed significant differences in perceived social cohesion by zone ( $F=6.87$ ,  $p<0.001$ ), with high-proximity zones reporting lower cohesion ( $M=2.8$ ,  $SD=0.7$ ) than low-proximity zones ( $M=3.5$ ,  $SD=0.6$ ).

Qualitative data illuminated several mechanisms through which oil activities affected social relations:

1. Competition for limited benefits:

*"When companies offer a few jobs or scholarships, it creates competition between families and sometimes between communities. People who were once neighbors start seeing each other as rivals."* (Male, 27, Community youth leader, Tombia)

2. Migration patterns:

*"Many outsiders have moved here seeking opportunities in the oil economy. Some integrate well, but others don't respect local customs. The social fabric changes when half your neighbors are newcomers with different values."* (Female, 24, Trader, Amarata)

3. Disruption of traditional authority:

*"Before oil companies came, our traditional leaders had clear authority. Now power comes more from who has connections to the companies or government. This has weakened our traditional governance systems."* (Male, 65, Community elder, Agudama-Epie)

4. Inequality and resentment:

*"Some families benefit greatly from oil company employment or contracts, while others suffer only the negative effects. This inequality creates tensions within the community."*  
(Female, 29, Civil servant, Biogbolo)

**Cultural Continuity and Identity**

The survey assessed participation in cultural activities and perceptions of cultural continuity. Only 37.2% of respondents reported regular participation in traditional cultural activities, with significant differences by age group ( $\chi^2=16.32$ ,  $p<0.001$ ) and zone ( $\chi^2=14.87$ ,  $p<0.05$ ). Younger respondents (15-19 years) and those in high-proximity zones reported lower participation rates.

When asked whether oil and gas activities had affected cultural practices, 62.5% of respondents indicated negative effects, 8.3% indicated positive effects, and 29.2% reported no significant impact.

Focus group discussions revealed specific mechanisms of cultural impact:

*"Environmental changes have affected cultural practices tied to the ecosystem. Traditional fishing festivals have less meaning when fish populations are depleted. Coming-of-age ceremonies that involved swimming in the creeks aren't safe anymore because of pollution."* (Male, 28, Cultural activist, Swali)

*"The value system has changed. Traditional occupations like fishing and farming are now seen as backward compared to oil sector jobs. Youth want to work in offices, not learn traditional skills from their parents."* (Female, 25, Graduate student, Tombia)

However, some participants described cultural adaptation and resilience:

*"We've modified some traditions to fit the new reality. Our annual fishing festival now includes environmental awareness activities. We're using modern tools like social media to preserve and promote our language and stories."* (Male, 22, Student, Amarata)

**Youth Agency and Response Strategies**

A key finding from qualitative data was the diverse ways youth responded to the challenges and opportunities presented by oil and gas activities. These responses ranged from adaptation to resistance and innovation.

**Educational and Career Strategies**

Many participants described strategic educational choices in response to the oil economy:

*"I deliberately chose to study environmental management because I saw how our community was suffering from pollution. Now I work with an NGO monitoring environmental impacts and advocating for better practices."* (Female, 27, NGO worker, Amarata)

*"After secondary school, I got technical training in welding specifically because oil contractors need welders. It was a calculated decision based on where I saw employment opportunities."* (Male, 24, Welder, Swali)

**Civic Engagement and Advocacy**

Some youth had channeled their concerns into organized advocacy:

*"We formed an environmental monitoring group that documents spills and flaring incidents. We use social media to share evidence and pressure companies and government agencies to respond."* (Male, 26, Community activist, Agudama-Epie)

*"Youth from several communities united to negotiate more beneficial Memoranda of Understanding with the oil companies. By working together rather than competing, we've achieved better terms for scholarships, employment quotas, and infrastructure projects."* (Female, 30, Youth organization leader, Tombia)

**Entrepreneurial Responses**

Innovation in response to challenges was another theme:

*"When fishing became less viable due to pollution, I started a fish farm using tanks rather than the creeks. Now I supply fish to restaurants in Yenegoa and employ three other youth."* (Male, 29, Entrepreneur, Swali)

*"I developed a service business specifically targeting oil workers, providing laundry, food delivery, and accommodations. I saw a market opportunity created by the industry and adapted to it."* (Female, 26, Business owner, Amarata)

### **Migration and Mobility**

Strategic mobility emerged as another response:

*"I maintain connections to my community in Agudama but chose to live in Biogbolo where the environmental conditions are better. I still visit family regularly but prioritized my health in choosing where to live."* (Male, 25, Bank employee)

*"Many youths from my area have moved to Port Harcourt or Lagos where there are more opportunities. They send money back to family in Yenegoa but don't see a future for themselves here."* (Female, 23, Student, Swali)

### **DISCUSSION**

This study reveals the complex and multifaceted impacts of oil and gas exploration activities on youth development in Yenegoa Metropolis. The findings demonstrate that these impacts are neither uniformly positive nor negative but vary significantly depending on geographic proximity to oil facilities, socioeconomic status, gender, and other factors. This section discusses the key findings in relation to existing literature and theoretical frameworks.

#### **The Paradox of Resource Wealth**

The study's findings strongly support the "resource curse" hypothesis (Sachs & Warner, 2001; Ross, 2015) at the sub-national level, demonstrating how resource wealth can generate adverse development outcomes even while creating some economic opportunities. In Yenegoa, this paradox manifests in the coexistence of oil-funded infrastructure and educational initiatives alongside environmental degradation and health problems that undermine development.

This finding aligns with Obi's (2023) observation that the resource curse operates differently at sub-national levels compared to national economies. While Nigeria's national economy shows classic resource curse symptoms (Dutch disease, institutional weakness, corruption), at the community level in Yenegoa, the mechanisms are more direct environmental degradation directly impacting health and traditional livelihoods while benefits are unevenly distributed.

The study's findings add nuance to this theory by demonstrating the spatial aspect of the resource curse its effects vary significantly over relatively short distances within Yenegoa Metropolis. The finding that health impacts, educational disruption, and social fragmentation are most severe in zones immediately adjacent to oil infrastructure, while economic benefits often accrue more to moderately proximate areas, represents an important contribution to understanding how resource extraction impacts manifest spatially.

#### **Youth Development Trajectories in Resource Contexts**

The study reveals how youth development trajectories are shaped by the opportunities and constraints of the oil economy in ways that both align with and extend previous research. The limited direct employment of local youth in the oil sector despite its economic dominance echoes Omolade and Adeyemi's (2023) findings regarding skills mismatches and barriers to entry. However, this study provides additional insight by documenting the strategic adaptations youth employ in response to these constraints, including targeted educational choices, entrepreneurship in ancillary sectors, and geographic mobility.

The health impacts documented support and extend Nriagu et al.'s (2023) work on environmental exposure in oil-producing regions. The strong association between proximity to oil facilities and health complaints, controlling for other factors, strengthens the evidence base for causal relationships between petroleum pollution and health outcomes. The documentation of psychosocial impacts including stress, anxiety, and reduced sense of agency, extends this literature beyond physical health effects to encompass broader wellbeing dimensions critical to youth development.

The study's finding that educational attainment is affected not only by school closures or dropouts but also by quality factors like classroom conditions and concentration difficulties adds important context to understanding educational outcomes in extractive contexts. This supports Ibaba and Oluwaniyi's (2023) work while providing more detailed mechanisms for how environmental conditions affect learning processes.

### **Corporate Social Responsibility and Development Outcomes**

The findings regarding corporate social initiatives align with Idemudia's (2022) critique that such programs often fail to address structural issues despite providing valuable resources to some community members. The study documents how scholarship programs, while beneficial to recipients, reach only a small percentage of youth and may exacerbate inequalities when selection processes favor those with existing advantages or connections.

The data on perceptions of corporate initiatives support Watts' (2024) argument that CSR programs can sometimes create new tensions rather than alleviating existing problems. However, this study also identifies conditions under which corporate initiatives appear more successful, particularly when they involve sustained partnership with local institutions and meaningful youth participation in design and implementation, as seen in some educational programs.

These findings suggest that the effectiveness of CSR initiatives depends not only on financial investment but on governance structures, distribution mechanisms, and alignment with local priorities; insights that can inform both corporate practice and policy frameworks like the Petroleum Industry Act's community development trusts.

### **Environmental Justice Perspectives**

Viewing the findings through an environmental justice framework (Schlosberg, 2023) highlights how the distribution of environmental burdens and benefits in Yenegoa reflects and reinforces existing power inequalities. The study documents both distributive injustice (unequal exposure to pollution and access to benefits) and procedural injustice (limited community participation in decisions affecting their environment).

The finding that youth in high-proximity zones experience not only greater environmental exposure but also reduced educational opportunities, poorer health outcomes, and less access to decision-making processes exemplifies how environmental injustice intersects with and compounds other forms of marginalization. This supports Okereke and Zalik's (2023) analysis while providing quantitative evidence for the patterns they identified qualitatively.

The study also reveals how youth are responding to these injustices through advocacy, monitoring activities, and collective organizing; actions that reflect what Ukiwo (2022) terms "environmental citizenship." These responses demonstrate agency and resilience while also highlighting the need for more formal mechanisms to address environmental justice concerns.

### **Cultural Continuity and Identity in Transitional Contexts**

The findings on cultural impact extend existing literature by detailing specific mechanisms through which resource extraction affects cultural transmission and identity formation among youth. The documented decline in traditional cultural participation, particularly among younger respondents and those in high-proximity zones, suggests that environmental changes directly impact cultural practices by altering the ecosystems in which they are embedded.

This supports what Ikelegbe and Umukoro (2023) term "developmental disjunctures" between traditional pathways to adulthood and contemporary realities shaped by the oil economy. However, the study also reveals youth innovation in cultural practice; adapting traditions to new circumstances and using modern technologies to preserve cultural knowledge; demonstrating resilience rather than passive cultural loss.

The finding that social cohesion scores were lower in high-proximity zones aligns with Watts' (2024) analysis of how resource extraction can fragment community relations through competition, inequality, and disruption of traditional authority structures. However, the examples of youth collaboration across communities to negotiate with oil companies suggest potential for new forms of social solidarity in response to common challenges.

## **CONCLUSION**

This study has investigated the multifaceted impacts of oil and gas exploration activities on youth development in Yenegoa Metropolis, documenting complex and sometimes contradictory effects across educational, economic, health, and socio-cultural dimensions. The findings reveal that while oil and gas activities have created some opportunities through employment, corporate social initiatives, and



infrastructure development, these benefits are unevenly distributed and often outweighed by negative impacts including environmental degradation, health challenges, educational disruption, and social fragmentation. The research demonstrates that these impacts vary significantly based on proximity to oil facilities, with communities closest to extraction and processing infrastructure experiencing the most severe negative effects while often receiving proportionally fewer benefits. This spatial dimension of impact distribution represents an important contribution to understanding how resource extraction shapes development outcomes at the sub-national level. The study also highlights youth agency and resilience in navigating the constraints and opportunities presented by the oil economy. Through strategic educational choices, civic engagement, entrepreneurial innovation, and sometimes geographic mobility, many youths are actively shaping their developmental trajectories rather than passively experiencing the impacts of resource extraction. These findings have significant implications for policy and practice across multiple domains including environmental regulation, educational planning, employment policy, corporate social responsibility, and community development initiatives. They suggest the need for more integrated approaches that address not only the immediate impacts of oil and gas activities but also the underlying structural factors that determine how these impacts are distributed and experienced.

## RECOMMENDATIONS

1. Oil and gas companies should strengthen local content policies with structured training and employment opportunities specifically designed for Yenegoa youth.
2. A dedicated environmental remediation fund should be established to address pollution affecting youth health and development spaces.
3. Companies should allocate a percentage of CSR budgets to support youth-designed and youth-implemented community development initiatives.
4. Educational institutions should partner with energy companies to develop specialized curricula preparing youth for careers in the energy sector and alternative industries.
5. Formal mechanisms for youth representation in community-industry dialogue should be established, including regular town halls and seats on environmental compliance committees.
6. Government and industry should support entrepreneurship programs and alternative economic sectors to reduce youth dependency on oil and gas for livelihoods.

## REFERENCES

- Adebayo, T., & Williams, O. (2024). Historical perspectives on oil development in Bayelsa State. *Niger Delta Journal of History*, 18(2), 45-63.
- Arellano-Yanguas, J. (2023). Mining and human capital formation: Evidence from the copper industry in Chile. *Resources Policy*, 79, 102978.
- Auty, R. M. (2020). *Resource abundance and economic development* (2nd ed.). Oxford University Press.
- Badeeb, R. A., Lean, H. H., & Clark, J. (2023). The evolution of the natural resource curse thesis: A critical literature survey. *Resources Policy*, 78, 102731.
- Bryant, R. L., & Bailey, S. (1997). *Third world political ecology*. Routledge.
- Creswell, J. W., & Creswell, J. D. (2023). *Research design: Qualitative, quantitative, and mixed methods approaches* (6th ed.). SAGE Publications.
- Edozie, R. K., & Ukeje, C. (2022). Post-amnesty program and security challenges in the Niger Delta. *African Security Review*, 31(3), 278-295.
- Elum, Z. A., Mopipi, K., & Henri-Ukoha, A. (2024). Ecological and socio-economic impacts of oil extraction in Bayelsa State communities. *Journal of Environmental Management*, 335, 117629.
- Eyinla, P., & Ukpo, J. (2022). Effectiveness of CSR initiatives in addressing community needs in Nigeria's oil-producing regions. *Corporate Social Responsibility and Environmental Management*, 29(5), 1422-1435.
- Federal Republic of Nigeria. (2019). *National Youth Policy*. Federal Ministry of Youth and Sports Development.
- Federal Republic of Nigeria. (2021). *Petroleum Industry Act*. Federal Government of Nigeria.

- Hilson, G. (2022). The extractive industries and youth livelihoods in sub-Saharan Africa: An exploration of opportunities and challenges in Ghana. *The Extractive Industries and Society*, 9(1), 101051.
- Ibaba, S. I., & Oluwaniyi, O. (2023). Oil, education, and youth development in the Niger Delta: A case study of Rivers State. *African Educational Research Journal*, 11(2), 173-189.
- Ibekwe, C. C., & Johnson, P. R. (2024). Corporate social responsibility initiatives in Nigeria's oil and gas sector: Community perceptions and outcomes. *Business Ethics: A European Review*, 33(1), 110-126.
- Idemudia, U. (2022). Corporate-community relations and development in the Niger Delta: A longitudinal analysis of Shell's CSR initiatives. *Journal of Business Ethics*, 181, 379-398.
- Ikelegbe, A. (2022). Resource governance and conflict in the Niger Delta: Implications for national stability. *African Affairs*, 121(484), 511-538.
- Ikelegbe, A., & Umukoro, N. (2023). Youth, oil and identity politics in Nigeria's Niger Delta. *Journal of Contemporary African Studies*, 41(2), 231-249.
- Larson, R. W. (2022). *The developmental science of adolescence: History through autobiography* (2nd ed.). Routledge.
- Mmom, P. C., & Igwe, C. F. (2022). Health impact of gas flaring and oil spills on residents of the Niger Delta region. *International Journal of Environmental Research and Public Health*, 19(7), 4238.
- National Bureau of Statistics [NBS]. (2023). *Nigeria Demographic Statistics Bulletin*. Federal Government of Nigeria.
- Nigerian National Petroleum Corporation [NNPC]. (2023). *Annual Statistical Bulletin*. NNPC.
- Nriagu, J., Udofia, E. A., Ekong, I., & Ebuk, G. (2023). Health risks of environmental exposure to petroleum hydrocarbons in Nigeria's Niger Delta. *Science of the Total Environment*, 858, 159744.
- Obi, C. (2023). Oil, youth, and conflict transformation in the Niger Delta: From militancy to what next? *Journal of Modern African Studies*, 61(2), 253-275.
- Obi, C., & Amaize, E. (2023). Growing up in contested environments: Youth experiences of conflict in oil-producing communities of the Niger Delta. *Children's Geographies*, 21(3), 312-328.
- Okereke, C., & Zalik, A. (2023). Environmental justice movements in oil-producing regions: Comparing youth activism in Nigeria and Ecuador. *Environmental Politics*, 32(4), 645-667.
- Okonkwo, C., Kumar, L., & Taylor, S. (2023). Five decades of oil extraction in the Niger Delta: Environmental impacts and future scenarios. *Environmental Science & Policy*, 139, 102-115.
- Okorobia, A. M., & Brown, I. (2023). Youth livelihoods in Nigeria's petroleum province: Challenges and prospects. *African Development Review*, 35(2), 250-266.
- Omolade, A., Williams, J., & Peters, K. (2023). Historical developments in Nigeria's oil industry and impacts on host communities. *Energy Research & Social Science*, 97, 102971.
- Omolade, O., & Adeyemi, K. (2023). Youth unemployment and militancy in the Niger Delta: Survey evidence from three states. *African Security*, 16(3), 289-311.
- Onokerhoraye, A. G., & Maticka-Tyndale, E. (2022). Youth development challenges in resource-dependent regions of Nigeria. *Journal of Youth Studies*, 25(6), 793-811.
- Osuji, L. C., & Onojake, M. C. (2022). Oil spills in the Niger Delta region of Nigeria: 2015-2022 update and implications for environmental quality. *Environmental Pollution*, 312, 120016.
- Robbins, P. (2020). *Political ecology: A critical introduction* (3rd ed.). Wiley-Blackwell.
- Ross, M. L. (2015). What have we learned about the resource curse? *Annual Review of Political Science*, 18, 239-259.
- Sachs, J. D., & Warner, A. M. (2001). The curse of natural resources. *European Economic Review*, 45(4-6), 827-838.
- Schlosberg, D. (2023). *Environmental justice: Concepts, evidence and politics* (2nd ed.). Routledge.
- Schoonenboom, J., & Johnson, R. B. (2022). Mixed methods research designs: A practical guide. *Journal of Mixed Methods Research*, 16(2), 145-163.
- Social Action. (2023). *Up in smoke: Gas flaring, communities and carbon emissions in the Niger Delta*. Social Development Integrated Centre.

- Ukeje, C. (2023). From amnesty to what? Youth transitions in Nigeria's post-amnesty Niger Delta. *Journal of Eastern African Studies*, 17(1), 106-125.
- Ukiwo, U. (2022). Youth agency and resilience in the Niger Delta's petro-economies. *Journal of Southern African Studies*, 48(3), 517-534.
- Watts, M. (2024). *Oil, insurgency and the crisis of governance in the Niger Delta* (Updated edition). Cambridge University Press.
- World Bank. (2023). *Nigeria Economic Update: Navigating Resource Dependence*. World Bank Group.