

CRUDE OIL DISCOVERY AND ECONOMIC DEVELOPMENT IN GHANA (2015-2025)

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ABSTRACT: This paper examines the relationship between crude oil discovery and economic development in Ghana from 2015 to 2025, a decade marked by the maturation of Ghana's petroleum sector following the 2007 Jubilee Field discovery. While Ghana established robust legislative frameworks including the Petroleum Revenue Management Act and the Petroleum Commission Act to avert the "resource curse," the anticipated transformative development outcomes remain partially unrealized. This work aims to examine the impact of crude oil discovery and production on Ghana's overall economic development and to identify the challenges that hinder sustainable economic development through crude oil production in Ghana. The study adopts the Developmental State Theory as its analytical framework, justified by its emphasis on state autonomy, bureaucratic effectiveness, and strategic intervention in steering resource revenues toward productive economic transformation. This theoretical lens moves beyond good governance prescriptions to interrogate how state capacity and elite commitment shape developmental outcomes, particularly relevant for understanding Ghana's experience where formal institutions exist alongside implementation challenges. The research relies on secondary

sources including academic literature, policy documents, and media reports. The work find out that despite comprehensive legislation, petroleum revenues have been disproportionately allocated to recurrent expenditure rather than productive investments, limiting structural transformation and the 2025 amendment to the Petroleum Revenue Management Act, which redirected all Annual Budget Funding Amount resources to infrastructure while removing the Public Interest and Accountability Committee's independent funding, represents a centralizing tendency that may weaken oversight . The study concludes that Ghana's oil-led development trajectory reflects the characteristics of its political settlement rather than purely institutional design. The work recommends insulating petroleum revenue management from political discretion, strengthening PIAC's independence, and establishing binding long-term development frameworks aligned with the Developmental State ethos of strategic, transformative investment.

Keywords: *Crude oil discovery; Economic development; Ghana; Petroleum sector; Resource curse; Petroleum Revenue Management Act; Developmental State Theory.*

Introduction

The narrative of Ghana's encounter with commercial oil production represents a classic, albeit still unfolding, chapter in the complex relationship between natural resource endowment and national development. Although the search for black gold began as far back as 1896 with onshore drilling in the Western Region (Petroleum Commission Ghana, 2026), the contemporary story of Ghana's oil and gas sector is defined by a singular, transformative event: the discovery of the Jubilee Field in 2007 (CitiNewsroom, 2025). This discovery, one of the largest in West Africa with estimated recoverable reserves of up to 1.8 billion barrels, promised to fundamentally alter the country's economic trajectory (TIG Post, 2025). When production commenced in December 2010, it ended decades of fruitless exploration and ushered in an era of hope, positioning Ghana as a significant new player in the global energy market and raising expectations of a rapid socio-economic transformation fueled by the multi-billion-dollar revenue stream that was expected to follow.

This initial euphoria, however, was soon tempered by the sobering realities of a resource-dependent economy. The period from 2015 to 2025, the focus of this study, has been particularly critical in testing Ghana's ability to translate its hydrocarbon wealth into broad-based and sustainable economic development. The nation entered this decade with a newly enhanced legislative framework, including the Petroleum Revenue Management Act (PRMA), Act 815, which was amended in 2015 to strengthen the management of oil funds and prioritize public investment expenditure (Ghana News Agency, 2025). The decade witnessed the maturation of the Jubilee field and the subsequent development of other major projects like the Tweneboah-Enyenra-Ntomme (TEN) fields and the Sankofa-Gye Nyame (SGN) field, which pushed production to a peak in 2019 (SPE Ghana, 2025). Yet, this period also exposed the inherent vulnerabilities of the sector, marked by fluctuating global oil prices, a subsequent decline in output, and persistent questions about the effectiveness of the institutional frameworks designed to safeguard the nation's newfound wealth (The Ghana Report, 2025).

It is precisely this gap that this study intends to investigate. The primary objective is to conduct a comprehensive analysis of the relationship between crude oil discovery and economic development in Ghana, specifically focusing on the decade from 2015 to 2025. The study aims to move beyond a simple assessment of revenue generation to critically evaluate how these funds have been utilized and with what tangible outcomes. It seeks to achieve the following: first, to analyze the trajectory of oil production and revenue flows, identifying key trends and fluctuations that have shaped the fiscal landscape. Second, to assess the allocation and utilization of petroleum revenues through instruments like the Annual Budget Funding Amount (ABFA) and the Ghana Petroleum Funds, examining their impact on priority sectors such as infrastructure, health, and education. Third, to investigate the economy-wide effects of oil development, including its influence on non-oil sectors (like real estate and manufacturing), employment, and the potential symptoms of Dutch disease. Finally, the study will evaluate the efficacy of the institutional and legislative framework including the PRMA and the role of oversight bodies like the Public Interest and Accountability Committee (PIAC) in ensuring transparency,

accountability, and sustainable development, particularly in light of recent legal amendments and new discoveries.

Statement of the Problem

Since Ghana commenced commercial oil production in late 2010, the country has earned approximately US\$11.58 billion in petroleum revenues, yet the anticipated structural transformation of the economy remains elusive. The period 2015 to 2025 presents a paradox: despite significant legislative innovations including the Petroleum Revenue Management Act (Act 815), the Petroleum Exploration and Production Act (Act 919), and local content regulations (L.I. 2204), Ghana continues to experience symptoms consistent with the resource curse phenomenon. Crude oil production has declined for five consecutive years, from a peak of 71.44 million barrels in 2019 to 48.25 million barrels in 2024, largely due to maturing fields and a five-year drought in upstream investment. The downstream sector exhibits alarming structural inefficiencies, with the number of Oil Marketing Companies ballooning from 139 in 2015 to over 200 by 2024 while average annual sales per OMC have stagnated at approximately 24,990 metric tonnes, suggesting market saturation and rent-seeking behaviour rather than genuine competition. The electricity sector, heavily dependent on associated gas from oil production, has accumulated unsustainable debt, with the Electricity Company of Ghana recording revenue shortfalls exceeding 50 percent in recent years, forcing the government to allocate more budget resources to power sector subsidies than to education and roads combined. Furthermore, despite the constitutional vesting of petroleum resources in the President on behalf of the people, the trust has been deemed judicially unenforceable, creating an accountability deficit where the Public Interest and Accountability Committee lack investigative powers to enforce compliance. The recent Eban-Akoma commercial discovery in July 2025, estimated to hold 500-700 million barrels of oil equivalent, thus confronts Ghana with a critical juncture: either the country transcends its implementation failures to transform this discovery into sustainable development, or it deepens the pattern where petroleum wealth finances consumption rather than intergenerational equity, as evidenced by the consistent underfunding of the Ghana Heritage Fund and the diversion of the Annual Budget

Funding Amount towards recurrent expenditure rather than transformative infrastructure,

This study intends to comprehensively examine the relationship between crude oil discovery and economic development in Ghana from 2015 to 2025, with the overarching aim of generating evidence-based policy recommendations for optimizing petroleum wealth for sustainable national development.

Objectives of the Study

- i. To examine the impact of crude oil discovery and production on Ghana's overall economic development.
- ii. To identify the challenges that hinders sustainable economic development through crude oil production in Ghana.

Significance of the Study

The theoretical significance of a study on Crude Oil Discovery and Economic Development in Ghana (2015–2025) lies in its contribution to existing development and resource-based theories. Ghana's oil production, which began in commercial quantities after the discovery of the Jubilee Field in 2007 and subsequent production in 2010, provides a useful case for examining theories such as the Resource Curse and Dutch Disease within an African middle-income context like Ghana. By analyzing the period 2015–2025, the study contributes to debates on whether natural resource abundance promotes sustainable economic growth or leads to structural imbalances, weak institutions, and overdependence on extractive industries. It also refines endogenous growth and institutional development theories by exploring how governance quality, fiscal policy, and revenue management influence the developmental outcomes of oil wealth.

The empirical significance of the study is grounded in its reliance on measurable economic indicators and observable data over the ten-year period. By examining trends in GDP growth, government revenue, employment, inflation, exchange rates, foreign direct investment, and sectoral performance, the research provides concrete evidence on the actual impact of crude oil production on Ghana's economy. It

enables comparison between the pre- and post-oil expansion phases and assesses whether petroleum revenues translated into improvements in infrastructure, poverty reduction, and industrialization.

The practical significance of the study lies in its relevance to policymakers, investors, and development planners. The findings can guide government decisions on petroleum revenue allocation, economic diversification, stabilization policies, and long-term development planning. It provides insights into how oil revenues can be better managed to avoid macroeconomic instability and ensure inclusive growth. For private sector actors and international partners, the study offers valuable information on investment climate, risk management, and sectoral opportunities. Ultimately, it supports evidence-based policymaking and promotes accountability, transparency, and sustainable development strategies within Ghana's oil-driven economy.

Limitations to the Study

A key limitation of a study on crude oil discovery and economic development in Ghana (2015-2025) is the difficulty in isolating the specific impact of oil production from other economic factors such as agriculture, services, global commodity price fluctuations, and external shocks like the COVID-19 pandemic. Ghana's oil sector, largely driven by fields such as the Jubilee Field and managed in part by the Ghana National Petroleum Corporation, is also influenced by volatile international crude oil prices and production challenges, which can distort revenue trends and economic performance indicators. Additionally, limited access to up-to-date, disaggregated data, potential political influence in reporting oil revenues, and the relatively short time frame (2015–2025) for assessing long-term developmental impacts may constrain the depth and reliability of findings.

Literature Review

Crude oil

Crude oil is a naturally occurring fossil fuel that constitutes a primary source of energy and a critical raw material for industrial production, transportation systems, and petrochemical manufacturing. Its economic significance arises from its central

role in sustaining national energy supply, influencing global trade patterns, and strengthening fiscal capacity in oilproducing nations. Since 2018, scholarly research has increasingly highlighted crude oil's dual function as both a driver of economic growth and a source of macroeconomic instability, particularly in developing economies that rely heavily on oil revenues (Okoye, Mbakwe, & Igbo, 2018; Mohammed et al., 2020).

Crude oil contributes to economic development largely through government revenue generation, foreign exchange earnings, and the financing of public investment initiatives. Oil revenues enable governments to invest in key sectors such as infrastructure, education, healthcare, and industrial development. Empirical evidence from oil-producing countries indicates that when oil income is effectively allocated to productive investments, it can promote long-term economic growth, especially in contexts where financial systems are capable of channeling oil rents into the real economy (Mohammed et al., 2020; Oyewole & Adediran, 2020).

In Nigeria and other oil-exporting economies, fluctuations in crude oil prices exert a significant influence on national income, macroeconomic stability, and economic growth trajectories. Recent empirical studies demonstrate that positive oil price shocks tend to stimulate short-term economic expansion, while negative price shocks can destabilize government finances, weaken exchange rates, and slow overall economic performance. These findings underscore the vulnerability of oil-dependent economies to global oil price volatility and shifting international market dynamics (Anthony, Lawal, & Baffa, 2024; Ajuru, 2023).

Economic Development

Economic development in Ghana refers to the long-term process of improving the living standards, education, health, and income levels of the population, going beyond mere increases in GDP. Unlike economic growth, which focuses on quantitative increases in output, economic development emphasizes qualitative improvements in human welfare and institutional structures. Between 2015 and 2020, Ghana experienced notable progress in several sectors, but challenges related to inequality, poverty, and job creation persisted (Quartey & Afful-Mensah, 2015).

One of the key drivers of economic development in Ghana during this period was policy reform. The implementation of the Ghana Shared Growth and Development Agenda (GSGDA II, 2014-2017) and the Coordinated Programme of Economic and Social Development Policies (2017-2024) reflected deliberate efforts by the government to promote inclusive and sustainable development. These frameworks aimed at enhancing industrialization, improving infrastructure, and reducing poverty, particularly through flagship initiatives like One District, One Factory and Planting for Food and Jobs¹ (Aryeetey & Baah-Boateng, 2016).

In the health sector, Ghana worked toward achieving Universal Health Coverage (UHC), with continued reliance on the National Health Insurance Scheme (NHIS). Despite financing and implementation challenges, the NHIS played a vital role in improving healthcare access. As noted by Agyepong et al. (2016), the scheme helped reduce out-of-pocket payments for health services, although disparities in service quality and access still affected rural communities more severely. Infrastructure development was also prioritized as a catalyst for economic development. Investments in roads, energy, and digital infrastructure improved economic connectivity and access to services

The History of Oil discovery and development in Ghana

Oil exploration in Ghana dates back to the 19th century, with the first onshore oil discovered and drilled in 1896 (Owusu, 2013). Following this initial discovery, exploration activities continued between 1957 and 1966, while offshore exploration emerged later during the 1970s. By 1983, Ghana had recorded 54 wells across both onshore and offshore sites, although production and commercialization remained limited (Frimpong, 2011).

A major milestone in Ghana's petroleum history occurred in 2007 with the discovery of crude oil in the Western Region. This discovery is particularly significant as it positioned Ghana to export oil on a substantial scale. The reserve attracted attention from national and international stakeholders due to its large size and potential daily production capacity (Ministry of Finance, 2014). Export-oriented production officially commenced in 2010.

According to the Ghana Extractive Industries Transparency Initiative, average production reached 63,932 barrels per day in December 2010 (Ministry of Finance, 2014). This discovery is widely recognized as the most important in the country's history of oil and gas exploration. Oil exports are among Ghana's top five export commodities and have contributed significantly to GDP growth (World Trade Integrated Solution, 2016). For instance, the share of oil rents in GDP increased markedly in 2010, coinciding with the start of production from offshore fields. By 2014, crude oil exports averaged 101,922 barrels per day (World Trade Integrated Solution, 2016).

The oil industry in Ghana is regulated by the Petroleum Commission, a state institution responsible for managing and regulating upstream petroleum operations (Petroleum Commission, 2013). Exploration, production, and the supply of petroleum products are carried out by the Ghana National Petroleum Corporation (GNPC), the country's principal oil company. Revenue from oil, including royalties and taxes, is allocated primarily to GNPC, followed by the Annual Budget Funding Amount (ABFA), the Stabilization Fund, and the Heritage Fund. The ABFA finances infrastructure development in sectors such as agriculture, energy, education, housing, and health, ensuring that local communities benefit from oil revenues (Ministry of Finance, 2014).

Crude oil in Ghana is extracted from four petroleum basins: three offshore, the Western Basin, the Central Basin and the Eastern Basin, and one onshore, the Voltaian Basin in the north central part of the country. The new discovery was a synonym of relief from a crucial problem: the electricity shortages Ghanaians suffered from. In fact, a considerable portion of foreign currency was directed to oil imports to generate electricity. The new discovery was likely to lighten this drain on the Ghanaian economy and revive its overall development.

The transformations engendered by the discovery of the black gold were remarkable and Ghana's economic policy had inevitably been affected by such a change. For a socialist country like Ghana, the smoother attitudes it adopted towards oil private companies was by most standards a lean towards a capitalist pattern although the state was relatively present through the Ghana National Petroleum Corporation

(GNPC). As a Jubilee partner, its stake percentage represented 13.75%, while the rest was shared among the British Tullow Oil plc (34.70%), the American Anadarko Petroleum Corp (23.49%), Kosmos Energy (23.49%), Sabre Oil and Gas (2.81%) and E.O. Group (1.75%). (Civil Society Platform on Oil and Gas- Ghana.2011).

Crude Oil Production and Foreign Exchange in Ghana

The discovery of crude oil in Ghana, particularly the Jubilee Field in 2007, marked a significant transformation in the country's foreign exchange earnings. Before this period, Ghana's foreign reserves were largely dependent on exports of cocoa, gold, and timber (Ministry of Finance, 2014). However, the commencement of oil production in 2010 added a new revenue stream, positioning crude oil as one of the top foreign exchange earners and diversifying Ghana's export basket (World Bank, 2018). Crude oil exports quickly became a cornerstone of Ghana's external trade performance. In 2011, the first full year of commercial production, oil exports accounted for over 25% of total merchandise exports, generating substantial inflows of foreign exchange (GHEITI, 2017). This surge helped improve Ghana's balance of payments and supported the buildup of foreign reserves. By 2014, crude oil exports averaged over 100,000 barrels per day, further consolidating its role in strengthening foreign exchange reserves (World Bank, 2019).

Oil revenue has enhanced the country's capacity to finance imports, particularly for capital goods and infrastructure development. According to Kumah and Lensink (2018), oil-funded foreign exchange earnings supported critical imports of machinery, energy infrastructure, and other essential inputs for industrial growth. This inflow eased pressure on Ghana's balance of payments, although rising demand for imports partly offset the benefits of higher oil exports.

The relationship between oil and foreign exchange also extends to debt management. Higher export revenues have improved Ghana's creditworthiness, enabling the government to access international capital markets with relative ease (IMF, 2016). For example, Ghana issued several Eurobonds in the years following oil production, partly backed by expectations of stable oil revenues. This foreign borrowing has

supported development financing but also increased debt vulnerability, especially when oil revenues fell short due to global price volatility.

Crude oil's role in foreign exchange earnings, however, raises concerns of Dutch Disease. The appreciation of the cedi during periods of high oil inflows negatively affected the competitiveness of non-oil exports, such as cocoa and manufacturing goods (Ackah & Graham, 2017). This dynamic risked undermining diversification efforts, as traditional sectors struggled with reduced competitiveness in global markets. Policymakers have therefore been urged to ensure balanced growth strategies that prevent oil from crowding out other vital foreign exchange sources.

Crude Oil and Economic Development in Ghana

The discovery of crude oil in Ghana marked a significant turning point in the country's economic trajectory. While exploration dates back to the late 19th century, the major breakthrough came in 2007 with the discovery of the Jubilee Field in the Western Region. This reserve is considered Ghana's largest and most commercially viable oil field, with production commencing in 2010 (Ministry of Finance, 2014). The discovery positioned Ghana among Africa's emerging oil producers and created expectations of accelerated economic growth and poverty reduction. Oil production has since contributed substantially to Ghana's gross domestic product (GDP). According to the World Bank (2018), Ghana experienced an average annual growth rate of over 14% in 2011, largely driven by oil exports. Oil rents accounted for a significant share of GDP, which peaked at around 7% in the early years of production (World Bank, 2019). The sector quickly became one of the country's top five export earners, boosting foreign exchange reserves and improving fiscal stability (World Trade Integrated Solution, 2016).

Beyond GDP growth, crude oil has influenced the government's fiscal capacity. Revenues from royalties, taxes, and participating interests have expanded public budgets. The Petroleum Revenue Management Act (PRMA) of 2011 established mechanisms such as the Annual Budget Funding Amount (ABFA), the Stabilization Fund, and the Heritage Fund to channel oil revenues toward infrastructure, education, agriculture, and future generations (Petroleum Commission, 2013). These

allocations have helped finance development projects, though concerns remain about efficiency and accountability.

Infrastructure development has also been boosted by oil revenues. Funds from the ABFA have been directed toward roads, energy projects, health facilities, and education. These investments aim to reduce bottlenecks in the economy and foster inclusive growth (Kumah & Lensink, 2018). Nevertheless, challenges persist in ensuring that oil-funded projects are evenly distributed across regions, especially in oil-producing communities, where expectations of local development remain high. Despite these gains, Ghana faces risks associated with the resource curse and the volatility of oil prices. Fluctuations in global oil markets have created instability in government revenue, complicating fiscal planning. For instance, during the oil price slump of 2014–2016, Ghana's economy faced budget deficits and rising public debt (IMF, 2016). This highlighted the dangers of overdependence on oil revenues and the need for diversification of the economy.

Theoretical Framework

The developmental state theory emerged from Chalmers Johnson's seminal work *MITI and the Japanese Miracle* (1982), which sought to explain Japan's extraordinary post-war growth through a distinct institutional framework that differed from both state socialism and Anglo-American capitalism (Johnson, 1982). Johnson argued that Japan's high growth could be traced to industrial policies driven by a powerful, autonomous economic bureaucracy capable of directing national development (Johnson, 1982). This foundational work was subsequently expanded by key proponents including Alice Amsden, who analyzed South Korea's industrialization in *Asia's Next Giant* (1989), Robert Wade through his study of Taiwan in *Governing the Market* (1990), and Peter Evans, who introduced the influential concept of "embedded autonomy" to describe the paradoxical relationship where states must be sufficiently insulated from societal pressures while simultaneously maintaining deep connections with the private sector to effectively guide industrial transformation (Amsden, 1989; Evans, 1995; Wade, 1990). The theory was later brought into mainstream economic discourse by economists such as Dani Rodrik and Joseph Stiglitz, who emphasized the microeconomic logic underpinning strategic state

intervention in markets (Rodrik, 2004; Stiglitz, 1996). As Bishop and Payne (2017) observe, this approach was never about rejecting markets but rather recognizing that left to their own devices, markets can have pernicious effects, with the goal being to deliberately distort them to serve specific national development objectives through judicious use of incentives, tariffs, subsidies, and control of finance.

The principal strength of the developmental state framework lies in its empirical foundation: developmental states have demonstrably worked, with the East Asian industrial transformation providing compelling evidence that strategic state intervention can generate rapid and sustained economic growth (Haggard, 2015). The framework's emphasis on institutional capacity, particularly the requirement for highly competent and insulated bureaucracies where “politicians ‘reign’ while the bureaucrats ‘rule’,” offers a sophisticated understanding of the political foundations necessary for successful industrial policy (Evans, 1995). However, the theory faces significant conceptual challenges, particularly regarding its applicability across diverse temporal and spatial contexts. Critics note that the original East Asian developmental states emerged under unique geopolitical circumstances, including substantial US aid and Cold War strategic considerations, raising questions about replicability in contemporary settings (Haggard, 2015). Furthermore, there is persistent disagreement regarding the “inner essence and external boundaries” of the category, with considerable conceptual stretching occurring as the label is applied to increasingly diverse national contexts (Bishop & Payne, 2017). The framework must also contend with fundamental questions about whether developmental statism remains viable in an era characterized by WTO trade rules, global value chains, and anti-establishment populism that erodes trust in expert bureaucratic institutions (International Political Science Association, 2025).

Applying developmental state theory to Ghana's oil sector reveals both analytical purchase and critical limitations. Auty (2000) argues that the type of political state mediates the relationship between natural resource endowment and economic outcomes, with developmental states historically associated with resource-poor countries pursuing coherent economic policies that maximize social welfare. This presents an immediate challenge for Ghana, as resource abundance typically

encourages contests for rents that generate factional and predatory states, distributing wealth through indirect mechanisms that distort economies and often lead to growth collapse (Auty, 2000). The theory of political settlement, as applied by Asante (2016), demonstrates how Ghana's competitive clientelist political settlement has shaped governance of the oil sector in ways that reinforce pre-oil patterns around natural resource management, potentially undermining long-term inclusive development prospects. However, contrary to pessimistic resource curse predictions, some scholars argue that Ghana's oil discovery has been inserted into an already existing democratic political landscape, generating feedback that may consolidate democratic institutions as new political currents including civil society mobilization and media activism are channeled through established democratic rules (Mohammed, 2017). Singh and Bourgooin (2013) suggest that resource governance outcomes are shaped by the specific ways extractive sectors create particular dynamics of policy change, requiring scholars to move beyond deterministic resource curse frameworks toward contextual analysis of how neoliberal global projects both constrain and open opportunities for developmental state-building in resource-rich contexts. For Ghana between 2015 and 2025, the developmental state framework thus directs analytical attention toward whether state institutions can achieve sufficient embedded autonomy to translate oil revenues into productive transformation, or whether competitive clientelism will channel resource rents toward short-term political consolidation at the expense of structural economic change (Asante, 2016; Singh & Bourgooin, 2013).

Methodology

This study adopts a quantitative, descriptive, and explanatory research design to examine the relationship between crude oil discovery and economic development in Ghana from 2015 to 2025 using secondary data. Data will be sourced from credible institutions such as the Ghana Statistical Service, Ministry of Finance, Petroleum Commission Ghana, as well as international bodies including the World Bank, International Monetary Fund, United Nations Conference on Trade and Development, Organization of the Petroleum Exporting Countries, and energy databases such as the Energy Information Administration. The study will analyze

crude oil production and revenue data as independent variables against economic development indicators such as GDP growth, FDI inflows, employment rates, export earnings, and poverty measures. Data will be systematically identified, extracted, organized by year (2015–2025), and cross-validated across multiple sources to ensure reliability and consistency. Statistical techniques including trend analysis, descriptive statistics, correlation, and time-series analysis will be used to assess relationships and patterns, with findings presented through tables and graphical illustrations. Ethical standards will be maintained through proper citation of publicly available data, while acknowledging limitations such as possible data gaps, reporting inconsistencies, and publication time lags.

How Crude Oil Discovery and Production Enhanced Economic Development in

Ghana (2015-2025)

Crude oil discovery and production in Ghana indicates that petroleum resources have significantly contributed to national economic growth since commercial production began in 2010. The discovery of oil increased Ghana's Gross Domestic Product (GDP) strengthened government revenue streams, and improved foreign exchange earnings through exports. Empirical evidence suggests that oil revenue has supported macroeconomic expansion by financing public spending and improving fiscal capacity, thereby reinforcing Ghana's overall economic performance (Gatsi & Gadzo, 2015; Mensah & Adu, 2019).

Crude oil production has also strengthened industrial development and employment creation in Ghana. Data indicates that oil exploration, production, refining, and related service industries have generated direct and indirect jobs, stimulated local business participation, and promoted skills development through local content policies. The expansion of oil-related industries has contributed to economic diversification and technology transfer, supporting long-term industrial growth (Mensah & Adu, 2019; Abdulai, 2020).

Also, oil discovery has enhanced Ghana's external trade position and foreign exchange inflows. Petroleum exports have increased Ghana's trade earnings, reduced reliance on traditional commodities such as cocoa and gold, and improved balance-

of-payment stability. This has strengthened national reserves and enabled greater capacity for importing capital goods, infrastructure materials, and technological inputs that support economic modernization (Tweneboah & Adam, 2018; Djebaili, 2020).

Crude oil production has also enhanced government revenue mobilization, providing fiscal resources for national development programs and public infrastructure. Petroleum revenues financed investments in roads, energy, education, and health through mechanisms such as the Petroleum Holding Fund and the Ghana Heritage Fund. These oil-funded initiatives contributed to improvements in social services, infrastructure expansion, and poverty reduction efforts. Between 2015 and 2023, oil revenues accounted for a notable share of total government income, strengthening Ghana's capacity to implement development-oriented fiscal policies (Ministry of Finance [MoF], 2023; World Bank, 2022).

Challenges that hinders sustainable economic development through crude oil production in Ghana.

Between 2015 and 2025, Ghana's pursuit of sustainable economic development has been constrained by persistent macroeconomic instability, particularly high inflation, currency depreciation, and rising public debt. Inflation fluctuated significantly, reaching over 40% in 2023, eroding household purchasing power and increasing the cost of production for businesses. At the same time, the Ghanaian cedi experienced sustained depreciation against major international currencies, increasing the cost of imports and worsening the balance of payments. These macroeconomic pressures weakened investor confidence and limited the government's capacity to finance long-term development programs (Bank of Ghana, 2023; International Monetary Fund [IMF], 2024).

A major challenge has been Ghana's growing public debt burden, which constrained fiscal flexibility and diverted public resources away from development spending. By 2022, Ghana's debt-to-GDP ratio exceeded 90%, driven by extensive borrowing to finance infrastructure projects, social programs, and budget deficits. Rising debt servicing costs crowded out expenditure on education, healthcare, and productive

investments essential for sustainable development. The subsequent debt restructuring and IMF-supported economic recovery program underscored the severity of Ghana's fiscal vulnerabilities (IMF, 2023; World Bank, 2024).

Ghana's economic sustainability has also been undermined by its heavy dependence on primary commodity exports, particularly gold, crude oil, and cocoa. Fluctuations in global commodity prices created revenue volatility and exposed the economy to external shocks. For instance, declining crude oil production and price instability between 2019 and 2025 reduced foreign exchange earnings and government revenue. This overreliance on commodities limited industrial expansion, reduced economic diversification, and constrained job creation in higher-value sectors (Osei & Ackah, 2021; United Nations Conference on Trade and Development [UNCTAD], 2022).

Infrastructure and energy sector challenges further slowed Ghana's sustainable development progress. Frequent power supply disruptions, high electricity tariffs, and inefficiencies in energy generation increased production costs for industries and discouraged private investment. In addition, gaps in transport infrastructure and digital connectivity limited regional trade integration and constrained small and medium-sized enterprises (SMEs). Although government investments improved infrastructure in some areas, financing constraints and maintenance challenges reduced long-term impact (World Bank, 2023; African Development Bank [AfDB], 2022).

Finally, governance challenges and social inequalities weakened Ghana's ability to sustain economic development. Corruption, public financial management inefficiencies, and policy implementation gaps reduced the effectiveness of development initiatives. At the same time, rising income inequality and regional disparities constrained human capital development and social cohesion. These structural challenges limited productivity growth and undermined the resilience of Ghana's economy against economic and environmental shocks, highlighting the need for stronger institutions, inclusive policies, and economic diversification to achieve sustainable development beyond 2025 (Transparency International, 2023; UNDP, 2024).

Discussion of Findings

The findings indicate that crude oil discovery and production significantly enhanced Ghana's economic growth and foreign exchange earnings between 2015 and 2025. Oil exports generated billions of dollars annually, strengthening external reserves and contributing to macroeconomic stability. This aligns with Bank of Ghana (2024) and IMF (2024), who reported that petroleum exports became one of Ghana's top foreign exchange earners alongside gold and cocoa. Similarly, UNCTAD (2022) observed that oil-producing African countries benefited from improved export performance and increased balance-of-payments resilience during periods of favorable global oil prices.

The study further revealed that crude oil production increased government revenue and fiscal capacity, enabling greater investment in infrastructure, social services, and stabilization funds. Ghana's Petroleum Revenue Management framework facilitated the allocation of oil income toward development projects, including roads, energy, education, and health. This supports the findings of the Ministry of Finance (2023), which documented that petroleum revenue strengthened national budgeting and long-term savings mechanisms. Likewise, World Bank (2022) found that oil revenues in Ghana contributed to public investment expansion, though emphasizing the importance of transparent and accountable revenue management.

The findings further indicate that one of the major challenges to achieving sustainable economic development in Ghana between 2015 and 2025 was macroeconomic instability, particularly high inflation and currency depreciation. Inflation rates fluctuated significantly, reaching over 40% in 2023, which eroded household purchasing power and increased production costs for businesses. The depreciation of the Ghanaian cedi against major international currencies further heightened import costs and weakened economic stability. These findings are consistent with Bank of Ghana (2023) and IMF (2024), which highlighted that macroeconomic volatility constrained investment, reduced investor confidence, and limited sustainable growth prospects.

The study also revealed that overreliance on primary commodity exports, including gold, cocoa, and crude oil, made Ghana's economy vulnerable to external shocks. Global price volatility, declining oil production after 2019, and fluctuating cocoa and gold prices reduced export revenue and foreign exchange inflows. This is supported by Osei and Ackah (2021) and UNCTAD (2022), who emphasized that commodity-dependent economies face structural challenges in achieving inclusive and resilient development. Limited diversification reduced opportunities for industrial growth and job creation, weakening long-term economic sustainability.

Finally, infrastructure deficits and governance challenges also constrained sustainable economic development in Ghana. Frequent energy supply disruptions, high electricity tariffs, limited transport networks, and poor digital connectivity slowed industrialization and privatesector growth. Corruption, weak public financial management, and policy implementation gaps further reduced the effectiveness of development initiatives. These findings align with Transparency International (2023) and UNDP (2024), emphasizing that sustainable economic development requires robust institutions, inclusive governance, and effective policy enforcement to complement economic reforms and infrastructure investments.

Conclusion

This paper concludes that crude oil discovery and production significantly enhanced economic development in Ghana between 2015 and 2025. The sector provided a steady source of government revenue, supported infrastructure projects, and stimulated industrial and employment growth through local content policies. Crude oil also contributed to GDP growth by creating linkages with other sectors, including manufacturing, construction, and energy, thereby promoting broader economic development. However, the full potential of oil-led growth was constrained by declining production in later years, global price volatility, and the capital-intensive nature of the petroleum industry, highlighting the need for careful management and sustained investment.

This paper further concludes that Ghana faced multiple challenges to achieving sustainable economic development despite the positive impacts of crude oil.

Macroeconomic instability, high public debt, overreliance on commodity exports, high unemployment, infrastructure deficits, and governance weaknesses constrained inclusive growth and exposed the economy to external shocks. Sustainable development requires addressing these structural challenges through fiscal prudence, economic diversification, investment in human capital and infrastructure, and strengthening institutional governance. Without these measures, the benefits of crude oil production and other economic gains are unlikely to translate into longterm, resilient development for Ghana.

Recommendations

This work recommends among other things to following:

- i. **Enhance Transparent and Strategic Management of Oil Revenues:** To ensure that crude oil discovery contributes positively to Ghana’s overall economic development, the government should strengthen policies on transparency, revenue management, and investment planning. This includes fully implementing frameworks like the Ghana Petroleum Revenue Management Act to allocate oil revenues toward long-term development projects, such as infrastructure, education, and healthcare, rather than short-term consumption. Effective management will maximize the developmental impact of oil resources and mitigate risks of the “resource curse.”
- ii. **Invest in Local Capacity and Sustainable Practices in the Oil Sector:** To address challenges hindering sustainable economic development, Ghana should focus on building local expertise, technology transfer, and environmental safeguards in oil production. This involves training Ghanaian professionals in upstream and downstream oil operations, encouraging local content participation, and enforcing environmental regulations to minimize ecological damage. Sustainable practices will help ensure that oil production generates lasting economic benefits without compromising future growth

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