

## Original article

# The impact of the boom and slump of oil prices on the housing market in Sekondi-Takoradi, Ghana's oil city



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## ARTICLE INFO

**Keywords:**

Oil industry

Oil prices

Housing

Sekondi-Takoradi

Ghana

## ABSTRACT

This paper investigates the impact of the boom and slump of oil prices on Sekondi-Takoradi's housing market. Interviews were carried out with key informants including estate agents, a major property developer, planning officials, officials of oil and gas and oil service companies, officials of recruitment agencies, and owners of eating establishments. Questionnaires and interviews were also used to collect data from oil workers. The findings show that discovery and production of oil during higher oil prices period led to refurbishment and construction of housing to suit the taste of oil workers with increases in rents. For the less well-paid, it caused evictions as property owners looked to upgrade their houses for a higher income group. Recent decline in oil prices and the redundancy of oil workers led to empty property, significant falls in rental values, decreasing estate agency business and profit, and it halted housing and hotel construction. Some eating establishments also experienced reduction in patronage after oil prices fell. This research adds to existing knowledge of effects of the oil industry during the boom in oil prices on Sekondi-Takoradi's housing market, and sheds new light on the impact of the slump in oil prices on housing in the city.

## 1. Introduction

This paper explores the impact of the boom and slump of oil prices on the housing market in Sekondi-Takoradi, the city closest to Ghana's oil fields (Eduful and Hooper, 2015). The discovery and production of oil in Ghana has been accompanied by an influx of people looking for jobs and led to significant changes in the housing market in Sekondi-Takoradi. While researchers including Plänitz (2013), Obeng-Odoom (2014), Takyiwa (2014), and Quarshie (2016) have shown the impact on the housing market of the oil industry during the boom in oil prices period, little is known about the impact of the recent low oil prices on housing in the city. This study contributes to filling this gap. In addition, it provides more data on the impact of the oil and gas industry during the boom in oil prices period on the housing market in Sekondi-Takoradi. As oil and gas exploration and drilling continue in Ghana, it is important to compile relevant data on the impact of the industry on Sekondi-Takoradi's housing market during the boom and slump of oil prices in order to enhance our understanding of the effects of industry on housing markets.

According to McCaskie (2008), the discovery of oil in Ghana in the year 2007 was owing to decades of effort. In 1978–1980, oil was

discovered by Phillips Petroleum in the Tano Basin, however, the company gave up its licence because offshore drilling in the country was unviable, and there were major technological challenges to be overcome in deepwater extraction. In the late 1990s also, Hunt Oil found a promising oil column in the Deepwater Tano Block, but similar to Phillips Petroleum, it declined to drill for technical and commercial reasons (McCaskie, 2008). However, in 2007, Kosmos Energy Ghana and its partners (Tullow Oil, Anadarko Petroleum Company, Ghana National Petroleum Company, Sabre Oil and Gas, and EO Group Ghana) announced the discovery of significant quantities of oil and gas in offshore West Cape Three Points and Deepwater Tano Blocks, in the Western Region of Ghana (McCaskie, 2008; Kastning, 2010; Fiave, 2018). The area was called "Jubilee Oil Field," and in December 2010, oil production started. Ever since 2007, additional oil and gas discoveries have been made in the country (Kastning, 2010).

The discovery and production of oil and gas in Ghana occurred during the period of higher oil prices. The price of oil increased since 2003 from below \$40 to over \$100 per barrel in 2013, and these high oil prices contributed to increasing exploration activities in and outside Africa (AfDB, 2013). According to the AfDB (2013), in some parts of Africa, high oil prices and the arrival of new exploration methods

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created incentives for key oil and gas companies to increase their presence in the continent. The oil and gas industry in Eastern African, for instance, experienced a boom through large investments by international energy companies and by nations such as China (AfDB, 2013). Similarly, in the USA, it was reported that the high price of oil encouraged oil exploration and production, and in July 2009, oil and gas rig counts (number of operational rigs) rose from 960 to over 1800 in July 2014, when the price of oil peaked (HUD User, 2016). Fig. 1

However, after a long era of high prices of oil, the oil industry experienced a period of low oil prices (Vätavu et al., 2018). In 2014, oil prices fell from over \$100 per barrel to below \$35 at the end of February 2016 (Rogoff and Cabot, 2016). The slump in oil prices between the years 2014 and 2016 was owing to increasing supply and low demand (HUD User, 2016; Stocker et al., 2018). According to Stocker et al. (2018) and Grigoli et al. (2017), the reduction in oil prices during that era was one of the biggest and sharpest oil price decline in history.

The slump in oil prices during that period caused a significant short-term reduction in investment in the industry, with international investment in exploration and production decreasing by about 21% in the year 2015 from \$700 billion in 2014, with spill over to energy commodities (Rogoff and Cabot, 2016). International oil companies postponed or halted investments around the world owing to the 2014–2016 oil price decline. In Nigeria, for example, it was reported that oil companies delayed some offshore projects as part of international cost reductions (McAllister, 2016). Besides this, during the same period, employment levels in the industry decreased. Pickard & Scott (2020) reported that in the years 2015 and 2016, over 400,000 jobs were cut owing to low oil prices and excess supply, mainly in the USA and UK. It was also reported that oil and gas companies in Nigeria cut approximately 120,000 jobs because of the low oil prices (MainOne.net, 2016). In Ghana, newspapers similarly reported that about 300 workers were laid off and more were expected to be laid off owing to the fall in global oil prices in that era (CitiFMonline, 2015; 2016).

The city of Sekondi-Takoradi is an established economic hub that received further prominence after the discovery of oil offshore in the year 2007 (Almoghazy, 2018). The slump in oil prices and its effects in

the oil and gas industry also has the potential to affect infrastructure, such as housing, in areas hosting the industry's activities.

## 2. Volatility in oil-related housing

As earlier indicated, as with other oil-producing countries, the oil and gas industry in Ghana benefitted from high demand and higher oil prices in the early part of the past decade (HUD User, 2016). The high oil prices and increased oil production had a significant impact on housing demand, supply and rents in Sekondi-Takoradi. Obeng-Odoom (2014) found that the real estate market had become increasingly dollarised and, in line with new exotic housing taste, new housing types were developed in the city such as gated and guarded housing communities. Eduful & Hooper (2015) also observed that there was an increase in the demand for rental space in the city's residential areas during the boom in oil prices period, and some private developers had developed multi-storey apartments to cater to the increasing number of international oil workers moving into Sekondi-Takoradi (Eduful and Hooper, 2015). Takyiwa (2014) further found that the discovery and production of oil during the higher oil prices period brought an influx of job-seeking migrants, and the in-migration resulted in a housing shortage which motivated landlords to increase rents by over 200%. Similarly, Plänitz (2013) reported that rents in the city increased by about 154% during the higher oil prices period (between 2009 and 2013). Besides increasing housing demand, supply, and rents, studies show that tenants who were unable to pay the increased rents were evicted, and landlords in the city preferred richer tenants who work in the oil and gas industry. The conversion of houses into offices, restaurants, stores, amongst others, owing to high demand, and the renovation of housing to meet the requirement of tenants and to increase rent was also highlighted in the literature (Quayson, 2012; Plänitz, 2013; Obeng-Odoom, 2014; Takyiwa, 2014; Quarshie, 2016).

Finally, previous research has established that the hotel business in Sekondi-Takoradi experienced a significant boost in number, revenue, and quality (to meet the taste of high-income international oil workers) during the higher oil prices period. However, as with housing, hotels



Fig. 1. Oil prices (Macrotrends LLC, 2021).

were inadequate in number and this increased their prices. There were instances where some landlords demolished their houses to build hotels and guest houses in order to benefit from the high demand for these services (Obeng-Odoom, 2014; Takyiwa, 2014).

Despite evidence showing the effects of oil production during the boom in oil prices period on the housing market in Sekondi-Takoradi, further research is still needed to provide more detail and new data on the oil and gas industry's impact on the housing market since oil prices tend to be volatile. As stated earlier, high oil prices usually encourage exploration and production, while price declines can cause many oil producers to cut cost which involves reducing their employees and putting further exploration and drilling on hold. The reduction in capital spending and employees can significantly affect housing markets; workers laid off normally move out of oil-producing areas as a result, decreasing housing demand and cost. This was seen in parts of the United States during the 2014–2016 oil price decline. For example, in Western North Dakota, Midland-Odessa and Houston, house sales and prices decreased (HUD User, 2016), and the slump in oil prices also led to decreased house prices and sales in Aberdeen, UK (Pixie Energy, 2020). Oil prices fell from over \$100 per barrel in 2014 to below \$35 at the end of February 2016 owing to declines in global demand and increased supply as earlier indicated (Rogoff and Cabot, 2016; HUD User, 2016). This paper therefore examines the impact of the 2014–2016 slump in oil prices on the housing market in Sekondi-Takoradi, and provides more data on the impact of the higher oil prices era on the city's housing market.

### 3. Overview of the oil and gas industry in Ghana and the study area

The Jubilee Oil Field is about 60 km offshore of the Western Region in Ghana. In 2020, net production from the oil field was 29,500 barrels of oil per day (bopd) and is expected to average about 24,300 bopd in 2021. Additional significant discoveries made offshore Western Ghana include the Twenneboa, Enyenra, and Ntomme (TEN) Fields and the Offshore Cape Three Points (OCTP) Integrated oil and gas project. The TEN and OCTP oil and gas fields started production in 2016 and 2017, respectively (Kastning, 2010; Skaten, 2018; EIA, 2018; Tullow Oil plc, 2020a; 2021a).

Net production from the TEN field was 24,300 bopd in 2020 and is expected to average about 16,200 bopd in 2021 (Tullow Oil plc, 2021b) and production in the OCTP development is expected to reach about 45,000 bopd and 190 million standard cubic feet per day of gas (MMSCFD) (Eni, 2015). Fig. 2

Besides Sekondi-Takoradi, other coastal areas in the Western Region that are located close to Ghana's offshore oil fields include Jomoro, Ahanta West, Shama, Ellembele, and Nzema East (Ovadia et al., 2020). Even though there are oil service companies in Sekondi-Takoradi and Ahanta West, Sekondi-Takoradi is the oil city of Ghana (Plänitz and Kuzu, 2015; Abudu, 2016; Ovadia et al., 2020). In the other areas, according to Ovadia et al. (2020), the presence of the oil and gas industry onshore is little and mainly limited to the installations of gas.

Many of the services and infrastructure that support the oil and gas industry's activities are located in Sekondi-Takoradi. According to Quayson (2012), the transport infrastructure (harbour, airport, and road) in the city and those linking the city to other cities in Ghana play an important role in facilitating offshore oil activities. They are used to move goods, equipment, and employees to and from Sekondi-Takoradi, and the airport and harbour also offer storage facilities for oil companies (Quayson, 2012).

Sekondi-Takoradi is the capital city of Ghana's Western Region. It is the third largest city in Ghana, after Accra and Kumasi, and is located in the south-western part of the country (CHF International Ghana, 2012; Eduful and Hooper, 2015). The city is bounded to the north by Mpohor-Wassa East and to the south by the Atlantic Ocean. At the east of the city is the Shama District and at the western part is Ahanta West

District. Sekondi-Takoradi is also located about 280 km west of Accra and 130 km east of Ghana-Côte d'Ivoire border. It is thus strategically located as a result of its proximity to the airports and the sea and also accessibility to major cities by road and rail (CHF International Ghana, 2012; Ghana Statistical Service, 2014; Eduful and Hooper, 2015).

Sekondi and Takoradi started as settlements growing around the seventeenth century Dutch, British and Swedish forts built along the coast. Sekondi is the older and larger of the twin cities, and it developed from a railway line built in 1903 to the hinterland to transport mineral and timber resources. Takoradi's growth was stimulated by the construction of a harbour in 1928 to facilitate trade. The administrations of the two cities were merged in 1946, with Sekondi as the administrative headquarters (CHF International Ghana, 2012; Eduful and Hooper, 2015).

The climate of Sekondi-Takoradi is equatorial, with a mean annual temperature of around 22°C experienced from January to March. There are three main vegetation types in the city, namely, tropical forest, savannah woodland and mangrove. The tropical forest vegetation is mainly found around the northern parts of Sekondi-Takoradi and extends to the east covering a large part. The savannah woodland vegetation is dotted around the middle belt, and mangrove vegetation is found along the southern part, along the coastal areas, rivers and lagoons (Ghana Statistical Service, 2014).

The indigenous people of Sekondi-Takoradi are mainly Akans (Ahantas), and Fante is widely spoken in the city. The service sector is the largest employer of workers in the city and includes restaurants and hotels, shipping, bulk oil storage and distribution, port and harbour services, transport services, commerce and ancillary oil drilling and exploration services. The city is also one of the most industrialised cities in Ghana. About 60% of all industries in the Western Region are located in Sekondi-Takoradi (STMA, 2013; 2015; Ghana Statistical Service, 2014).

These include cocoa, cement, paper manufacturing, timber processing as well as other small scale industries. Agriculture also plays an important role in Sekondi-Takoradi's economy. Fishing is undertaken along coastal towns in the city namely Sekondi, New Takoradi, Essaman, Nkotombo, and Ngyiresia. Farming is at the subsistence level and the major crops cultivated include cassava, maize, coconut, plantain, citrus, and oil palm (STMA, 2013; 2015; Ghana Statistical Service, 2014).

The population of Sekondi-Takoradi increased significantly from 369,166 in 2000 to 559,548 in 2010. The rapid increase in the population of these twin cities is mainly attributed to in-migration to the Western Region owing to the discovery of oil in the late 2000s (STMA, 2013; Ghana Statistical Service, 2013; 2014). Developments have also been put in place to support the oil and gas industry. For instance, oil and gas and oil service companies have set up offices in Sekondi-Takoradi, and the Takoradi Technical University has established a training centre with support from the oil and gas companies operating at the Jubilee Oil Field to provide education in oil and gas (STMA, 2013; Obeng-Odoom, 2015). It was also found that other businesses and banks have established branches in the city to support oil and gas related activities. They have changed the city's landscape by building modern high-rise structures. Moreover, new recreational areas, such as Paragon Nightclub, Vienna City, and the Takoradi mall have been established owing to the discovery of oil, and there is a free zone area of about 2000 acres of land to accommodate the expected influx of industrial activities. Besides this, the city's railway lines and stations were redeveloped and new coaches were purchased. The Takoradi harbour was expanded as well, to accommodate more offices and vessels. Initially, there were no commercial flights to Sekondi-Takoradi; the Takoradi airport only served the Ghana Air Force. However, after the discovery of oil, domestic flights (mainly from Accra, the capital city of Ghana) to the Takoradi airport became possible. Helicopter flights of oil workers to the rig offshore are also boarded at the airport.

The road network has also been improved as part of the government's overall programme to improve the infrastructure in order to



**Fig. 2.** Ghana's oil fields and location of Sekondi-Takoradi ([Hufstader, 2008](#)).

boost the oil and gas industry ([STMA, 2013](#)). Generally, local authorities seek to make Sekondi-Takoradi more attractive in order to attract and retain people in the city.

#### 4. Materials and methods

The fieldwork for this study was between November 2016 and April 2017. A mixed methods approach was adopted. The benefit of this approach is that it can enhance findings of research by providing a fuller and more complete account of the phenomenon being studied ([Den-scombe, 2010](#)). [Warwick \(1993\)](#) also indicated that the most obvious benefit of more than one data source is that one method may offer data on topics that are not covered or only partially covered by others.

Data was collected through interviews and a questionnaire. Interviews were conducted with individuals who by their jobs or status could have privileged data or expert views on the major topics of the study ([Ovadia et al., 2020](#)). Therefore, semi-structured interviews were conducted with key informants made up of estate agents and a major property developer on the effect of the boom and slump in oil prices on their business and the city. The estate agents in this study are leading private agencies in the city, and one of them is also a property developer who buys old residential properties in areas preferred by oil workers in Sekondi-Takoradi and refurbishes them for rental by oil workers. The major property developer owns many properties, such as houses, a restaurant and hotel, in Sekondi-Takoradi and purposely built housing for rent by oil workers. Two planning officials from the Sekondi-Takoradi Metropolitan Assembly (STMA) were interviewed on the impact of the discovery of oil on the city's development and the involvement of local authorities in new housing developments. The STMA is the pivotal administrative and developmental decision-making organ of the city ([CHF International Ghana, 2012](#)).

Officials from major oil and gas and oil service companies and from

local recruitment agencies in Ghana were also interviewed on the process of employment, and the salaries and housing offered to oil workers. The oil and gas companies rely on service companies for most of their operations, such as drilling, and completion and logging of wells ([UNDP, 2013](#)), and local recruitment agencies employ Ghanaians for oil rigs in Ghana. The impact on local businesses was drawn from interviews with owners of chop bars<sup>2</sup> and restaurants. [Table 1](#)

Additionally, 155 questionnaires were completed with Ghanaian offshore oil workers to collect data on personal characteristics, income, expenditure and housing types and conditions. Interviews were also conducted with 73 Ghanaian offshore oil workers and 28 international offshore oil workers mainly from the UK and Denmark. The interviews focused on their housing and employment history, reasons why they chose their current housing and neighbourhood, and their future housing plans. Even though mixed methods was used in this study, data on the impact of the boom and slump of oil prices on the housing market in

**Table 1**  
Key informants interviewed in the present study.

Key informants and job description	Number
Estate agents (CEOs, administrators)	6
Key property developer (CEO)	1
Planning officials from STMA	2
Officials of oil and gas and oil service companies (Head of facilities and administration department, facilities manager, manager)	3
Officials of local recruitment agencies (Manager, HRMs, safety officer)	4
Owners of chop bars and restaurants	2

<sup>1</sup> Chop bars are local restaurants that normally sell Ghanaian dishes.

Sekondi-Takoradi was mainly obtained through interviews.

The sample of key informants and oil workers was obtained through purposive and snowball sampling. Officials and oil workers most likely to have the experience or expertise to provide quality data and valuable insights on the research topic were selected. Snowball sampling which involves one person nominating additional people who might be included in the sample was used to gain access to more oil workers (Denscombe, 2010). Interviews with the key informants mainly took place at their offices. While the completion of questionnaires and interviews with the oil workers mainly took place at their houses, neighbourhoods, the Takoradi airport (before and after they boarded the helicopter to the rig offshore), and in the bus that takes offshore workers from Accra to the Takoradi airport and back to Accra. Similarly, previous research on offshore workers in Ghana used purposive and snowball sampling techniques (Ablo, 2012).

A majority of the interviews were recorded and subsequently transcribed, however, where this was impossible either owing to the interviewee preferring not to be recorded or a noisy location, detailed notes were taken (Gough et al., 2018). The interview data were read and reread in order to identify categories and themes that help to understand how the city has changed as a result of the boom and slump of oil prices (Eduful and Hooper, 2015). Data collected from the responses to questionnaire was analysed using the Statistical Package for the Social Sciences (SPSS).

This study now turns to the findings on the impact of the boom and slump of oil prices on the housing market in Sekondi-Takoradi.

## 5. Results and discussion

### 5.1. Redundancy of oil workers and housing built for oil workers stood vacant

The discovery and production of oil and gas in Ghana during the higher oil prices period was accompanied by the arrival of both Ghanaian and expatriate workers and the establishment of offices of oil and gas and oil service companies in Sekondi-Takoradi as earlier indicated. Some private individuals refurbished their houses to meet the taste of workers in the oil and gas industry, while others built new housing to meet the housing demands of the industry during the higher oil prices period.

However, this research found that, during the decline in oil prices between 2014 and 2016, some oil and gas and oil service companies laid workers off to cut cost, while others halted their operations in Sekondi-Takoradi. One of the planning officials reported that

*"In view of the recent fall in the price of oil, some of the oil companies have moved out of the city because they can't operate and break even. Some of them were laying off workers. Some companies are here now, but they are not making it like they used to. Most of those I know personally have moved out because of certain financial challenges."*

The oil workers in this study further noted that training courses and programmes offered to them were reduced or cancelled owing to the fall in oil prices. As one international oil worker put it: "Right now, we do little training as possible because of oil crisis to save money. Initially, there was a lot of training." And another said, "Training has stopped because of low oil prices currently. If oil prices are high, we get training."

Consequently, the number of companies and oil workers in Sekondi-Takoradi reduced significantly. A number of oil workers stated that there had been a decrease in their numbers in the city as a result of the low oil prices. The owner of the chop bar where oil workers patronize similarly mentioned that about 10–15 oil workers visited his chop bar daily during the higher oil prices period, however, when the oil prices fell, the workers moved out of the city, so patronage had reduced. Also, during the higher oil prices period, oil workers often went to bars and restaurants in first-class residential areas, and enjoyed entertainments

such as karaoke nights. Some estate agents and insurance providers also go to these places in order to meet and secure them as clients. As one estate agent said "*Most of the oil workers after work at 5:00pm go to bars and restaurants to have a beer, pick up some food and then go home. My work starts from 5:00pm.*" (KA6) However, during the slump in oil prices period, these bars and restaurants were usually empty at night because oil workers moved out of the city.

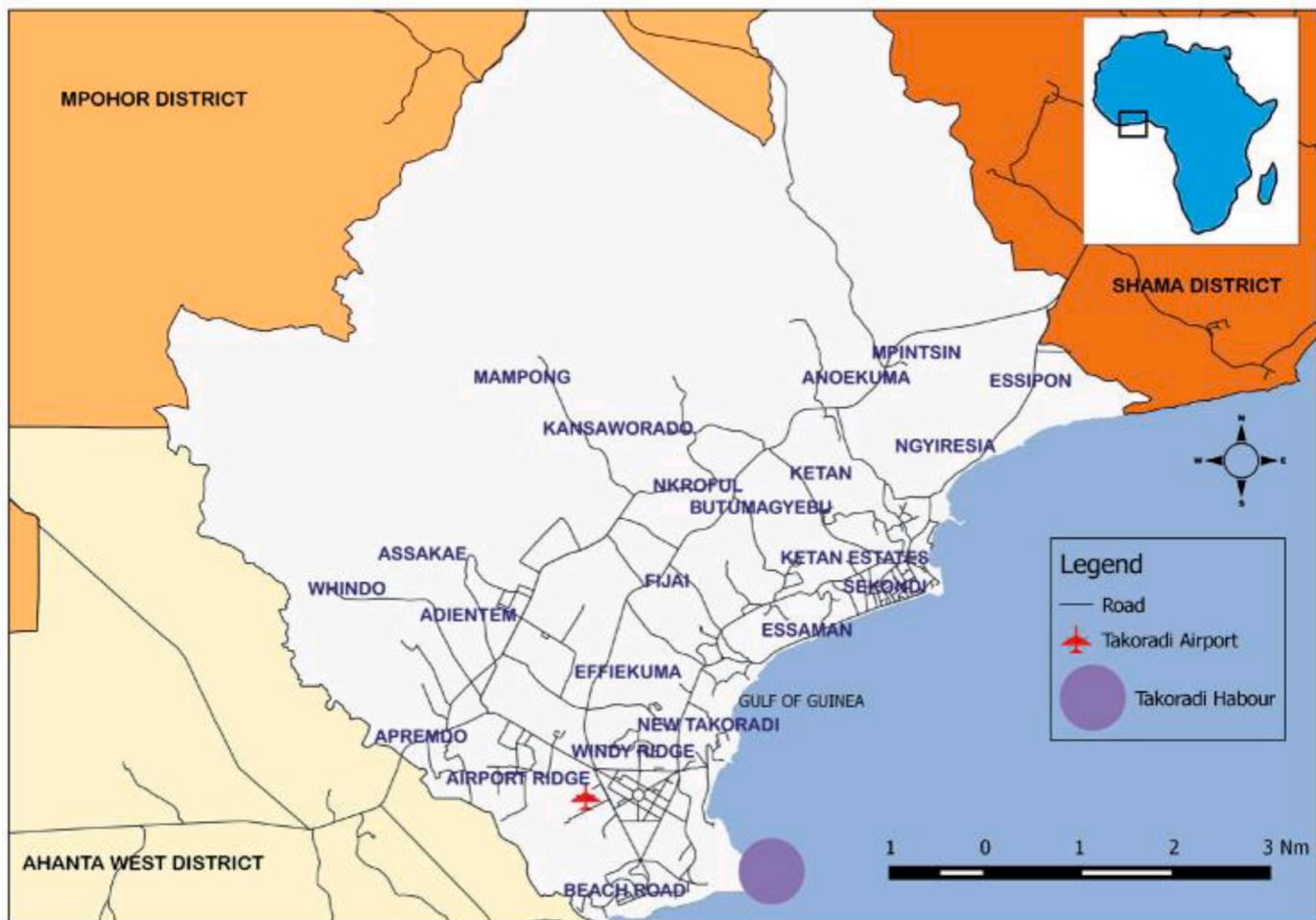
It was further found that an oil company which had more than 100 international workers during the higher oil prices period only had around five or 10 international workers after oil prices fell. International workers either went back to their home countries or stayed in Accra for a few days; they usually arrive in Accra (where the international airport is located) a day before going to the rig offshore and after their time offshore, they board airplanes to their home countries on the same day. Therefore, housing demand and supply reduced in Sekondi-Takoradi, and housing in residential areas, particularly those preferred by oil workers, for instance Beach Road (a first-class residential area), were empty. The major property developer mentioned that he was no longer building houses because of the decline in oil prices, and the construction of some hotels were stopped. For example, the construction of a four-star hotel that cost between \$8-\$10 million at Beach Road was halted.

The estate agents stated that Beach Road is the first choice of oil workers, Chapel Hill and Airport Ridge are their second choices, whereas Windy Ridge is their third choice. First-class residential areas usually have good access roads, potable water, and regular power supply, and are also serviced by house-to-house sanitation services. These areas have good environments, relatively low housing densities, low population densities (between 30 and 40 persons per acre), and larger plot sizes (half an acre or more) (STMA, 2013). Fig. 3

### 5.2. Decreasing housing rent

In line with the findings of previous research, this study found that rents in Sekondi-Takoradi increased by over 100% owing to the discovery and production of oil during the higher oil prices period (Plänitz, 2013; Takyiwa, 2014). One of the planning officials mentioned that before the discovery of oil, the rent of a one-bedroom self-contained dwelling with exclusive use of water supplies and sanitation facilities was about \$12, however, after the discovery of oil, the rent increased to \$35. Increasing housing demand and higher incomes of oil workers encouraged property owners to increase rents during that period. Rents are determined by the location, services and facilities available in houses. Therefore, first-class residential areas, which are normally well-serviced, have the highest rents in the city. But, amongst the first-class residential areas, Beach Road, which is the first choice of oil workers, had the highest rents. For instance, during the boom in oil prices period, an unfurnished two-bedroom apartment was between \$1500 and \$2000 in Beach Road and \$1200-\$1500 in Chapel Hill. The increased rents during that period were normally unaffordable to people employed outside the oil and gas industry. Consequently, and consistent with previous studies, tenants were evicted from their houses because of their inability to pay the increased rents and the change of housing in the Central Business District (CBD), particularly those near major roads, into offices such as banks to meet increased demand (Quarshie, 2016).

In addition, during the higher oil prices period, property owners had a strong preference for oil workers as tenants because of their ability to pay increased rents. This study found that salaries in the oil and gas industry are normally higher than those outside the industry mainly owing to the risks involved in the industry. When oil workers work on rigs, accidents such as falls, explosions or fires can occur, causing injuries or death. Apart from this, helicopters transporting workers to offshore rigs increases the risk involved in their work. Therefore, in addition to incomes, some oil workers are normally paid risk allowances, while others are paid offshore daily rates which increases their incomes above those earned from jobs onshore. For instance, a cook working onshore in Ghana may earn about \$120 monthly, however, data



**Fig. 3.** Map of Sekondi-Takoradi showing the location of some first-class residential areas, the Takoradi airport and harbour (Fiave, 2018).

from the questionnaires showed that a cook on the rig can earn over \$650 per month. Similarly, Quarshie (2016) found that the monthly incomes of tenants employed in the oil and oil-related industry are higher than those employed outside the industry in Sekondi-Takoradi.

Some oil workers, and especially the international workers, also receive housing or rent allowances monthly or yearly. The housing allowance of international oil workers could be as high as \$5000 per month while that of the Ghanaians could be \$271 per month. According to the estate agents, oil workers, especially international workers, can afford higher rents because employers want them to feel comfortable as though they are in their home countries. So the companies spend a lot of money to make them comfortable and safe. The official of an oil service company confirmed that they seek to make international workers comfortable and safe because they are away from their home countries. However, unlike these oil workers, the rent allowances paid to Ghanaians working outside the oil and gas industry are normally lower and at times lower than their monthly rent. An estate agent mentioned that the monthly rent allowance of some bank workers can only afford housing with very few bedrooms and shared use of water supplies and sanitation facilities, therefore they have to add their incomes in order to afford good quality housing. It was also found that a government worker can receive about \$120 monthly as rent allowance but pay about \$223 monthly as rent for good quality housing. As earlier indicated, salaries in the oil industry are normally higher than those outside the industry mainly owing to risks involved in the oil industry. A mechanic working on the rig can earn over \$900 monthly whereas a mechanic working onshore can earn about \$51 per month.

Furthermore, some oil workers receive additional benefits such as

food, transport, health care, child support, furniture and gym allowances. The salaries of oil workers can also increase when they work on national holidays, for example on Christmas day, and when working in other oil-producing countries, they are paid out-of-station allowance. These workers are normally ready and able to pay any amount as rent as long as the services they need are provided. Another estate agent stated that "*What the oil workers are looking out for is a good property, usually costs does not matter.*" (KA1) Consequently, some landlords left their properties empty until they secured oil workers as tenants during the higher oil prices period. These results suggest that, while workers in the oil and gas industry had a wide range of housing options in Sekondi-Takoradi, housing options for people employed outside the industry were limited during the boom in oil prices era. A Ghanaian oil worker confirmed that he could easily secure an apartment over someone working outside the industry because property owners knew that the oil and gas industry pays higher incomes than other industries.

However, the situation changed during the slump in oil prices period. Property owners decreased rents in order to attract tenants; rents decreased by at least 30%. The rent of a furnished four-bedroom house, for example, was about \$4000 monthly during the boom in oil prices period, however, during the slump in oil prices, landlords reduced rents to about \$2000 or \$1500 per month. The rent of a nice three-bedroom house at Beach Road also decreased from \$5000 monthly during the boom in oil prices period to between \$3000 and \$3500 per month.

But, some estate agents felt that the lower oil prices were actually correcting the levels of rents in Sekondi-Takoradi since the discovery and production of oil during the higher oil prices period had caused them to rise excessively. For example, an estate agent mentioned that

\$5000 per month for a three-bedroom house was too much, but rents were set to match incomes by the oil companies and everyone got accustomed to it. This means that, but for the 2014–2016 oil price decline, rents would have continued to increase excessively in Sekondi-Takoradi. Moreover, even though property owners reduced rents in the city, they still faced difficulties securing tenants for their properties during the slump in oil prices period.

### 5.3. Some estate agents experienced reduction in business and profits

Data from the interviews indicate that the discovery and production of oil during the higher oil prices period led to an increase in the number of estate agents in Sekondi-Takoradi. Equally, Obeng-Odoom (2014) reported that previously, estate agents were uncommon in the city, however, currently there has been an increase in their number.

Out of the six estate agents in this study, half focused on expatriates as clients, and thus they deal in luxury housing in first-class residential areas, while the other half focused on all income groups and dealt in housing in all residential areas. Apart from the sale and rental of housing, these agents offer other services such as the lease of plots of land, and renting of offices, warehouses, stores and machinery. The estate agents adopt a variety of ways to advertise their services and properties to clients such as through networking, on their websites, television and radio, placing sign boards at their offices, airport, and beaches, and placing big banners on properties.

Findings from the interviews further show that the profits of estate agents in this study significantly increased (by over 100%) during the higher oil prices period. Some workers in the oil and gas industry sought the services of estate agents and some agents deal in machine rentals to oil companies. Other people who arrived in Sekondi-Takoradi to establish businesses also sought the services of estate agents which enabled them to make significant gains. The official of an oil service company confirmed that they work with estate agents when acquiring housing for their international workers in Sekondi-Takoradi. Increasing business and profits caused these estate agents to hire more workers, and set up branches in other towns in Western Region such as Tarkwa.

However, during the slump in oil prices, estate agents in this study, especially those who focused on oil workers as clients, experienced reductions in business and profit. This was more severe for estate agents who dealt in machine rentals to oil companies because operations of those companies had reduced and they no longer rented the machinery. As a result of this, some estate agents laid off some workers, while others, who had opened new branches in other towns in the Western Region owing to the discovery and production of oil during the higher oil prices era, closed down those branches when oil prices fell.

Furthermore, during the higher oil prices period, workers in the oil and gas industry frequently rented housing and required services provided by estate agents. Therefore estate agents tended to focus on oil workers. However, during the slump in oil prices, estate agents did not focus on oil workers like they used to. As one estate agent said, “Now things have changed so we had to revert to our old people. We don’t really concentrate on the oil workers anymore because they have cut down their numbers in terms of employment.” (KA4)

Apart from property owners and estate agents who influence the supply of and access to housing in Sekondi-Takoradi, a major insurance provider in the city also experienced reductions in business during the slump in oil prices period. An informal interview with the manager of a major insurance company in Ghana revealed that the company had experienced reductions in insurance payments during that period because the fall in oil prices had halted investments in the industry. For example, before oil prices fell, insurance payments from a company in Sekondi-Takoradi involved in the oil and gas industry was over \$171,233 yearly. However, payments from that company decreased significantly (by over 50%) after oil prices fell.

### 5.4. Laid-off oil workers put off house building activities

This study further found that the house building activities of Ghanaian oil workers who were laid off because of the slump in oil prices were affected. In Ghana, as with other countries in Sub-Saharan Africa, the construction of housing is mainly carried out by individuals instead of by the government or private companies (Gough and Yankson, 2011), and a majority of Ghanaians finance their house building activities from personal and family savings (UN-Habitat, 2011). Thus, many of the Ghanaian oil workers in this study were building their own housing. But, after oil prices fell, a few oil workers who were recently laid off said that they had postponed the construction of their housing in the city until oil prices increased.

In summary, the results in this study indicate that the volatility of the housing market in Sekondi-Takoradi matches the volatility of oil prices, and this can also be found in other oil-producing countries, for example Aberdeen, UK and Texas and Houston, USA.

## 6. Conclusion

This study set out to investigate the impact of the boom and slump of oil prices on the housing market in Sekondi-Takoradi. This study has shown that the discovery and production of oil during the higher oil prices period led to many people migrating into the city, and this increased housing demand. Private developers and landlords responded by refurbishing and constructing housing to suit the taste of workers in the oil and gas industry. This research has shown that oil production during the boom in oil prices period increased estate agency business and profits. Also, during that period, rents increased by over 100% in the city because of high demand and incomes in the oil and gas industry. Tenants were evicted owing to their inability to pay the increased rents and the change of housing in the CBD to offices. This study has further found that generally, property owners had a strong preference for oil workers as tenants because of their ability to pay increased rents during the boom in oil prices period.

However, during the 2014–2016 slump in oil prices, this study identified that some oil and gas and oil service companies laid workers off to reduce costs, while others ended their operations in Sekondi-Takoradi. Consequently, oil workers moved out of the city and this decrease housing demand and supply. Houses in residential areas, particularly those preferred by oil workers, were empty and rents decreased by at least 30% during that period. The construction of some hotels were also halted owing to the decline in oil prices, and some estate agents experienced reductions in business, profit, staff and office branches owing to decreased demand for their services. Other businesses, such as eating establishments, also experienced reduction in patronage after oil prices fell. Overall, these results indicate that the volatility of the housing market in Sekondi-Takoradi matches the volatility of oil prices. It is important for property owners and estate agents to avoid focusing on oil workers in order to reduce vulnerability to oil price volatility. The findings reported here add to a growing body of literature on the impact of the oil industry during the boom in oil prices on Sekondi-Takoradi’s housing market and provides new insights into the impact of the recent slump in oil prices on the city’s housing market.

## Declaration of Competing Interest

None

## Acknowledgements

The funds for this study were provided by the Ghana Education Trust Fund. Many thanks to the key informants and oil workers who provided data.

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