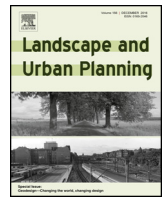




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# Peri-urban land use pattern and its relation to land use planning in Ghana, West Africa

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### HIGHLIGHTS

- Patterns of peri-urban development differ between northern and southern Ghana.
- Population growth is an important driver of urban development in both study areas.
- Land inheritance contributes to urban sprawl in Bolgatanga.
- The oil boom increases competition for land use in Takoradi.
- Land tenure and lacking law enforcement challenge land use planning in both areas.

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### ABSTRACT

Population growth, economic development, and rural migration to urban areas have caused rapid expansion of urban centres in Ghana. One reason is that spatial planning and in particular urban planning face different social, economic and political challenges which hinder a structured and planned urban development, therefore causing urban sprawl. We hypothesise that different peri-urban patterns are driven by geographical, historical, cultural and economic discrepancies between southern and northern Ghana, and reflect the effectiveness of land use planning instruments. We tested our hypothesis by comparing patterns of urban development in two case study regions: Takoradi in southern Ghana and Bolgatanga in northern Ghana, representing an economically vibrant and a non-vibrant region, respectively. This paper provides new insights for the study sites based on a mixed-method approach. We applied an interdisciplinary approach combining expert interviews, a literature review, and a bi-temporal change analysis based on remote sensing/geo-information systems. We assigned confidence levels of the findings from the respective methods based on their plausibility and sensitivity. Expert opinion indicated that land use planning fails due to the lack of implementation of legal regulations, to the customary land tenure and lack of participation of local citizens in the planning process. The remote sensing analysis revealed that urban development was stronger in Takoradi (7.1% increase between 2007 and 2013) than in Bolgatanga (1.1% increase between 2007 and 2013). Urban development patterns differ with a dominance of small-scale scattered settlement units (SUs) in Bolgatanga and a mixture of small- and large-scale SUs

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in Takoradi. Besides population growth, markets and industry are identified as major drivers of urban development in the Takoradi area (large SUs) and customary land tenure in the Bolgatanga area (small SUs).

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## 1. Introduction

Worldwide, urban sprawl is one of the key drivers of unsustainable development (Camagni, Gibelli, & Rigamonti, 2002; Jabareen, 2006; Næss, 2001). Its negative impacts are particularly visible and crucial in developing countries such as the West African countries, where unplanned land use change obstructs sustainable management efforts (Anderson, Okereke, Rudd, & Parnell, 2013; Buhaug & Urdal, 2013). Some of the current migration from Africa to Europe and across the world could be better managed by a comprehensive development of urban areas, particularly in the poor countries in West Africa (Bakewell, 2008; ESPON, 2015; Hummel & Liehr, 2015).

Urban population in West Africa is particularly fast growing in the coastal areas (Hitimana, Allen, Heinrigs, & Tremolières, 2011). During colonial times, commercial activities concentrated strategically along the sea coast (Kuper, 1965). In the 1960s and 70s, after the colonial rule, new bureaucracies, infrastructure, and companies provided employment in coastal urban centres. This led to rapid immigration to urban areas in Anglophone Africa (Okpala, 2009), which became attractive because of the opportunities to reduce dependency on agriculture and diversify household income. Other factors were improved social care and/or escape from armed conflicts (AfDB, 2005). Today, changing lifestyles and globalisation effects (e.g. land grabbing) push urban development forward (Cohen, 2006). Additional reasons for informal processes of urban development in Anglophone West Africa are governments' low levels of financial capacity, ineffective administrative systems, poor governance, mismanagement of resources, and corruption (Okpala, 2009).

Ghana can be seen as an example for trends in urban development in Anglophone West Africa (Otoo, Whyatt, & Ite, 2006). Population densities along the coastline, but also in traditional inland trading centres such as Tamale and Kumasi, grew considerably during colonial times and through European investments. Between 1960 and 1984, Ghana's population doubled (12.3 million in 1984; GSS, 1989) with an annual growth rate of 2.7%. For urban areas, migration from rural areas remained the main source of growth (Frazier, 1961; Liebenow, 1986), resulting in an annual growth rate of 4.7%. This led to a strong increase in the urban population, which reached 50.9% of the total population in 2012 (GSS, 2012). This population growth was higher than the growth of the total West African population, which increased by about 40% between 1960 and 1980. The share of urban population is also higher in Ghana than in West Africa, where in 2010 about 42% of the West African population lived in urban areas (OECD, 2015). This higher population pressure in Ghana has led to extreme pressure on natural resources. For example, between 1975 and 2000, urban expansion in Ghana triggered deforestation processes resulting in a more than 22% loss in forest area (USGS, 2013). Land use planning is key to meeting increasing demands for human needs and at the same time maintaining the natural environment.

Regional development in Ghana is spatially heterogeneous with a clear distinction between the northern and the southern part of the country. The coastal region in southern Ghana has long been the focus of national investments for economy and trading (Bukari, Aabeyir, & Basommi, 2014; Plange, 1979). In addition to the ports, the area is rich in natural resources such as minerals, oil and tim-

ber, which are the main drivers of Ghana's economic development (Alfsen, Bye, Glomsrod, & Wiig, 1997). Northern Ghana used to be seen mainly as a source of labour for the export-oriented sectors of mining and cocoa in the south (Plange, 1979). At the end of the 1950s, the north lagged behind the south in terms of economy, sanitation, level of education, and general infrastructure. However, Ghana is struggling to develop the north, where about half of the population lives in extreme poverty (MDG Ghana, 2012). The three northern regions are the regions with the highest share of people living in poverty (GSS, 2014a). In the Upper East Region, 44.4% (2013) of the people live in poverty, and 20.9% in the Western Region (absolute poverty line: US\$1.83 per day, GSS 2014).

### 1.1. Historical background of land use planning in Ghana

Like in most of the Anglophone West African countries, urban land use planning in Ghana is oriented on British town planning legislation. The British Town and Country Planning Act of 1947 specified procedures for controlling urban sprawl, for example, by seeking permission from the local council, and by slum clearance (Okpala, 2009; UK Parliament, 2016). All areas of the country were requested to have a development plan. During independence, informal urban sprawl increased considerably, and public hygiene as well as environmental quality declined. Before 1993, urban citizens were not informed about compulsory land acquisition for water, electricity, roads and other land use priorities by the centralised Town and Country Planning Department. This led to the displacement of affected citizens and to increasing poverty (Kasanga & Kotey, 2001). Between 1992 and 1994, Ghana restructured its urban and land use planning system into a decentralised form where more political, planning and administrative power was transferred to the district level in order to facilitate an increase in exchange between governmental and public concerns. The district assemblies have legislative, executive and deliberative powers. For example, they have the right to change local taxes and laws, and to implement projects on improving rural incomes and general welfare (Botchie, 2000). Expectations with respect to local participation, acceptance, and effective use and management of local resources have been high, even though participation is still limited to public consultation (Okpala, 2009).

The declared goal to become a middle-income country by 2020 has accelerated ambitious land use plans and development in Ghana (NDPC, 1995). Ghana has improved public infrastructure such as schools, hospitals and roads in the country (Kasanga & Kotey, 2001). The Land Administration Project from 2003 to 2010 pushed land use planning in Ghana forward (TCPD, 2014). The project aimed to provide spatial solutions for reaching defined social, economic and environmental policies while considering the spatial impact from any form of development. Information pertaining to land, such as location, size, improvements, ownership and value, was documented. The project identified people who were interested in land as real estate, and collected information concerning the type and duration of land use and owner rights (Karikari, 2006). A change in land use planning could be triggered by the Land Use and Spatial Planning Bill, which was ratified in July 2016 and aims at harmonising existing land use laws, construction laws and regulations, while lending more power to the Town and Country

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