

Chapter 13

Urbanization and Electric Power Crisis in Ghana: Trends, Policies, and Socio-Economic Implications

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ABSTRACT

Traditionally, urbanization is hailed as an important force for socio-economic development of countries. In fact, recent research on Africa suggests that urbanization has the potential to stimulate socio-economic development. Yet, many African countries experiencing rapid urban growth continue to bear a disproportionate amount of the costs associated with urbanization (e.g., increased urban poverty, and energy crisis among others). This is in sharp contradiction to the popular notion that urbanization is a stimulus for socio-economic development. Using Ghana as a case study, this chapter discusses the extent to which rapid urbanization influences power supply and the implications on socio-economic development. The chapter focuses on four issues: (1) the history of power and urbanization in Ghana; (2) the influence of urbanization on power crisis in Ghana; (3) the socio-economic implications of urbanization-induced power crisis; and (4) the policies available in addressing the power crisis. Recommendations to address the ever-growing demand for electrical power are proffered

INTRODUCTION

Globally, there is widespread recognition of urbanization as a major driver of socio-economic development (Cobbinah, Erdiaw-Kwasie & Amoateng, 2015a, 2015b; Cohen, 2006). Urbanization, in theory, should support socio-economic development by industrializing, modernizing, and promoting innovation to support human wellbeing and environmental protection (Boa & Fang, 2012; Cobbinah et al., 2015a).

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In many African countries, urbanization is widely regarded as a key factor shaping urban development with additional potential to stimulate socio-economic advancement (Cobbinah & Erdiaw-Kwasie, 2016; Cobbinah et al., 2015b; Darkwah & Cobbinah, 2014). African urbanization is frequently linked with a notion of poverty, perceived to be demographically driven, and described as limited in socio-economic and environmental outcomes (Boadi, Kuitunen, Raheem & Hanninen, 2005). For example, the current urban population outburst in many African countries is: generating rising urban poverty (Fay & Opal, 2000; United Nations Human Settlement Program [UNHABITAT], 2008); creating informal communities that lack basic municipal services and characterized by unemployment (Amoako & Cobbinah, 2011; Cobbinah et al., 2015b; UNHABITAT, 2008); causing a surge in unplanned informal activities (Afrane & Ahiable, 2011; Boadi et al., 2005; Kessides, 2006); and inducing electric power crisis (Adusei, 2012; Jones, 1991; Kaya, 1971).

This chapter contributes to scholarly discussions on the relationship between urbanization and electric power. Specifically, it traces the history of electric power provision and identifies ways by which urbanization influences electric power supply in Ghana. It is widely recognized that access to electric power, coupled with aggressive industrialization – i.e., the introduction of new equipment and techniques to make both familiar and new products (Jones, 1991, p.621) – is key to achieving sound socio-economic development (Eshun & Amoako-Tuffour, 2016). Traditionally, urbanization increases electric power-use (Jones, 1991), but it is less clear the extent to which urbanization increases electric power-use or could constrain electric power consumption. Some researchers suggest that on the one hand, urbanization positively affects electric power consumption (see Burney, 1995; Høltedahl & Joutz, 2004; York, 2007), while it can negatively affect electric power-use on the other hand (see Poumanyvong & Kaneko, 2010; Wang, 2014). Thus, knowing more about how urbanization affects electric power-use in Ghana can provide some leads about where policymakers could focus their attention.

In many jurisdictions, electric power is needed to maintain law and order, security, and stability (Adusei, 2012). In terms of economic development, the production of all goods and services, and the development of economic infrastructure are all dependent on a reliable and sustainable supply of electric power (Eshun & Amoako-Tuffour, 2016). Electric power generation in Ghana has undergone several phases and transformations since colonization. According to Eshun and Amoako-Tuffour (2016), electric power generation in Ghana started with diesel generators and stand-alone electricity supply systems which were owned by industrial mines and factories. It later transitioned into the hydro phase following the construction of the Akosombo dam – the biggest hydro-electricity station in Ghana –, and now to a thermal complement phase powered by gas and/or light crude oil. With this, it is reasonable to argue that Ghana's electric power sector has come a long way to support its developmental needs and the challenges associated with urbanization. Regrettably, as will be discussed later in the chapter, an electric power crisis, popularly known as '*dumsor*' has turned into a perpetual development hurdle in Ghana, with its growing severity undermining the future of economic growth and transformation in the country. In their reflections, Eshun and Amoako-Tuffour (2016) observe that the disquieting electric power rationing system, the retardation in industrial activities, job and income losses, and disturbances to daily communal living due to the country's persistent electric power crisis situation are major indications of a perennial drawback on Ghana's development agenda.

Official statistics indicate that, out of 24,658,823 inhabitants of Ghana in 2010, about 50.9% of the population is urban with the country projected to rapidly urbanize in the foreseeable future (Ghana Statistical Service [GSS], 2012). Over the past half a century, officially designated urban communities in Ghana have been increasing with the number rising from 41 in 1948 to 364 in 2000. As of 2010, Ghana

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