

Chapter 2

The Role of Institutions in the Discourse of Sustainable Development in West African Countries

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ABSTRACT

There are few studies on the role of institutions in achieving sustainable development that infer that these institutions offer the mechanisms for resource and environmental management. Thus, twelve West African countries (Benin, Burkina Faso, Cote d'Ivoire, Gambia, Ghana, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, and Togo) are covered in the study using data from World Development Indicators and World Governance Indicators. Six main outcome variables are used. These are CO2 emissions per capita, CO2 emissions from electricity and heat production, CO2 emissions from liquid fuel consumption, CO2 emissions from manufacturing and construction, total greenhouse gas emissions (kt of CO2 equivalent), and CO2 intensity. A two-step generalised method of moment (GMM) found that governance effectiveness and regulatory quality as curtails the rate of CO2 emissions. Policy implications are discussed.

INTRODUCTION

This paper is motivated by issues bordering on economic development and the menace of environmental pollution in Sub-Saharan African (SSA) countries. Most literature on sustainable development has been established in two main ways. On the one hand, there are insights into the relationships between the pol-

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lution of the environment and economic growth, with particular emphasis on the Environmental Kuznets Curve (EKC) assumption (Diao *et al.*, 2009; He & Richard, 2010; Osabuohien *et al.*, 2014; Egbetokun *et al.*, 2018; 2020). On the other hand, there has been concern with the links between environmental pollution, energy consumption and economic growth (Apergis & Payne, 2009; Ozturk & Acaravci, 2010; Begum *et al.*, 2015; Akinyemi *et al.*, 2019a, 2019b) and the relationship between economic growth and the consumption of energy (Esso, 2010; Akinyemi *et al.*, 2017). Also, some other papers dwell on studying technology adoption and sustainable development in some cases (Binswanger, 2001; Karakara, 2017).

To the best of our knowledge, there is very scarce studies on the role of institutions in the discourse of achieving sustainable development. Even those few studies that highlight the importance of institutions in sustainable development have analogically inferred that these institutions offer the mechanisms for resource and environmental management (Anyanwu & Erhijakpor, 2014; Egbetokun *et al.*, 2018) and established that for institutions to be positively connected to economic development, one may need the consolidation of societal change (Efobi, 2015). Hence, Institutional frameworks, laws, regulations, conventions, customs and practices are essential for the efficient working of sustainable development strategies. One study (Asongu, 2017) explores comparative sustainable development in Sub-Saharan Africa, paying attention to regulatory quality and political stability as institutional variables. Our study differs as we measure, in addition to Asongu, (2017), rule of law, voice and accountability and government effectiveness. Again, we measured six different environmental unsustainability as against four measures in Asongu (2017). Thus, our study has a wider coverage of variables of study than Asongu (2017).

The main causes of climate change in West Africa are known to be: greenhouse gases (GHG) emission from the use of energy from fossil fuels (coal, oil and gas) in industrial processes, transportation and in homes; and agricultural production and deforestation (UNFCCC, 2005). It is also important to note that low-income nations are less industrialized and therefore associated with lower CO₂ emissions, which require less mechanisms of CO₂ management (Asongu, 2017). Moreover, these nations are likely to attract corporations that exploit its weak environmental regulations/legislations to set up factories that employ dirty technologies. Therefore emissions may be higher than in higher-income countries.

There is a positive relationship between economic development and emissions since industrialization leads to a greater demand for energy, including fossil fuels (Huxster *et al.*, 2015; Holtz-Eakin & Selden, 1995; Wang *et al.*, 2017). Aye and Edoja (2017) studied 31 developing countries. They indicated that economic growth has a negative effect on CO₂ emission in the low growth regime but a positive effect in the high growth regime with the marginal effect being higher in the high growth regime. They further asserted that energy consumption and population exert a positive and significant effect on CO₂ emissions. Also, Antonakakis, Chatziantoniou, and Filis (2017) after studying 106 countries classified by different income groups over the period 1971–2011 concluded that the effects of the various types of energy consumption on economic growth and emissions are heterogeneous. They further asserted that total economic growth and energy consumption is bidirectional, thus making a case for the feedback hypothesis. Renewable energy consumption had no significant effect on economic growth, and there was no evidence in support of the EKC hypothesis. However, Kais and Ben Mbarek (2017) found interdependence between energy consumption and economic growth in the long run, a unidirectional causality running from economic growth to CO₂ and a unidirectional causal relationship from energy consumption to CO₂ emissions.

Many West African countries have low per capita GDPs and correspondingly low per capita emissions. Overall, the sub-region has not done very well in terms of environmental sustainability. This was confirmed

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