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Too weak to lead: motivation, agenda setting and constraints of local government to implement decentralized climate change adaptation policy in Ghana

Issah Justice Musah-Surugu¹ · Albert Ahenkan¹ ·
Justcie Nyigmah Bawole¹

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Abstract Local governments in developing countries are christened as proadaptation agents. However, global research effort has virtually ignored inherent adaptation policy implementation nuances in developing countries, ostensibly assuming that narratives from existing policy implementation literature could fill the void. Drawing on qualitative data from six LGs from Ghana, this paper examines the motivation, agenda setting processes and teething challenges constricting the implementation of decentralized climate change adaptation governance in Ghana. Though adherents of decentralization argue that local governments are more likely to conceive and implement proadaptation-related interventions, evidence from Ghana provides fascinating lessons. This paper shows that local governments' ability to mainstream adaptation-related actions into local governance is constricted by taxonomy of local political economy issues and the "science-heaviness" of climate change. It concludes that local government are unlikely to be a fulcrum of adaptation governance as touted if reasonable efforts are not made at strengthening and broadening its resource basket.

Keywords Climate change · Adaptation · Local government · Decentralization · Governance

“In brief there is no shortage of implementation challenges regardless of form and level of governing structures. Moreover the need to understand them more fully is no less in demand today than during the first half of the 1980s. The very resilience of this type of research field despite fashion fads in the policy studies field attests to the enduring importance of implementation phenomena in all spheres of human society.”

—Saetren Harald 2005

✉ Issah Justice Musah-Surugu
musah123@gmail.com

¹ Department of Public Administration and Health Services Management, University of Ghana Business School, Accra, Ghana

1 Introduction

There is less disagreement that we are in a tumultuous period in our history regarding the “Anthropocene”. Nonetheless, if anyone had predicted 20 years after the Kyoto-1998 climate change (CC) deal that majority of local governments (LGs) would hesitate to act, many people would have doubted it. However, evidence shows that though many LGs are increasingly mainstreaming CC concerns into their development plans, there are significant numbers that have yet to act (Ruwanza and Shackleton 2016; Salon et al. 2014, Hoppe et al. 2014; Doelle and Belfry Munroe 2012; Bulkeley and Kern 2006). Those that have even shown interest at best roll out piecemeal and extemporaneous programs. This article, therefore, draws on experiences from six selected LGs in Ghana to discuss the underlying motivation and the concomitant challenges constricting LGs’ abilities to be the fulcrum for unpacking decentralized CC adaptation governance. Undeniably, there is an increasing shift of scholarly work on CC policy implementation from the meso-level to the micro-level. Many reasons have been put forward within the emerging climate policy literature on the changing focus of scholarship. Implicit in the shift is that there has been relatively limited research into micro-level climate governance across developing countries. There are many studies of CC policy responses globally, yet, very few focused on LGs in Sub-Saharan Africa (e.g. Aylett 2013; Romero-Lankao 2012; Ryan 2015).

There are numerous reasons why LGs and local level CC action(s) in Sub-Saharan Africa should attract similar research interest. Firstly, CC would have a disproportionate impact on Sub-Saharan Africa given its low adaptive capacity (IPCC 2014; Ahenkan and Musah-Surugu 2015). Secondly, LGs in these regions are undertaking locally focused CC initiatives which should attract similar research interest. Examples of such initiatives from Ghana include afforestation, mango plantations, coastal sea defence, urban flood management, agro interventions, etc. (GoG 2015). Thirdly, LGs in Sub-Saharan Africa remain the level of government where adaptation needs unfold and are most readily accessible by local peoples. They also structure local sensitivity to CC and double up as an intermediary for central, and donor agencies for the implementation of CC-related projects. Furthermore, LGs set many strategic and long-term environmental policies that have implications for adaptation (Mearns and Norton 2010). Lastly, as noted by Aylett (2015), existing studies on the local level CC policy institutionalization are mainly based on single case studies in single cities (see, Ford et al. 2016; Aylett 2013; Romero-Lankao 2012; Wolf et al. 2010), with few exceptions (see, Aylett 2014; Ryan 2015). This study attempts to fill these gaps by using multiple LGs to discuss the ensuing research questions: (1) What motivate LGs to integrate CC adaptation concerns into local governance? (2) Why and who set the agenda for CC adaptation mainstreaming in local governance? (3) What are the constraints affecting LG’s ability to mainstream adaptation into local governance?

2 Decentralization and adaptation governance: analytical starting point

2.1 Climate change adaptation and the role of LGs in Ghana

The impact of CC in Ghana is unequivocal (Owusu, Obour and Asare-Baffour 2015), confirming the dramatic nature of climate variability of Sub-Saharan Africa (Yaro et al. 2015; Nicholson 2001). Although there is no consensus on conclusion, the general view is

that drier areas in Ghana would experience intense drought, while some rainy areas might experience erratic rainfall pattern (Dietz et al. 2003; Minia 2004). This view is consistent with a general decline in rainfall reported throughout West Africa over the past 50 years (Owusu et al. 2015; Nicholson 2001). The nuances related to this trend are widespread, in Ghana. Existing biophysical, political and socio-economic miseries of many Ghanaians could reach a tipping point ostensibly due to the reported climate variability. Given the ubiquitous governance failure across Sub-Saharan Africa, numerous scientific literature points to a gloomy future for most Ghanaians—CC mediated water and food stressed, climate refugees, vector-borne diseases, etc. (Eguavoen 2012; Codjoe et al. 2012; Dietz et al. 2003; EPA 2000).

Theoretically, the Ghanaian LGs are designed to be autonomous with deliberative, legislative and executive powers over their area. Perhaps, they were designed to take a decision over local affairs at any material moment. By implication, Ghana's 1992 constitution, Local Government Act 426, national climate change policies provide a variegated CC adaptation role to LGs. As per these legislations, LGs are instructed to take various decisions such as those related to regulation, supervision, promotion and facilitation (e.g. on spatial planning, public health, fire prevention) that fall within the domain of adaptation. Article 36(9) of 1992 Constitution states that:

The State shall take appropriate measures needed to protect and safeguard the national environment for posterity; and shall seek cooperation with other states and bodies for purposes of protecting the wider international environment for mankind.

Similarly, Ghana's LGs act 426 section 10(3) indicates that LGs would be responsible for the overall development of the district which either overtly or covertly affects micro-level CC adaptation governance. Indeed, the expression that LGs provides service from the "cradle to grave" aptly describes the Ghanaian situation. The functions of LGs are numerous to recount here. Suffice it to say that in the Ghanaian context where adaptation is urgent, LGs takes on an added responsibility. They are supposed to plan, budget and integrate adaptation needs into local development plans as per its current composite budgeting and performance evaluation metrics. However, LG's ability to shoulder the added responsibility is a function of its "political economy" [e.g. size, fiscal autonomy, policy clarity, the extent of decentralization] and sensitivity to climate variability (Ryan 2015). Given the boundary-spanning nature of CC, various national climate change policies suggested that LGs must consult and involve deconcentrated departments, non-state agencies and traditional authorities in taking climate action.

2.2 Why decentralization of CC adaptation governance may be (in)effective

As a postmodernist idea, decentralization is touted as a miracle remedy for a better management of local affairs, and more recently CC adaptation needs (Brockhaus and Kambiré 2009). In a "post-reinventing the wheels of government", central government is offloading the functions of managing CC-related problems that are local. While a mix of factors and forces shape decentralization, its' devotees would argue that a decentralized CC adaptation governance would definitely lead to efficiency, effectiveness, inclusion and proactiveness in building local adaptive capacity (Crawford 2008). Indeed, decentralization advocates argue fervently that decentralized CC adaptation governance gives voice to those affected by the scourge of CC to participate in decision aim at reducing their vulnerability. They are also not oblivious of the diversity likely to be unleashed to adaptation efforts. Off course these narrative points to the extremely high expectations of

decentralization enthusiasts censuring its dangers and pitfalls. Decentralization is, however, not immune from drawbacks and therefore does not always lead to what its aficionados expect (Bawole 2017; Yeboah-Assiamah 2016; Crawford 2008). Although most of the work on environmental mainstreaming in local governance focuses on the global north (Ryan 2015), studies in South Africa posit contrasting evidence, suggesting that decentralized CC adaptation governance may have failed to achieve its purpose as envisioned by its adherents (Pasquini and Shearing 2014; Pasquini et al. 2013). The general view is that most African countries have been coerced into accepting most postmodernist ideas theoretically and doing little to flesh it out in practice, therefore, creating implementation challenges. The environmental decentralization literature specifically argues that decentralization is often overly idealized and its disciples remain naive to its complexities and potential pitfalls in implementing adaptation policies (Walker et al. 2015). Four problem areas are often highlighted as barriers to the implementation of decentralized climate change policy implementation: limited administration capacity; politics of local planning; weak policy; and climate science-heaviness (Walker et al. 2015). These constraints are presented in Fig. 1 below and subsequently explained for clarity in Sects. 2.2.1, 2.2.2, 2.2.3, and 2.2.4.

2.2.1 Limited administration capacity

For the past four decades, theories of decentralization have underscored diverse administrative constraints limiting the capacity of LGs to efficiently undertake their statutory responsibilities (Bawole 2017; Rondinelli and Cheema 1983), which have a trickle-down effect on adaptation governance (Ryan 2015; Ayllet 2015). Various scholarly reviews depict that the structural arrangements, fiscal autonomy, organizational resource-set of LGs significantly impact LG's administrative ability to perform its duties (Ryan 2015). These inherent administrative limitations affect LG's capacity to respond to the incremental cost and investment needs of CC. For instances in many Sub-Saharan Africa countries, identifying and sourcing adequate financial resources to meet the extra financial responsibilities of CC remain a dream for most LGs, partly due to reported cases of weak revenue generation machinery and limited fiscal autonomy (see, Yeboah-Assiamah 2016).

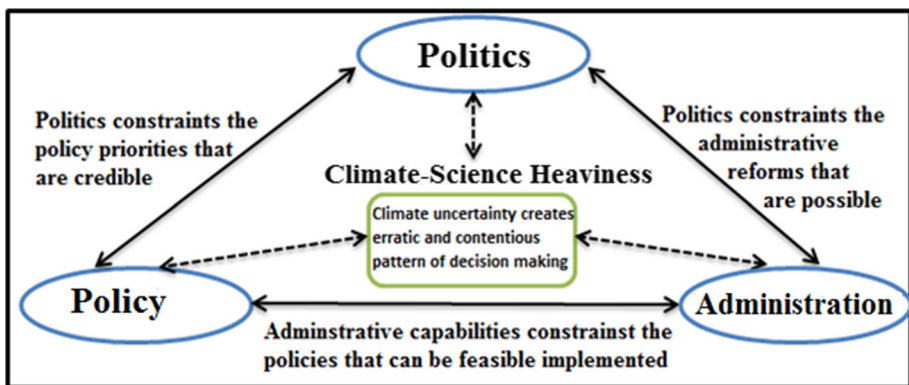


Fig. 1 Politics, policy, administration and climate sciences-heaviness interdependence. *Source:* Adapted from the Commonwealth Secretariat (2016)

2.2.2 *Politics of decentralization and local planning*

Failure of central government to systematically offload power, responsibility and corresponding means (resources) to LGs leads to power–responsibility asymmetry in local governance (Ribot and Larson 2005). Many researchers agree that until central governments have devolved the necessary authority and a matching means to LGs, they would remain grossly ineffective. Tactlessly, in many areas of developing countries, central government limits the scope of powers transferred to LGs by instituting new patterns and systems of oversight which reinforces recentralization of power over local affairs. Quoting a wealth of literature, Crawford (2009) and Yeboah-Assiamah (2016) confirmed that necessary power required for effective local governance had not accompanied decentralization in Ghana making LGs very weak to perform their expected functions. For example, evidence from many countries in Sub-Saharan Africa suggests that LG's powers over areas that affect CC adaptation such as forest governance, infrastructure, health, public education, etc., are highly circumscribed by supervision from central government (Martins and Ferreira 2011). A classical example is seen in Senegal where central government maintains the right to issue concessions and permits for commercial access to forestry resources (Ribot 1999). LGs, therefore, lack vital discretionary powers over most adaptation domains given.

2.2.3 *Nature of CC and decentralization policy*

In many cases, LGs in Sub-Saharan Africa have no constitutional standing of their own. Rather, they are delegated agents of a higher power (Yeboah-Assiamah 2016). Indeed, most of the powers and responsibilities of LGs emanate from overlapping legislation that defines the scope of LGs concerning specific aspects of adaptation governance [such as planning, natural resources management and coastal management]. Similarly, at the local level different de-concentrated agencies, functional domains also affect adaptation which LGs lack supervisory authority. The lack of clarity over what LGs can specifically do and how deconcentrated agencies should collaborate with LGs to unpack adaptation action is indeed an obstacle to effective CC adaptation governance (Smith et al. 2009). For example, while most LGs cannot take decisions on their own unless sought permission from above, most of LG's legislation is also yet to incorporate future CC, affecting the legal mandate of LGs to act. The lack of a single regime to manage a single public issue creates collective action problems (Bai 2007). Collective action problem is a situation where each individual within a given constituent and a situation through a rational calculus behaviour decides not to act hoping that others would in order to enjoy free ridership. Since all actors are rational actors, no action ever takes place leading to what has come to be known as the prisoner's dilemma or collective action problem. The collective action problem is evident in local CC adaptation governance given the numerous policy actors, overlapping goals, priorities, lack of clarity, etc. that have characterized many decision areas that affect adaptation (Bai 2007; Martins and Ferreira 2011).

2.2.4 *Science-heaviness of CC (uncertainties and contestations)*

Though future projections of CC are alarmist in nature, its likely impacts and requisite adaptation options remain significantly complex, uncertain, contentious and frictional areas among policy practitioners. Both global and local circulation models provide significantly

varied scenarios give room for scepticism, cynicism and contestations among policy actors. Current understanding of natural and socio-economic processes mediated by CC is less understood, worsening the burden of proving with precision the likely future impacts (Walsh et al. 2016). Furthermore, because it involves a global public good, CC is traditionally framed as a national or international issue requiring large-scale centralized responses (Brunner 1991). The uncertainty nature of CC is unhelpful for CC adaptation governance since uncertainty is one of the key sources of erratic patterns of decision making on wicked problems (Koppenjan and Klijn 2004).

2.3 Complexity of joint action and CC policy integration at the local level

Pressman and Wildavsky (1984) studied policy implementation and proposed the complexity of joint action theory (CJAT). This theory offers good theoretical framework for studying policy implementation nuances which can, therefore, be used to explicate the implementation of CC adaptation governance at the local level in Ghana. Firstly, the theory indicated that even under the most promising conditions, novel policies are still likely to fail if too many actors with deferring interest are involved in its implementation. The underlining argument of CJAT is that failure is a consequence of the complexity related to “joint action” or “group action” or “collective action”. Thus, arguing that implementation processes that require the active involvement of multiple rational actors suffer from institutional “siloism” instead of cooperation. Secondly, it contends that involving many players whose mandate emanates from different statutes creates so many unreasonable “decision” and “clearance” points which symptomatically delay policy action or lead to policy inaction. Thirdly, they argue that uncertainties over policy outcome on actors’ institutional salience, organizational status and personal interest create policy stagnations and deadlocks (van Bueren et al. 2003). Using the CJAT, we argue that the nature of CC policy, the politics of decentralization, the limited organizational resource set of LGs and CC uncertainties as depicted in Fig. 1 above impact LG’s ability to integrate adaptations strategies into local governance.

3 Methodology

This study adopted the qualitative research approach. The qualitative approach has been touted as a robust scientific process of collating the perception of study participants and how contextual and macro-factors influence such perceptions. The approach which has been used in CC adaptation similar studies (see Adu-Boateng 2015), therefore, was most appropriate to gain a much deeper understanding of LG’s motivation, agenda setting processes and constraints in implementing decentralized CC adaptation governance in Ghana. Literature review and in-depth interviews with key informants were the main data sources for this study (Creswell 2013). Empirical data were collected using semi-structured interviews supplemented by a thorough review of relevant LGs’ documents. The data gathered were analysed manually using both content and thematic appraisal approach.

In climate change, discourse is replete with metaphor, frame contestation and multi-disciplinary thoughts. To appreciate the diverse narratives that surround the governance of such complex social science phenomenon, researchers must embrace themselves with the kind of data analysis technique that can help reduce data, condenses ideas and offer flexibility. Content analysis provided us requisite sophistication needed in such endeavour.

As argued by Krippendorff (2012), content analysis has proven beyond history as one of surest candidates for analysing complex data: literary metaphor, themes, genre, figure of expression, styles, etc. As a result, the use of content analysis allowed us to undertake systematic categorization of large textual data and the consequently drawing inferences (Miles and Huberman 1994). Inarguably, it helped us to focus on the content of various documents used by focusing on who said what, to whom, and with what effect it has on adaptation governance at the local level (Bloor and Wood 2006). Lastly, it offered us the opportunity to reduce our data and concentrate exclusively on those related to the study research questions (Creswell 2013; Krippendorff 2012; Miles and Huberman 1994). On the other hand, the thematic analysis was explored to identify patterns (themes) within the data that become evident through the content analysis (Vaismoradi et al. 2013).

In summary, both analytical techniques were explored to help us break large data into relatively small units and subsequently submitted them to descriptive treatment. Both analyses were done through data familiarization (transcribing data, repeated reading of data, immersion of initial ideas), generating initial codes, organizing codes, searching for themes, defining and naming themes and finally writing of report (Vaismoradi et al. 2013). The frequency of issues occurrence was identified manually using content analysis which in turn helped to locate themes across the empirical and theoretical literature for the analysis. The field work of this study took place between November 2015 and July 2017, lasting for more than one and half years. The field work involved six LGs that were purposively selected across three administrative regions of Ghana: Greater Accra, Ashanti and Northern Region. The six selected LGs as shown in Fig. 2 are the Accra Metropolitan Assembly (AMA), Shai Osudoku District (SODA), Ejura-Sekyedumasi Municipal (ESMA), Ashanti Akyim South District Assembly (AAS), Bole Bamboi District Assembly (BBDA) and Sala-Tuana-Kalba District Assembly (STKDA).

The selection of these LGs for the study was informed by the inherent strength of within-country case study in adaptation governance research. Past researchers in the field of climate change policy and local governance appear to argue consensually that selection of cases within a given country increases the probability of obtaining valid causal inferences (Dupuis and Biesbroek 2013; Vogel and Henstra 2015; Salon et al. 2014; van den Berg and Coenen 2012). For example, Dupuis and Biesbroek (2013) and Vogel and Henstra (2015) agree with Anckar (2008) that selecting cases within a given country ensures stringent control of the countless variables that inevitably creates the “too few cases”, “too many variables” problem, which in turn, reduces the scientific rigour of extrapolations or inferences. As a result, Salon et al.’s (2014) selection criteria were used to select six LGs for the study. We, therefore, considered the location’s proximity or remoteness, size (Metropolitan, Municipal, District), human and material resources capacity (old or newly created) as relevant variables in the selection of cases for this study.

Consequently, we selected LGs that have different socio-economic and political characteristics as well as differences in vulnerability to CC. For example, the two LGs selected from Greater Accra Region are very close to the seat of government, arguably, with more sophisticated citizens, vibrant media, elite population, higher revenue, high population compared to the three selected from the other regions. Similarly, the two LGs selected from the Greater Accra Region are less vulnerable to CC impacts compared to those from the other regions (Taylor et al. 2017; Wrigley-Asante et al. 2017; Dumenu and Obeng 2016; Ghana’s Third National Communication Report to the UNFCCC 2015). These factors suggest that there is apparent diversity across political and socio-economic characteristics, geographical location, population diversity and growth rate which could elicit the diversity of motivation and constraints of CC adaptation mainstreaming (Salon et al. 2014).



Fig. 2 Map of Ghana showing the six local governments included in the study

Thirty key informants were selected from five most relevant departments whose functional domains affect CC adaptation governance. Specifically, one (1) representative in each of the following departments was selected: Finance and Budgeting; National Disaster Management Organization (NADMO); District Agricultural Units; District Management Information Unit; and District Planning Unit. In all five respondents, each who was either the head of a unit or at management level was selected and interviewed. The sampling of the interviewees was therefore based on their position and influence in LG development plans. In our opinion, a sample size of 30 provides rigorous scientific basis for a qualitative paper of this kind (Guest et al. 2006). According to Creswell (2013), the sample size within a qualitative research is typical “a few individuals or a few cases” since data saturation can occur within the first 12 interviews (Guest et al. 2006). All of the 30 interviews were audio-taped and later transcribed. The transcribed data were therefore triangulated with literature. These sources of information formed the basis of our discussions and conclusions.

4 Results and discussion

4.1 Motivation for mainstreaming

Given the limited resources of LGs and the litany of competing priorities at the local level, the study attempted to find out why LGs integrate CC into local decision making. Rational choice theory places the motivation of political actors and bureaucrats at the core of any successful or failed policy decision. This is because strategy and calculations of LG actors influence the direction of governance. It was noted that four leading instrumental and symbolic motivations influence the incorporation of CC into local governance. The instrumental motivation often championed by LGs bureaucrats included poverty reduction, gender empowerment, correction of information failure, and for purposes of performance management and compliance to higher statutes. Put crudely, for politically appointed officials, symbolic benefit (electoral success and political legitimacy) provided a superior narrative for mainstreaming. The Table 1 below provides a summary of the motivation to mainstream adaptation into local governance. These motivations have been discussed under four broad themes covering both instrumental and symbolic motivations.

4.1.1 Mainstreaming to prioritize poverty reduction (instrumental motivation)

According to study participants, adaptation to CC has close synergies with poverty eradication efforts. The perceived synergies motivate them to prioritize adaptation concerns in local governance to accelerate the process of reducing incidences of poverty and building prosperous communities. According to participants, CC is gradually becoming a mammoth threat to poverty reduction. Given this base, respondents argued that adaptation must be placed unequivocally at the heart of local governance as a means of reducing poverty. A respondent emphasized this point:

We can't be LG until our functions reflect the needs and hopes of our constituents. The livelihoods of our people are under serious threat as the rains and temperature have become highly unpredictable. Both public and private infrastructures are similarly under threat. Our development decisions must, therefore, mirror the changing circumstances to improve local governance in an attempt to reduce chronic poverty (SODA interviewee).

Another respondent shared similar concerns:

District assemblies were created to bring development to its people and reduce incidences of poverty as well. Since CC is, though arguably, partly affecting this goal, we as a district must incorporate adaptation action into our development plans to be able to achieve our goals including poverty reduction (STKDA interviewee)

Our observation from some adaptation intervention such as CC awareness creation, provision of alternative livelihood skills and provision of climate adaptive technologies from the field confirms that LG's mainstreaming activities are indeed facilitating livelihoods diversification among beneficiaries. This evidence and the concerns raised by the study participants resonate well with the central argument that mainstreaming CC adaptation into local governance improves social well-being, economic activity and local livelihood systems (Kane and Yohe 2000).

Table 1 Comparison of LGs' motivation to mainstream CC adaptation into local governance. *Source:* Field Data, 2017

Instrumental motivation		Symbolic/political motivation
<i>Metropolitan assembly</i>		
Poverty reduction	Meeting local development goals To reduce climate-induced risks	1. For political capital 2. To ensure continuous budgetary allocation to our unit 3. To maintain departmental salience
Gender empowerment	To empower marginalized groups Build adaptive capacity	
Provision of information	To reduce exposure and sensitivity	
Performance management	For achieving good score on environmental appraisal	
<i>Municipal assembly</i>		
Poverty reduction	To stimulate sustainable development For poverty reduction purposes Reduce local vulnerability	Demonstrating leadership To attract auxiliary funds Meeting campaign promises
Gender empowerment	Support most disadvantaged people For capacity building	
Provision of information	Create awareness on climate extremes	
Performance management	To meet statutory requirements	
<i>District assembly</i>		
Poverty reduction	As a poverty reduction strategy Reduce local vulnerability	To create institutional relevance To ensure continuous budgetary allocation to our unit
Gender empowerment	To help those profoundly affected by CC	To score political capital
Provision of information	To create awareness and build capacity	
Performance management	To attract auxiliary financial support For higher performance on LG performance league To meet central government policy directives	

4.1.2 Mainstreaming as gender empowerment (instrumental motivation)

Gender differentiated roles and institutionalized patterns of marginalization influence access to resources and networks endowment affecting adaptive capacity. Field data shows, integration of CC adaptation concerns into local governance is a mechanism for addressing gender-related inequalities. Indeed, LG actors sometimes deliberately undertake positive discriminatory actions aimed at empowering those highly vulnerable to CC. For example in some district market, women who consistently suffer from storms and floods were the primary targets. Similarly, we found that in some district distribution of CC technologies such as drought resistance, crops were discriminatorily done taken into consideration relative adaptive capacity. One district planning officer stated as follows:

We are mainly targeting women this year on flooding, weather based insurances, risk management, etc. because they are petty traders and each year their goods get destroyed by floods. We are also redesigning new market structure that would support market women (AMA interviewee).

The NADMO official concurred and explained as follows:

Women in this community make a vital contribution to the household economy. So if they are hard-hit by climatic perturbations, the entire family is likely to suffer. We are therefore undertaking numerous adaptation based initiatives that specifically target women in areas such as farming, water stress management, post-harvest losses, and livelihoods diversification, etc. with the aim of building women's adaptive capacity (ESMA interviewee).

4.1.3 Mainstreaming due to information failures (instrumental motivation)

In the views of most respondents which correspond with findings of existing research, availability and access to climate information remains a fundamental adaptation constraint (Jones et al. 2016). LG practitioners were convinced that the efficiency of adaptation hinges on access to timely and usable climate information. Interviewees explained that availability of climate information prevents maladaptation marginally. These views resonate with the general economic theory that holds that information failure hinders optimal economic decision making (Pickard 2016). One management information system (MIS) officer in one of the LGs indicated as follows:

When we budget for CC it makes funds available for us to sensitize the farmers on drought, bushfire, expected rains, changing seasons, etc. Such information and capacity building initiatives are helping many farmers to adapt effectively to the ongoing El Nino (ESMA interviewee).

4.1.4 Mainstreaming as performance management (instrumental motivation)

Environmental issues form part of LGs performance evaluation metrics in Ghana. LGs compete for auxiliary funds such as the district development funds which are tied up to performance of LGs. As a result, all performance metrics which also include environmental issues such as CC are carefully being given attention by LGs in Ghana. A study conducted by Musah-Surugu et al. (2017) shows that compliance to CC mainstreaming improves the score margins of LGs and increases their likelihood to attract auxiliary funds. Interview with LGs staffs confirmed this. One respondent echoed as:

Know that every district wants to get a high-performance rating so that the district can access district development facility (DDF) fund. This means that environmental or CC issues must be considered at all level of local decision making to enhance our chances of accessing such funds (BBDA interviewee).

4.1.5 Mainstreaming for political legitimacy and electoral success (symbolic motivation)

When politically appointed officials were asked the motivation to mainstream adaptation, the responses were straightforward—if it is politically rewarding. To wit, many LGs' political staff are motivated to integrate adaptation into local development decisions if it

influences voter decisions, affects electoral success and creates regime legitimacy. This finding is in consonance with the view that African politicians would only consider integrating CC into governance processes if it attracts voter support (Obradovich and Zimmerman 2016). Quoting Malawian Member of Parliament, Obradovich and Zimmerman (2016) confirmed that if a politician talks of CC, he is guaranteed to lose votes and hence likely not implement CC policies. Evidence from the field supports these claims. Respondents from NADMO office state thus:

Our people have been suffering from several environmental challenges which affect their livelihood. We, therefore, need to undertake development actions that would help the people to cope with changing environmental system. Failure to do so would jeopardise our political credibility (ASMA interviewee).

4.2 CC adaptation mainstreaming: Who sets the agenda?

Even though in Ghana the implementation of adaptation policies occurs through a decentralized system with LG's being the lead actors, in respondents' opinion, its agenda setting occurs largely through a top-down system. Micro-institutions play a minimal role in setting CC adaptation agenda as reported by study participants. Central government policy directives and donor agencies development priorities tacitly negotiate, bargain or dictate what should be done at the local level given the skewness of power in favour of central government and donor agencies. Respondents suggested that local development plans are supposed to mimic central government directives leaving them minimal discretion. Mapping adaptation initiatives in Ghana over a 15 years period, Würtenberger et al. (2011) concluded that significant chunk of CC adaptation funds in Ghana are donor driven. LGs' substantial reliance on central and donor funds offers the later the domineering opportunity to set CC adaptation agenda as claimed by interviewees.

Respondents further contend that LGs leaders also influence adaptation governance: whether LGs leaders that wield executive power over resources allocation view adaptation as an opportunity to be exploited, development priority and politically sound decision or whether they saw it as a waste of limited resources. Direct quotations from a resilient officer below elaborate this claim further:

Within the discretion of our leaders, whether elected or higher level bureaucrat, they do an approximate cost and benefit analysis, sadly, often through political spectacles either to act or not act – on CC (AMA interviewee).

Ghana being a bastion of democracy in Sub-Saharan Africa, grass-roots action from political parties' serial callers and foot soldiers, non-state actors, LGs' legislators and research institutions has visibly found a voice in setting policy agenda, in what is largely seen as a top-down agenda setting infrastructure. For example, the Regional Institute of Population Studies has collaborated with selected local government in Ghana to undertake action-based research which informs or influences the extent to which adaptation issues are given priority in local decision making. Clearly, there was a consensus among interviewees that adaptation based training program, symposium, awareness creation spearheaded by grass-roots actors are a significant micro-approach for setting the agenda for adaptation mainstreaming, albeit its sporadic nature. This finding confirms previous findings that grass-roots actions that resonate with public opinion create the political goodwill to act (Rootes et al. 2012).

4.3 Challenges for mainstreaming

This section presents a succinct clinical account of the constraints of LGs in leading the implementation of a decentralized adaptation policy in Ghana. Though study respondents mentioned more than ten challenges of mainstreaming CC adaptation into local governance, these are herein discussed under four major themes: administrative, political, policy and climate science-heaviness constraints. (see Table 2 below for a summary of the numerous list of constraints LGs face in an attempt to mainstream CC adaptation into local development plans as put forward by study participant).

Table 2 Summary of challenges of mainstreaming according to different hierarchy of LGs. *Source:* filed data, 2017

Metropolitan assembly	Municipal assembly	District assembly
<i>Politics</i>		
Overriding interest of central government	Limited regulatory jurisdiction over specific areas that affect adaptation	Directives from central government
Political interest in short-term activities	Political interest over public interest	
<i>Administration</i>		
Financial resources	Lack of policy desk or home	Resource limitations
Bureaucratic competitions	Lack of coordinating unit	Low level of climate awareness
Difficulties in mainstreaming	Poor access to climate information	Institutional silos
Lack of climate change experts	Limited resources	Bureaucratic competition
Limited awareness	Competition local needs	Lack of environmental champions
		Leadership challenges
<i>Policy</i>		
Climate policy ambiguity	CC adaptation cuts across largely separate department	Weak sanction regimes
Competing priorities	Weak legislation	
<i>Climate—science</i>		
Limited awareness	Lack of requisite workforce	Complex nature of adaptation
Climate uncertainties	CC adaptation cuts across largely separate department	
Adaptation is a boundary-spanning issue	Uncertainties related to expected extremes	Limited expertise
Lack of climate change experts		CC as boundary-spanning issues
		Lack of consumable climate information

*** Metropolitan assembly is the highest in the hierarchy of Ghana's LGs' system with population over 250,000

** Municipal assembly is the second highest in the hierarchy with population over 95,000

* District assembly is the third lowest in the hierarchy with a minimum population of 75,000 and a maximum of 95,000

4.3.1 Challenges emanating from LG administration (collaboration, funds, manpower)

Evidence from the field suggests that the boundary-spanning character of adaptation ostensibly presents a regime complexity for public agencies to act. Perhaps, it is even more challenging in LGs where coordination of local affairs among the numerous deconcentrated, delegated and devolved agencies barely occurs. In the opinion of respondents, the Ghanaian decentralization system is strongly sectorized with most adaptation policy domains embedded in separate administrative sector departments. Adu-Boateng (2015) confirms that inherent in Ghana's LGs are institutional conflicts between departments under different ministerial mandates and between departments under LG. Such vertical and horizontal forms of conflict affect the management of public problem that is cross-boundary (climate change) in nature. District planning officer reported thus:

Per the composite budgeting system, we are supposed to integrate all financial plans of decentralized department in this district. But due to poor communication and consultations among department they fail to provide economic reasons for their claims- for example why bush fire campaign must be budgeted for. Remember that we have resource constraint and therefore overlook claims that are not convincing enough. So it is only reasonable that department consults each other, share information and then able to prepare a well-coordinated program that is convincing to be given budgetary considerations (STKDA interviewee).

Another administrative challenge that came up strongly is the upfront costs and manpower needed for mainstreaming CC adaptation. Respondents were in no doubt that they do not have enough financial resource to take on board the incremental cost and investments needs of CC adaptation. Similarly, there were complaints about capacity for human resources. In all the LGs, it was only one that has a specific desk for adaptation-related activities. The desk which is known as "resilience officer" has the mandate to coordinate adaptation efforts within the district. The reported administrative constraints resonate with other previous research findings that indicate that the incremental cost of adaptation scares local agencies from adopting and implementing CC policies (Ryan 2015). It is also consistent with the general lack of climate expertise across Africa as identified by Washington et al. (2006).

4.3.2 Challenges emanating from CC policy

In the views of study participants, climate policies in Ghana that are supposed to provoke mainstreaming are extremely ambiguous. It appears that the perceived ambiguity stems from the fluidity of the concept of adaptation which has created much theoretical debate on what constitutes adaptation (Smith et al. 2009). The inherent lack of clarity on what is adaptation, therefore, makes it hard for LGs' practitioners to incorporate adaptation in local governance. Literally, the goal of the adaptation process as captured in most statutes remains a source of disagreement among practitioners and scholars alike (Füssel 2007). Interviewees were clear in their minds that the lack of clarity as to what constitutes adaptation in various CC statutes in Ghana invariably subjects the weighing of the "relative importance" of local vulnerability to local political machinations and administrative discretion. As argued by a "resilience officer" below:

Adaptation is lithely defined and poorly focused by various climate statutes in Ghana, pushing CC adaptation issues onto a volatile political turf and often given low attention within existing departmental programs (Interviewee from AMA).

Others also indicated that CC adaptation policies failed to clearly structure adaptation management for the following reasons: the lack of explicit mention of sources of finance; lack of explicit mention of the amount required to be devoted to CC; poor articulation of incentives for non-state actor's participation. These accounts provide support for the CJAT hypothesis that the ability for a state agency to effectively implement policy reforms depends on the extent of clarity of policy goals and its ability to structure the entire implementation processes.

4.3.3 Challenges emanating climate science-heaviness

Climate change remains a “wicked” societal problem that no one can say with precision what is expected for future changes in precipitation or temperature. Undeniably, adaptation is not being developed in an institutional void. As a result, it makes it quite contentious issues when it comes up for local decision making. For example, it was evident from the field interviews and documentary reviews that adaptation program is supposed to be cordoned within pre-existing national or local development policy framework. The ability to cross-fertilize climate change adaptation into such existing development framework remains a daunting challenge for most LG practitioners. The challenge is that climate change is so science-heavy, and its future impacts are shrouded in secrecy making practitioners to find it difficult to make a convincing case for it. Policymakers are therefore stuck to using scenarios meanwhile existing global circulation models provide entirely different conflicting scenarios. There is therefore inherent contestation subject to local political economy analysis in LGs system. A respondent clearly explained their challenges:

The weather is unpredictable, how much rains we should be expecting, the nature of storms, possible flooding, etc. can't be precisely forecasted. This has therefore allowed actors within the local policy space to use conjecturing for planning for adaptation. But such conjecturing does not provide proactive response to adaptation. What level of action is required and at what material moment such action makes economic values remain a subject of speculations (AAD interviewee).

Many study participants were unanimous that the uncertainties relating to CC continue to challenge administrative reforms in response to CC adaptation. Some also opined that the uncertainty part of CC had given rise to the pursuit of self-interest-driven behaviour of actors involved in the adaptation policy process.

4.3.4 Challenges recognized by the politics of local planning

Reported cases of central government enduring interest and nose poking into local governance can result in clientelism, dominance and tension in local adaptation governance. Interviews lamented that LGs are mostly unable to autonomously initiate and implement major initiatives on their own unless they seek prior approval from central government. As clearly noted in the agenda setting processes in the previous section, it was evident that central government and donor agencies remain the core architects of what happens within the local economy. For many respondents, the strong relationship between central and LG where the entire local development approach must mimic the national development

paradigm suppresses flexibility and innovations in the delivery of local services. Bomoewing, the impact of this situation an officer of NADMO, noted that:

We are political babies here; we take directives from above on most of our intervention. Sometimes too we are prevented from taken certain action due to instructions from above (AAD interviewee).

Conversely, it was evident from the data that internally, the sweepings powers of a Mayor can change any intended CC adaptation-related plans that have been developed and budgeted for. Bemoaning this situation, one interviewee underscored this point:

Last year we had planned and budgeted for some training program that aims that creating awareness on the ongoing ELINO/ENSO (El Niño-Southern Oscillation), which has huge implications for maize and other cereal farmers. The planned education remains in the pipe line as we speak. Those in higher authority has refused to approve and release funds for it (ESMA interviewee).

Given these findings, there is a near-no doubt that higher political power and authoritative internal control of Mayors or top bureaucrats could stifle local CC adaptation action. This observation is in line with global consensus has on the politics of local planning and the impact of the watchdog role of higher governments on the functions of LGs (Bawole 2017).

5 Conclusions and policy implications

Though CC is full of uncertainties, the various global scenarios depict a world that requires urgent action. Given the local dimension of CC, LGs remain vital actors to lead the charge for building local adaptive capacity. There is, therefore, a strong case for decentralizing the implementation of CC adaptation actions in Ghana. The evidence drawn from this study confirms the largely professed views that the potency of decentralizing CC adaptation governance depends on the extent to which central government is willing and prepared to cede the needed power, responsibility and corresponding means to LG. Without a thread of ambiguity, LG practitioners involved in this study believe that implementation of adaptation policies at the local level is likely to be slow, shabby, sporadic, ad hoc or delayed since the requisite means and power have not accompanied CC adaptation decentralization. Many functional areas of local governance that perhaps affect CC adaptation remain the preserve of central government. Worse of all, the limited functional areas where LGs can systematically incorporate adaptation actions are being frustrated by their widely reported cases of limited internal capacity. As evidence from this research and consistent with current state of affairs across LGs in Africa, the necessary human resources and other resources endowment that can enhance LG's ability to mainstream CC adaptation into local development plans barely exist (Ryan 2015).

Indeed, we also find evidence that CC remains science-heavy. As a result, CC adaptation remains a contentious, frictional and complicated area for LGs with limited human resources expertise, climate data, finance, riddled with sectorization, and many competing priorities to be able to take on board the incremental cost and investment needs occasioned by climate variability. Albeit this challenge, there is enormous evidence that Ghanaian LGs are gradually mainstreaming CC adaptation into their portfolio of functions. The motivation to act is quite heterogeneous and jurisdictionally sensitive. Perhaps, the apparent heterogeneity is inherent in the perceived haziness of CC adaptation goals envisioned by

national climate change policies and the variability of LGs sensitivity to climatic impacts. Nevertheless, we find five motivations to act: poverty reduction, gender empowerment, correction of information failure, performance management and political expediency. As deduced from the data, these motives could be seen as either instrumental or symbolic motivations depending on which LGs' practitioner interest is at stake. In cases where appointed officials make appealing claims and put up flamboyant defence for CC adaptation mainstreaming, their intentions were largely for its symbolic "prices"—when CC adaptation has implications for electoral outcomes. In contrast, instrumental values and bureaucratic accountability drive LGs bureaucrats to make a developmental case for CC adaptation. They do so when they perceive CC adaptation as quintessential for local development and a metric for measuring institutional performance (see also Musah-Surugu et al. 2017).

Another objective of the study which focused on CC adaptation agenda setting provides some useful insights for policy practitioners. Though we found that on the whole, super-government wields much power in setting local CC adaptation agenda, Ghana's democratic political space allows political parties "foot soldiers" to set agenda for local action. Their political clout could have some implication for (mal)adaptation. We, therefore, argue that if policy champions are indispensable for climate action as professed across policy scholarships, then the political parties "foot soldiers" present a good window. In most cases, they become/are head of departments (Mayor, legislators, NADMO, Youth Employment, Health Insurance, Informal sector, etc.) whose functional areas have the most significant impact on both "stock" and "flow" CC adaptation responses. It is, therefore, folly not to target local political apparatus in the implementation of decentralized CC adaptation governance. However, involving these actors as champions of CC adaptation must be a "target-based-strategy" carefully designed since their non-technical considerations could lead to maladaptation (high-regrets adaptation options).

Based on the finding of the study, we provide the following as entry points for successful implementation of decentralized CC adaptation governance in Ghana. First of all, systematic efforts should be taken to ensure coherence among fragmented CC adaptation statutes and other legislations. We are confident that (re)formulation of clear and coherent CC adaptation protocols is capable of creating linkages and fostering healthy collaborations among the diversity of sectors and institutions focused on CC adaptation at the local level. This effort would certainly create synergies between institutional actions, promote networking, create homogenous responses and systematically minimize trade-offs of narrowly focused CC adaptation response. It could also allow adaptation issues to be cordoned within existing local development plans with ease.

Secondly, efforts should be made to improve the availability and access to consumable climate data and internal administrative capacity of LGs—e.g. manpower and finance. The need for manpower development and the consequent establishment of LG bureau (resilient desk) in charge of climate policy initiatives and coordination is extremely relevant. As outlier evidence, the presence of a "resilient officer" in one of the study districts provides maximum support to this call. Evidence from the field indicated quite strongly the importance of embedded human resources to lead adaptation planning and coordinate capacity building efforts at the local scale. Empirical field evidence confirmed that the LG (AMA) that had the resilience bureau had joined several international climate change alliance including the famous C40 Cities Climate Leadership Group and the International Council for Local Environmental Initiatives (ICLEI). The same LG appears to be an active participant of many international sustainability conferences including the UNFCCC Conference of Parties (COP) compared to other LGs in the study. It was not therefore

surprising to see an incremental signal in their annual resource allocations to issues of sustainable development that has climate change metrics as its' core pillar. Although several factors could mediate these innovations and progress, we are convinced that the presence of a sustainability bureau in the said LG cannot be written off, which drums home, among other things the vital role of human resources in adaptation governance.

Thirdly, there are too many central government directives and instructions to LGs arising out of unequal and unaligned power relation. This situation must, therefore, be recast to resource LGs with the necessary power and means they need to ensure effective local governance. Fourthly, CC adaptation mainstreaming should be made part and parcel of LGs' performance auditing. This would reduce the extent of political and administrative discretion over CC adaptation mainstreaming. Fifthly, the auditor general's report on LGs continues to depict all forms of administrative and financial impropriety and malfeasances. Such bad resource husbandry has been reported as a threat to local governance (Bawole 2017), and in particular, CC adaptation mainstreaming in Africa (Obradovich and Zimmerman 2016). LG's leadership including Mayors, legislators and bureaucrats has to strictly adhere to new public management principles (transparency, accountability, efficiency, effectiveness, economy) to set a good governance example for the rank and file of LGs actors to follow. Lastly, it is worth pursuing innovative ideas like establishing Municipal Finance Authority in Ghana which will give LGs the opportunity to raise funds from the capital market for productive investment. Note that both internally generated funds and district assembly common fund have not been dependable sources of financing the increasing developmental needs at the local level. If reasonable efforts are not made at strengthening and broadening LGs resource basket, they are unlikely to be a fulcrum of adaptation governance as touted.

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