Contemporary Road Architectures and Roadside Institutions – Mapping Agentive Resilience in Regimented Urban Spaces in Ghana

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Abstract
Research on African long-distance roads have divulged groundbreaking insights, which departs from primary concepts about North-Atlantic road regimes in terms of socio-technical orders. The study of processes and practices of transfer and translation in Ghana shows the Ghanaian context is instantiated by contestations and accommodation that functions as maneuverable spaces between epistemic consortium of planners, politicians, and policymakers vis à vis local agency. This has bolstered the latter to make confident anticipation to change the world around them in a pluralistic political environment. Using multi-sited ethnographic methods the paper seeks to elucidate entanglements of a seemingly constellational narrative on both sides of the actor's aisle. Constraints and limits on local agency also provide a desideratum for mapping inter-locking processes of resilience at various levels of (dis-)engagement. The hypothesis is informed by (1) policies and practices of epistemic actors for renewal and transformation (a) compromise the visions and creativity of local agents (2) practices and processes of local agents (b) invigorate new visions; attain lateralisation of one form or the other. It reveals how the dialectics of contemporary road architectures and roadside institutions reinforces non-path dependent processes foregrounded by remarkable social resilience and change in the macro-context. The results have implications for the technology/society/governance nexus. It would however require a longitudinal study in order to map out livelihood and protective trajectories, unpack the nuances of the meaning-portfolios of local agents to make full meaning of adaptive capacity and regenerative potential in the context of socio-technical transition.

Keywords: Ghana, Roadmaking, Informal Economy, Social Networks, Digital Surveillance, Democratisation, Governance, Socio-technical Orders, Social Resilience.
General Introduction

While it is evident that modern governance systems are quintessentially constitutive, ground level interactions reveals that the inherent processes are rather multiplex and contested by local agents via deployment of material and non-material resources (Giddens 1984; Latour 2007). The dialects of the 'inherent liminality' or intermediate spaces in these processes of interaction as well as the meaning-portfolios of actors during socio-technical transitional periods are barely accounted for (Beck 2011). In the Ghanaian context, a wide range of informal economic entrepreneurs in urban centres cooperates with the authorities or resists some aspects of interventions via social learning, and creative adaptation. Two such interventions, a state-of-the-art bus terminal in Ghana’s capital Accra, and a newly built bypass at Nsawam few kilometers off the capital city generates outcomes that threaten the most marginalised of those informal economic entrepreneurs - vendors, hawkers, and porters (Adaawen & Jørgensen 2012). The projects are part of a World Bank (WB) assisted Road Sector Development Programme (RSDP) for the Government of Ghana (GoG) (WB RSDP 2001) that brought under its umbrella institutions occupied with the development of trunk and urban roads. The problematic is rooted in a tacit disengagement between state institutions, informal stakeholders, local knowledge systems and meaning-portfolios. Their interaction as dictated by domesticated neoliberal instrumentalities is the cause of many policy failures as neoliberalism inadvertently 'forecloses' the demands of the local agents it claims to 'empower' - contradictions of capitalism itself (Chandler 2014). This has broad implications for the wider power / representation nexus, particularly in an era in which informal actors are accessing the country's democratic peace for the advancement of their group interests. In socio-spatial and economic sense, these informal groups have developed flexible capacity for innovative methods of negotiation and creative adaptation in advancing and sustaining their wellbeing vis à vis technologies of spatial control during socio-technical transitions.

The paper argues that resilience learning that is induced by response to emergent causality in nonlinear complex systems enables stakeholders in socio-technical transition to relate and collaborate in order to reduce the cost of policy and institutional failure due to disruptive or unanticipated events via communication, information sharing, and paying close attention to listening. In this case study, stakeholder interaction and shared experiences generates outcomes that marks transformation from rigorous technocratic-bureaucratic management to collaborative urban governance. This has been made possible by the gains from re-democratisation since 1992. In resilience thinking, failure is captured as a resource for self-reorganisation and renewal and not necessarily an index of bad performance as indicated by
traditional methods of conceptualising and measuring governance in terms of capacities and outputs – dialectically a part of success. From this vantage point, the concept of resilience offers novel strands of interpretation of socio-technical, economic, and political change in complex systems.

Thus, democracy creates novel spaces and strengthens 'capacity for adaptive learning in the societal sphere' (Chandler 2014: 177). The adaptive capacity of informal economic entrepreneurs has been well documented prior to and since Hart’s (1973) groundbreaking publication - *Informal Income Opportunities and Urban Employment in Ghana* (see also, Arhin, 1965; Garlick, 1971). However, their social resilience has been scarcely explored. Recent research has revealed that the informal sector in Ghana is the main generator of jobs providing about 86.1 percent of all employment including absorption of some certificate holders from the Junior and Senior Secondary Schools (Ghana Statistical Service, 2013: 79). Juxtapose on the 14 percent employment generation capacity of the public sector this makes the informal sector 'the single most important player in the economy' (2012; Haug, 2014: 12).

The phenomenon is prevalent in many African countries undergoing urban transformation. Notwithstanding, governments have failed to integrate the demands of the informal sector into mainstream economic activity thus increasingly making many urban habitats ungovernable. This is a political challenge since 'the most effective and insidious way to silence others in politics is a refusal to listen' (Dryzek 2000: 149) to other actors in the democratic process where lack of listening has become a 'new democratic deficit' (Dobson 2012:845).

Ghana’s democratic context is marked by pluralism, which co-exists with the paradoxes and dilemmas of a dual transition process, namely neoliberal economic management and liberal democracy. In the early 1980s, the country undertook the most stringent externally imposed Structural Adjustment Policies (SAPs) in Africa under the auspices of the WB and the International Monetary Fund (IMF). Currently, their policy interventions are practiced with a local content through Public-Private Partnerships (PPPs) and ground level stakeholder participation. In the past and present, the interventions have had direct impact on state, society, and economy – inequality, unemployment, heightened public expectation, and tensed party politics (Mawuko-Yevugah 2013). The country's democratic success in the midst of economic austerity has been described as 'power alternation bonus' (Gyimah-Boadi & Mensah 2003: 2).

After political independence from colonial rule in 1957 to the end of 1981, the country experienced four violent military takeovers and one palace coup in 1978. Overwhelmed by multiple crises the country was set on the path of economic recovery and reconstruction with donor support. Combined with a new era of civil-military relations these transformations have
made the country exceptionally hopeful about its democratic future (Gyimah-Boadi 2001). In retrospection, the transformation has been an adaptive, learning process since the early 1980s. It was during this period that the country sow the seeds of ‘reversing conflict trends…pulling back from the brink through responsive governance…realignment between the state and market’ (Hutchful 2003: 90 & 96). Thus, the country began a process of new learning and experimentation by creating the enabling environment for nurturing institutional and actor interaction, mediatisation of development and social life including empowering emergent constituencies in an increasingly open society.

Insights in the paper are derived from research on 'mobility and automibility' via exploration of new technologies in roadmaking and attendant reproduction in terms of socio-technical (dis-)orders. In Ghana, this development is shape by an interplay of new dynamics of the political and economic environment in which epistemic actors and agentive orders are learning to complement each other in an emergent governance framework. Hyden et al. defines 'governance as the formation and stewardship of the formal and informal rules that regulate the public realm, the arena in which state as well as economic and societal actors interact to make decisions…it refers to behavioural dispositions rather than technical capacities' (2004: 16).

Bearing in mind the contradictions of capitalist development, the increasing role of international organisations (UN, WB, IMF), the growing impact of actor-networks, and changing raison d’être of the state in Ghana and Africa in general Obeng-Odoom (2013) defines governance around the outcomes generated through a three dimensional analytic framework. These are namely, the interplay of external and domestic influences and the politics of ‘democratisation, entrepreneurialism, and decentralisation’ (DED) as the key drivers of governance in Africa. Due to their complex interdependencies, the framework does not privilege any particular dimension (Obeng-Odoom 2013).5

Beyond these definitions, of particular significance is how to navigate public affairs in a constantly changing nonlinear complex system through flexibility, mutual social learning, and creative adaptation in times of crisis or moments of change with disruptive impacts.

Consequently, the Ghanaian case in the context of democratic participation, neoliberal ascendancy, socio-technical transition, and urban transformation in austerity offers desideratum for unravelling the dialectically interwoven relationship between ground level actors and municipal authorities. In current approaches to studying nonlinear complexity i.e. complex governing networks and interactive steering, this has been termed resilience. The term can be explained as the capability to discern the complexities of disruption, change or failure in the everyday life both actual and potential including demonstrative ability to foreground adaptive
capacity for creative (re)purposing. According to complexity theorists who specializes in non-linearity, such complex systems are frail with 'tipping points' and at times slippages whereby once stable systems may be exposed to intermittent instabilities that may overwhelm policymakers lacking proactive response strategies (Taylor 2001:15-16).

Implicated in this scheme of overlapping issues is the significance of mapping social resilience rooted in novel socio-spatial and hybrid knowledge regimes in new governance spaces marked by popular participation, social learning, and complementarity. Accounting for change in such a complex web of interaction demands a methodology that is cross-disciplinary informed in order to unravel the ethnographic meanings on African long-distance roads. The ensuing polarisations and contestations but also accommodation in the midst of urban transformation under austere conditions have broader implications for mapping agentive resilience in relation to ethnographic data. Captured as emergent causalities and spaces in complex systems, the resilience concept help generate evidenced-based interactive outcomes that contributes to overcoming some of the conceptual and methodological limitations of the governance concept. However, there is a lack of comparative empirical data on technocratic-bureaucratic interventions, social organisation, control and management responses on Ghana, which systematically address the issue of 'complex, multiscale and adaptive properties'. This is particularly in terms of socio-technical transformations, which offers a critical mode of 'learning, experimentation, and iteration' in social-ecological contexts (Smith & Stirling 2010:1).

The pivot of the research is that in the society-technology nexus social processes condition development and application of new technologies while new technologies opens up new frontiers for innovation and social learning in socio-technical systems. Of valence in any such socio-technical systems are emergent causalities and spaces, agentive roles and social meaning (Russell & Williams 2002). Given the fact that the topic is under-researched, this is a nascent attempt to mapping instead of the formidable task of measuring agentive resilience at this stage. Hence, the objective is to stimulate resilience research in relation to socio-technical transition, governance, and implication for democratic theory and policymaking.

**Issue and Problem Briefing**

Ghana's vision of modernising road infrastructure and roadside institutions is under the auspices of a broad constellation of institutional actors led by the GoG. Their aim is to decrease congestion of urban roads that connect national priority network of trunk roads, ensure order and safety, improve traveling time in both intra and intercity transport, enhance vehicle
operational cost, deepen regional integration, and help contribute to economic development. It is a 'shared vision…under the eagle eyes of the Ministry of Roads and Highways'. Some of the new road infrastructure and roadside facilities are calibrated on the concepts of 'built-operate transfer' and 'bus rapid transfer' within the framework of PPPs. The position of epistemic actors of planners, engineers, and managers vis à vis encroachers was aptly captured by a consultant of the new Achimota Transport Terminal (ATT) as – 'they were taking the road'. This was his description of street vendors and hawkers who had appropriated a stretch of road leading to the ATT in order to ply their trade. An Accra Metropolitan Assembly (AMA) site engineer of the terminal described the defiance and intransigence of vendors and hawkers vis à vis municipal authorities as 'people in defense of their comfort zones'. This state of affairs has spurred municipal authorities to tighten their grip on informal users of roads and roadside facilities such as vendors and hawkers. According to the AMA, they are the cause of congestion in Accra. The AMA has a special task force to get rid of intruders who are without officially designated spaces or permits to operate. It is not a unidirectional flow of narrative as the vending and hawking communities have developed new methods of cooperating and resisting the authorities. Not until recently, the response strategies of the AMA to the so-called menace of informal entrepreneurs have been quite arbitrary. A former hawker's response to the question as to how does one survives the wrath of new regulatory regimes was 'ɛyɛ Nkran abrabɔ' – meaning 'such is life in Accra'; and in another sense one is 'bent but not broken'. They appreciate the new space for dialogue between their association and the authorities. In response to a question about their relocation from the main street to the outer walls of the newly built transport terminal, a vendor responded:

The reason why I am saying that it is good is that in the past we were all on the roadside. About a month ago a handful of people were knocked down by a vehicle. A pregnant woman who was on her way to the hospital lost her life. So the AMA began to dialogue, looked at the situation and concluded that these people are all citizens of Ghana and must not be left to ply their trade in such an appalling condition… it was very difficult in the beginning; the AMA task force would chase us and take away our goods… so we have a cordial relationship with the AMA. As time goes on, they come in and put something straight for us where they think we are falling short of our part of the deal.

We see here, how a single tragedy could open up new channels of dialogue, mutual learning, and above all demonstration of 'ethical responsibility' in 'real' interactive processes of governing (Chandler 2014: 189). A dominant actor, the AMA conscientiously make recourse to social reason towards achieving order instead of constitutive regulation and make way for other possibilities of engagement in times of 'socio-technical transitional management challenges' (Smith & Stirling 2010). The power asymmetry between the AMA and the vending
and hawking community dictates that the former would tame the event to suit its constitutive acts such as forceful eviction. In reality however, both parties avail themselves of the complex dialectics of 'social relationality' and are self-organising and adapting to the event via their common understanding of a human tragedy in order to restore order and civility. In resilience vocabulary this may be understood as an 'emergent' order, as individuals, communities, and institutions 'reflexively' interact to overcome failure or disorder (Chandler 2014: 203). Given the fact that there is a whole range of livelihoods at stake, the hawking and vending communities would also want to be listened to in new conversations with the authorities. In brief, their narrative is not only a litany of suffering but also optimism rooted in their collective will to survive against the odds. Some of the informal roadside entrepreneurs such as the bread sellers on the new Nsawam bypass do not hide their political affiliation and enthusiasm. They argue that they are hawking in the open sun without standard vending stalls because their political party is now in the opposition:

We campaign for the political party of our choice…we are all supporters of the National Patriotic Party (NPP)…they give us T-Shirts and I have about five head scarfs, canvass shoes, necklaces, ear rings…we paste posters all over, including the image of our candidate on the bread, and that attracts some people including some from the villages…despite all that, nothing.¹³

Over the generations, they have learned how to use creative expressions to seek support in enhancing their wellbeing or resist some aspects of regulative practices that may constraint their entrepreneurial freedom and operational capacity. Many of the large fleet of bread sellers on the new bypass operates under hard conditions - face amenable risk such as rushing to moving vehicles. The proprietor of a nearby filling station, Kobre Oil Limited built temporal vending stalls for some of the women on one segment of the bypass. Even though they may be disappointed about the failure of government to deliver on the promise it made to construct a modern rest stop with drive ins to facilitate their trade along the new bypass they are optimistic given the new political spaces, which allows them to articulate their concerns across the political chessboard without fear of violence or intimidation. This is also a constellational, dialectically significant narrative because of its entanglements.

Hence, in a broader socio-economic and political context, the institutional convergence of planner’s vision and attendant narratives are not without contestations. Some recalcitrant private road transport unions,¹⁴ vendors and hawkers, and local elites have now and then wrestled to appropriate or resist some aspects of the vision that they find maximise or depreciate their wellbeing and group interest. It must however be noted that such confrontations are no overt expression of rejection of the benefits of urban renewal, as many members of the vending
and hawking communities have expressed appreciation for new projects of the kind but do not want to feel like victims of such urban transformations.\textsuperscript{15}

**Research Background**

This work is the product of a larger project investigating a follow up to a first phase that explored 'bottom-up' interactions in 'roads and roadmaking' in Ghana. The key objective is to unpack the dynamics of creation of (dis-)orders in the processes of transfer and translation of North-Atlantic models, and co-emergence of processes of agentisation and creativity. The results of the first phase revealed weak regulative capacities of planning agencies and authorities while quotidian road users exercise high degree of freedom (Klaeger 2013). Current urban sprout, the rapid expansion of major road networks, and roadside institutions in Ghana have however turned towards studying cases that are marked by lower degree of freedom of local agency, and tighter regulative capacity of planning agencies, i.e. a shift from 'bottom-up' approaches to 'top-down' perspectives. The bottom-up approach describes adaptive creativity including risk amenable tactics and strategies used by local agents of vendors and hawkers to create autochthonous socio-economic niches along Ghana's modern trunk road network and commuter belts, which produces a variety of overlapping social (dis-)orders and practices (Klaeger 2013). The top-down approach refers to technocratic-bureaucratic management interventions that are designed to ensure safety, and wield unequivocal control of modern roads and roadside facilities from intruders.

While the first phase of the project has exhausted 'bottom-up' interaction of drivers, hawkers, and vendors (Klaeger 2013), there is a seemingly large research vacuum of 'the visions behind newly constructed architectures of Ghana's roads and roadside institutions' (Beck 2011). Given the complex processes of transfer, translation, and appropriation in many parts of Africa, Beck has opined that the African context is represented by an 'inherent liminality…which serves as thresholds for transitions, translational and conjunctures of manifold kinds' in a dynamic pathway of social organisation and control (Beck 2011).

This is informed by how formal and informal actors make use of material and non-material resources to resist or cooperate in the face of challenges and uncertainty. At the material level, such resources may include new technologies for road construction, management skills, and control and surveillance techniques. Non-material resources may cover socio-cultural and symbolic - 'shared cultural references embodied in collective imaginaire', close-knit relationships and networks including adaptive capacity for 'flexibility, new learning, self-reorganisation and coping strategies' (Hall & Lamont 2013: 4 & 13).
**Research Question and Purpose - Methodology and Hypothesis**

The core programme is to map out nuances of the mission and vision of epistemic actors toward creation of order and safety vis-à-vis agentive responses and conditions of creativity in the context of open democratic participation and contestations. The questions are both descriptive and explanatory. To what extent does new technologies for the construction of roads and roadside infrastructure affect socio-economic and political development? How does the practices of epistemic actors strengthen or weaken creativity and adaptive capacity of local agency? The paper seeks to elucidate socio-technical and transitional management challenges in terms of exchanges, practices, interconnectedness, and contradictions of the narrative on both sides of the actor’s aisle. As indicated in the introduction, it attempts to unravel emergent properties in complex interactions and their implications for resilience learning as a form of governing beyond rigorous constitutive regulatory regimes.

**Methodology**

The research set out to explore institutional behavior of epistemic actors and practices of ground level actors through qualitative research methods. In order to have a deeper insight about actor behavior and the particular social phenomenon in their institutional context the research blends conceptual and theoretical frameworks with empirical observations from the field. The fieldwork is based on multi-sited ethnography. During fieldwork in Ghana in March to May 2014 a semi-structured focus group, expert and open narrative interviews were conducted on both sides of the actors' aisle – epistemic actors vis-à-vis vendors, hawkers, and local elites. These methods of conducting interviews were combined with observation of group behaviour at selected sites including periodic archival research, which facilitated 'thick description' of lived experiences of the actors in the field (Geertz 1973). The underlying theme is about technological transfer, translation, appropriation, and creativity. Hence, the objective of the interview schedule is to illustrate the interviewees 'cross-situational framework-knowledge…experiences and practices...' that have accumulated over time (Flick 2003: 83). In brief, focus groups are dynamic group discussions used to collect information. The use of case studies strengthens the research design, data collection, including open possibilities to combine conceptual and theoretical frameworks to fathom a social phenomenon in its particular historical and socio-cultural context.

The qualitative research methods accommodates the limits of the research pertaining to the concept of resilience, which has received little research attention in the Ghanaian context, and roadmaking in particular. Hence, the research objective of mapping instead of the formidable
task of measuring resilience at this stage of investigation. This does not constrain doing hypothesis about the interactions among the actors. One delimitation is that the neglect of informal economic actors by state institutions in many African countries, and Ghana in particular including how they self-organise, adapt, and reproduce themselves has been well documented prior to and since Hart (1973) published his influential work, 'informal income opportunities and urban employment in Ghana'. Their resilience and resiliency has received little research attention.

**Hypothesis**

Key threads in the above enquiries strengthen the formulation of hypotheses –

1. Policies and practices of epistemic actors for renewal and transformation:
   a. Compromise visions and creativity of local agents

2. Embedded processes and practices of local agents:
   a. Enhance invigoration of new visions and attain lateralisation of one form or the other.

Lateralisation is hypothesised because a minutiae shift in a small issue may have learning impacts on larger issues. Constraints and limits on local agency also provide a desideratum for exploring inter-locking activities in order to map out possibilities of creative adaptation and social resilience at various levels of (dis-)engagement.

**Templates for Analysis**

The constellation of "competing narratives" is discernible at all three-dimensional levels of politicking – polity, policy, and politics in a participatory, contested, socio-technical transitional process. The notion of nonlinear complexity has however challenged many of the underlying assumptions at the interface between polity, policy, and politics. Other key concepts for analysis are roadmaking, social networks, and social resilience. The three concepts are mutually reinforcing as all roadside businesses in Ghana are shaped by strong social networks, which provides various kinds of support including financial, informational, emotional all of which are undergirding resources for building social strength.

The concept of 'roadmaking' embodies an eclectic approach used to explain complex interactions along African long distance roads. It encapsulates travel communities, roadside entrepreneurship, creativity and adaptation not excluding the vehicular hardware, role of epistemic actors, and attendant re-production of social (dis-)orders (Beck 2011; 2013). However, the roadmaking concept does not focus on the socio-technical transitional management challenges and resilience in terms of emergent governance along African long-distance roads. This caveat is the focus of this research.
The concept of 'social networks' is used to examine how complex micro level interpersonal ties relate to the wider social relationships in which actors seek opportunities, manage constraints on social action toward securing material and non-material resources (Wasserman & Faust 1994). Network actors creates channels for deepening friendships, acquisition and distribution of resources, sense of belonging, and trust (Degenne & Forse 1999). In resilience thinking, networks with adequate resources and strong bonding in an otherwise heterogeneous interaction are the conduits for enhancing processes and relationships in times of crisis or uncertainty (Cheong 2014).

In the Ghanaian context, there is a slight variation in terms of group organisation at the micro level. Informal business sectors are rather replete with business associations with varying style of organisation culture, regulation, and norms (Kraus 2002). Almost every single group of people engaged in business activity has formed an association in order to advance their interests vis à vis district and municipal authorities. These associations are informal and grassroots in nature, and are glued together by their high sense of trust and reciprocity. In Accra, they are known for their high group motivation, effective mobilisational capacity, and intra-associational interaction couched in "us vs. them" dichotomy. Their social strength and interactive dynamics are deeply rooted in shared symbolic ties, co-ethnic relations, membership to a plethora of urban spiritual and Pentecostal Churches, intra-associational communication and information sharing. These in turn offers new possibilities for adaptation and resilience learning in complex systems.

**Unraveling Complexity - Resilience Learning in Complex Systems**

The scale and intensity of current urban sprout in Africa and Ghana in particular reveals that cities and urban systems represent complexity of their own because of their multi-scale, nonlinear growth processes, explosive population dynamics, unequal clusters of manifold activities, diverse built environment, and sustainability challenges among others. In this scheme of complex interaction in an increasingly 'network society', actors, issues and even outcomes becomes seemingly fused in a 'non-linear' progression and their boundaries difficult to decipher (Taylor 2001: 23). As theorised by Taylor, 'a moment of complexity' emerges - 'falling between order and chaos, it is the point at which self-organising systems emerge to create new patterns of coherence and structure of relations' (Taylor 2001: 23). Periodic turbulence and disruptive moments in a globalised world, however, demands that we live up to emergent properties shaping existing social configurations. It requires 'self-reflexivity' in order to bring individuals, families, communities and organisations at the center of life itself. The implication is that the
landscape of governing everyday life also changes rapidly far ahead of existing socio-political and economic arrangements. This is also because properties of emergent orders does not easily lend themselves to scrutiny. Hence, complexity theorists tend to believe that there are inherent 'self-organising' dynamics, human and non-human, which drives systems from a state of disorder towards stability and in the long-term a more orderly state. This is a divergence from 'simple complex life' explained as passive subjects to fixations of time and causation as simplified binaries of 'cause and effect'. In 'real' life however, these are constantly shifting and changing orders (Byrne & Callaghan 2014).

The underlying assumptions of current debates on complexity are mainly rooted in the critique of European epistemological foundations (René Descartes’s Cartesian rationalism, Newtonian mechanics and quantum physics and its subordination of nature to modernity). Borrowing from the natural sciences, in the social sciences these views privileged long-term 'historical structures' (longue durée) over life narratives and quotidian experiences (histoire événementielle). This implies that complex life is a product of European Empire, which attempted to transpose religious, cultural and economic life to the rest of the world. The former colonies are however, distinctively diverse. Even though, colonial encounters caused mass dislocations it set in motion new dynamics of socio-political transformations in an already changing environment. Hence, it is rather Africa’s complex diversity, and responses to these tumultuous interventions (NuKunya 2003) that make sense of the continent’s resilience and creative adaptation to complex life. Therefore complex life must be fathomed from this complex diversity of religious, social, cultural, political, and economic life; unity(-unifying) in diversity, co-existence of cultural 'syncretism', 'pluralism', and 'hybridisation' (Grinker, Lubkemann & Steiner 2010: 7-8) – from its unique continuous processes and entangled 'symbolic site' (Zaoual 1997). The evidence is not farfetched. As the crossroad of foreign powers, the history of the continent is also an entangled global history as has been evidenced by early scientific documentation from the 10th Century onwards by Arab scholars and merchants, and later by European expeditioners. Thus, the local context becomes a terrain for the enactments of contestations and accommodation, divergence and convergence, conflict and consensus, co-existence and difference but also unity(-unifying) in diversity. In this context, the continent’s development and dynamics of transformation and change are therefore nonlinear and nondeterministic - a relational embedment, existing side by side with other equally significant emergent properties of change.
In this complex web of analysis, causality is no longer framed in knowledge-based simple dichotomies of 'cause and effect' but as a 'generalised' emergent, and dispersed property of 'interrelations' across multiple spaces (Chandler 2014: 26; 32). Narratives of 'real' complex life are nonlinear, nonprescriptive, and interactive that makes systems and subsystems more resilient now and then to existing processes of governance. Constraints on local agency and response strategies to existing challenges also provide a desideratum for exploring inter-locking processes of social ecological resilience (Ungar 2008; 2011).

Key analytical frameworks of reference to the concept have transitioned from initial focus on *individual* to *family* studies in health and developmental psychology (Burges, 1926; McCubbin & McCubbin 1996), *equilibrium-centred* approaches in engineering (Hollnagel, Woods & Leveson 2006) and later *ecological stability* perspectives. Hollings's seminal publication *Resilience and Stability of Ecological Systems* (1973) opened the floodgate of applying the concept to other systems and subsystems. Rutter's pacesetting publication, *Psychological Resilience and Protective Mechanisms* went beyond individual *traits* of resilience to *processes* of achieving resilience (1987). Lerner’s prescient insights in *Resilience as Attribute of the Developmental System* (2006) reinforced preceding strands of thought on the resilience concept. These pioneering works did not only help tilled the soil but also sow the seeds of theorising resilience in the social sciences. With this triadic transition in mind (resilience as a trait, a process, and an outcome), Ungar defines resilience ‘as a set of behaviours over time that reflect interactions between individuals and their environment, in particular the opportunities for personal growth that are available and accessible' (Ungar 2012: 14). Resilience resources (material and symbolic) must be deployable and impactful in building, renewing, and transforming 'wellbeing' in the face of adversity (Ungar 2012: 14). Of late, the interdisciplinary Geist that the concept has allured to itself enhanced clarification of the linkage between *ecological resilience* and *social resilience* (Folke, Berkes & Colding 2000).

Captured as pairs, resilience and its adjunct concept *vulnerability* may have peculiar trajectory with varying degrees of recovery, resistance, chronic dysfunction, and even rudimentary innovations (when necessity becomes the mother of invention) that enhances how individuals, communities, groups, and systems survive under adverse circumstances without forfeiting their core identity. One of the important steps in studying the resilience of individuals, communities, organisations and cultural systems is an understanding of strength and vulnerabilities of the units under study (Almedom and Tumwine 2008). Katherine Pasteur, in a conceptual appraisal, explains vulnerability as 'exposure to hazards and stresses; fragile livelihoods; future
uncertainty; and weak governance' (Pasteur 2011: 12, 14). She argues that strategies for 'strengthening resilience' begins with in-depth understanding of the 'linkages' between the above mentioned conditions in order to realise resilience processes in the form of a community’s ability to achieve risk management and adaptive skills, ensure 'food security' and successfully wean itself out of 'poverty' (Pasteur 2011: 12, 14).

It is also worthy to note that, resilience does not only entail the ability to resist, endure stressors, disturbances, and radical changes. It also encompasses the ‘ability to adapt to disruption or change by exploiting instabilities' as revealed in the study of ecological systems (Ludwig, Walker & Holling 1997: 7). With this hindsight, Hall and Lamont have advanced the concept to the core dynamics of the socio-spatial and economic realm by capturing social resilience as an outcome of a process:

We see resilience in dynamic terms, not as the capacity to return to a prior state but as the achievement of well-being even when that entails significant modification to behavior or to the social frameworks that structure and give meaning to behaviour. At issue is the capacity of individuals or groups to secure favourable outcomes (material, symbolic, emotional) under new circumstances, and if need be, by new means' (Hall & Lamont 2013: 13).

Some crises theorists and researchers on family studies have however formed the common consensus that not all crises are harmful or threatening as they offer unique moments for deepening unity, solidarity, and enhancing self-reflexivity in times of uncertainty (Allenby and Fink 2005). At the socio-cultural level, the role of time and memory may be crucial in reconstructing key elements of cultural heritage that is meaningful for building pathways of resilience as a form of sustainable governance in complex systems (Krasny, Svendsen, Campbel, & Helphand 2010).

Ethnographers would be interested in understanding the concept in terms of its capacity to reveal ordered patterns of human action that enables individuals, groups, and systems to recuperate or reorganise in times of crisis. Typically, ethnologists, and ecologists who have formulated cultural-ecological questions in connection with the concept of resilience captures local cultures as 'complex adaptive systems' that are constantly self-organising (Lansing 2003). Of fundamental significance is 'the cross-scale interplay and the two interacting sides of resilience as both sustaining and developing' (Folke, 2006: 254). In this context, local knowledge offers one of the most important resources for 'response diversity', which is understood as the capacity to respond to disturbances with selective, diverse, and adaptive strategies. According to current research findings, multiple levels of such 'response diversity'
increases adaptation and resilience of social-ecological systems in times of crisis (Leslie & McCabe 2013: 23). Recourse to ethnology in resilience research results in special interest in the capacity of actors not just to act in response to external stimuli in the cultural ecology but also to 'strategise' within existing networks and processes, which in turn enhance the dynamics of agentisation (Lansing 2003: 194). The interplay of formality and informality demands that equal attention should be paid to agentive-based perspectives in conceptualising social resilience rather than the lopsided focus on path dependent approaches i.e. articulation of meaning-portfolio of ground level actors.

**The Anthropology of Roads**

Scholars of 'automobility' (Featherstone 2004; Sheller 2004; Urry 2004) and the new 'mobility turn' (Fincham, McGuinness, & Murray 2010) share common consensus that roads and roadside institutions are not just sites for vehicular mobility but also loci for social interaction with inherent power dynamics (Fairhead 1992). These insights have ushered in new methods of enquiry about mobility and anthropology of roads that departs from North-Atlantic models (Dalakoglou 2010) to embrace local specific conditions of creativity, adaptation (Beck 2013; Klaeger 2013) and political dynamics (Harvey & Knox 2012: 534). Hence, roads and roadside institutions offers critical sites for enquiry about processes of transfer, translation, appropriation and creativity. The objective is to unravel nuances of knowledge-driven innovations (Beck 2011) not excluding spates of tension and conflict associated with social reproduction of appropriated technologies in novel niches (Hänsch 2011). The African context encapsulates inquisitions about processes and practices of local agency, explore avenues for studying constraints and opportunities vis-à-vis regulative practices.

**The Key Stakeholders**

The key actors in Ghana's road industry are the GoG, the Ministry of Finance and Economic Planning, the Ministry of Roads and Highways, the Ghana Highway Authority (GHA), the Department of Urban Roads, the Department of Feeder Roads, the National Road Safety Commission, the Central Tender Review Board, the Ghana Road Fund, the Driver and Vehicle Licensing Authority as well as external partners depending on the sources of funding of projects. Hence, the GHA has make it its mission to 'provide a safe and reliable trunk road network...by taking advantage of modern technology in road-building...to facilitate socio-economic development in the country' with a vision to 'ensure that: Ghana has...economically efficient, safe, and reliable trunk road network...' (GHA 2014). There is also a wide range of
second order actors such as municipal authorities and district assemblies, private transport owners, and drivers unions. On the peripheries are informal communities of road users such as vendors and hawkers, and street pastors who scramble for scarce space along roadsides (Klaeger 2013). Majority of transport owners, drivers, and potters are organised under the powerful Ghana Private Road Transport Union (GPRTU), whose General-Secretary complained for not being consulted regarding the location of the ATT as it contradicts the AMA’s ‘so-called vision of decongesting Accra’:

Then even where it is now, we have seen that, it was wrongly sited. When you see vehicles coming from Kumasi, in order for them to go there, there should be a bypass for them to go there, discharge their passengers, and continue. But the terminal had been carved out from the main road and people have to walk all the way there… because of the distance away from the main road; all the vehicles from long distance sector does not want to use it. You see them discharging passengers under the bridge (Achimota interchange). By so doing, it creates traffic congestion, even as serious accidents do happen there. So we have even make a passionate appeal to the Ministry of Transport to create a diversion…for vehicles coming from Ashanti Region and the Northern Sector to pass through the terminal, discharge their passengers and then continue to Accra…. If they have consulted us, we the stakeholders and the planners, and the city authorities would have come together, discuss it, and put it at a place, which would be convenient to all of us.19

This is a typical unintended consequence of policymaking and management at a high cost, which is also avoidable via inclusive, participatory, and communication-based approaches.

After many decades of imposing and monitoring SAPs, poverty reduction, and promotion of good governance in Ghana the WB and other development partners such as the EU,20 the US;21 and emerging powers such as China have identified poor road infrastructure as a major constraint on economic growth. Sequel to this new orientation was the WB assisted RSDP for the GoG (RSDP 2001) that brought under its fold institutions occupied with development of trunk and urban roads. The core objective is to realise the GoG's vision of ensuring a city free of vehicular congestion including on the Accra Kumasi Road (AKR).

Diversity and varying demands of the stakeholders involved in the road sector is a strength and weakness at the same time. It is also difficult to demarcate operational boundaries of some of the actors. Hence, the concept of 'epistemic community' is not being used here as a monolithic concept.

Case Studies

Two state-of-the-art projects, namely the new ATT and the Nsawam bypass have been selected for studying institutional and bottom-up interactions among diverse stakeholders. The projects are designed to achieve decongestion from the Accra corridor to the main AKR via a new 9.3
kilometres bypass at Nsawam. In the past, the problem of congestion was compounded by proliferation of private owned transport terminals dotted along the stretch of road from Kwame Nkrumah Circle and the Achimota-Ofankor Road. The terminals were busy vending and hawking spots as well. For residents these stations became hotspots for vehicular accidents due to scramble for scarce commercial and vehicular space by vendors, hawkers, and drivers. Drivers who have agreed to abandon operations along the roadside have been organised into transport unions to operate within the new ATT. The ATT has an 800-vehicle loading capacity at a time as well as a holding bay, covering a total area of 4.5 hectares. The facility is fortified by a concrete, barb-wired wall, a 24-hour security system augmented by closed-circuit television, a police station, and medical services provided by a well-managed clinic inside the facility including a 24-Hour cleaning system.

Management and security of the terminal has been subcontracted to a private company, Koajay Company Ltd. The administrative manager expressed the company’s commitment to its mandate as defined by the AMA as follows:

You see, everything is organisation… this terminal is a terminal; is a transport transit point, is not a market place…we have done a lot in the area of security to make sure that we weed off all miscreants from the terminal…, people were using this place as sleeping places. We have to make sure that we get them out of the terminal and by doing that it has contributed to the safety of the public who use the place.22

The ATT Task Force monitors the stretch of road leading to the terminal. They apprehend drivers who stops as well as hawkers and vendors who ply their trade at the two main interchanges nearby, namely Achimota, and Apenkwa. Some recalcitrant drivers prefer dropping off and picking passengers up there instead of driving to the new ATT, which is a two-minute drive. Taxi drivers have also established themselves at the Achimota interchange to pick passengers dropped off by long-distance vehicles from Kumasi and the Northern Sector. This has made the interchange prone to accidents, theft, and other safety challenges thus compromising the rationale behind its construction.23

In the second case study, the bakers and bread sellers of Nsawam-Adoagyire are historically, known for their roadside economic entrepreneurship. Before the construction of the bypass, the Accra section of the AKR passed through this busy commercial town thus making the bread industry dependent on flow of vehicular traffic. The District Chief Executive (DCE) of the Akuapim South Municipal Council in his apt description of the women who have relocated to the new bypass reiterated among others: 'you have a culture of traders who are so versatile', engaged in 'two hundred and forty-seven businesses in retail, vending and hawking'.24 Former
President Agyekum Kufuor promised the bread industry a modern rest stop with drive ins to facilitate businesses along the new bypass. A forty-acre land had been earmarked for the project but there is still lack of funding. The Australian and the Canadian High Commission have been contacted for assistance. It is also worthy to note that, the operational dynamics of the local bread industry is undergirded by strong social networks, elective offices, and relations that have been fostered in state, society, and politics. Their positions were made clear to the planners during stakeholder meetings. The DCE is a former Secretary to the Bakers and Bread Sellers Association.

The two case studies reveal how roads and roadside institutions intertwine in the re-production of expectations and regulation but also demonstration of co-existence and difference. For local community of vendors and hawkers, the country’s new democratic spaces have created room for participation, mutual social learning, and adaptive management in times of socio-technical transition. It has enhanced their ability to counter-penetrate systems and subsystems. In many parts of Accra, including the outer walls of the new terminal they are taxed on daily basis by the municipal authority.

**Discussion and Outcomes**

It is evident how the dialectics of road architectures, roadside institutions, regulatory regimes, and local agentive orders reinforce entangled transformation and social change during socio-technical transitions. The research question sought to provide understanding of the processes produced by transfer, translation, and appropriation including how local agents make meaning of their environment. Central to understanding these interactions entail comprehension of the interplay between institutions, actors, local knowledge systems, power, legalities, positionalities, meaning-portfolios, and idiosyncrasies of the wider community of formal and informal road users. In this sense, transfer and translation is also an inherent aspect of reproduction of the dual role of power for restricting and unlocking possibilities of social interactions, inclusion and exclusion, citizen participation, and contestations of new roads, roadside institutions, and regulative regimes. In between this dual role of power is significance of how local actors strengthen capacities for coping and adapting to challenges imposed on them by existing political and policy arrangements. While the benefits of the GoG's RSDP cannot be denied in terms of accessibility and connectivity, economic development, improved travel time, reduced operational cost, decrease in drivers stress in long traffic (WB, RSDP Report 2008), the complex constellation of actors and stakeholders have far-reaching consequences. In this context, there has been no leeway for epistemic actors in realizing
neoliberal instrumentalities of road sector development through technologies in roads and roadside facilities, digital surveillance, and new regulatory regimes.

Grassroots actors have demonstrated resilient, adaptive capacity to resist technologies of control on the terminal and have established new rapport with the AMA and ground level political authorities, which has enabled them to invigorate new visions about themselves. Their resistance and agitation prickled the AMA and management of the terminal to rethink their position and look out for other possibilities. The promise made by the AMA to build 13 new markets for Accra in order to curb hawking and vending is indicative that the authorities have at least, now, back off from the policy of decongestion to accommodation and co-existence with informal roadside entrepreneurs. After many decades of neglect, a single tragic event has set in motion a new policy of recognition, co-existence, and mutual learning.

Likewise, the aim of the new Nsawam bypass is to ease vehicular congestion around Nsawam-Adoagyire township and provide an uninterrupted through road for the AKR. Here too, the bread sellers of Nsawam-Adoagyire have relocated to the new bypass and reestablished themselves on a couple of layby.

The empirical evidence confirms the hypothesis, which is to test the capacity of local agents for creative adaptation in the face of new technologies of control and surveillance. The so-called intruders have achieved direct access to new structures evidenced by relocation of the bread sellers to the bypass or managed to manipulate instabilities of change, evidenced by "colonisation" of the outer walls of the concrete, barb-wired ATT by street vendors and hawkers through negotiation with the AMA. They have invigorate new visions via creative strategies of new social learning, and thereby managed to attain lateralisation of one form or the other. The management of the terminal and the AMA have envisioned using portions of the vast land inside the terminal to build shopping malls and standard vending stalls that would make way for some vendors to do business inside. If this vision were realised, it would mean vendors have achieved social and commercial up-scaling from hawking to vending, and therefore become potential owners of shops and standard vending stalls. The promise made by former President Kufuor, and the frantic search by the DCE of the Akuapim Municipal Council to seek external assistance in order to realise the objective of constructing a state-of-the-art roadside facility with appropriate drive insns to accommodate the businesses of the bread sellers and other retailers bespeaks the political influence of the bread sellers association.
This reality reveals that relation between vendors and hawkers and municipal regulatory bodies is not only one of forceful evictions but there are interconnectedness between them, such as political dilemma faced by the District Assemblymen and Women, and the Municipal Mayors who see these groups as a political resource and part of their political project in the country's re-democratisation process. This window of participation has enabled informal economic entrepreneurs to wrestle a niche in emergent governance spaces during socio-technical transitions.

In socio-spatial and economic sense, the capacity of local agents to develop innovative methods of advancing and sustaining wellbeing as well as enhancing social upscaling is a marker of social resilience as posited by Hall and Lamont. The diversity of their response strategies, both material and non-material – organisational, socio-cultural, economic, political, symbolic has proven to be a source of strength than weakness. Given the fact that the capital base and risk-based capital ratio of an average vendor is too low, the question remains who will make it into the envisioned facilities on the bypass and the terminal. Another remaining issue is whether these strategies of creativity and adaptation would be deployable when epistemic stakeholders decide to tighten their grip on them in the future. This is also almost not likely given the entangled nature of processes of socio-political transformation and consolidation of the country's political process grounded in rights-based issues and approaches.

Hence, the evidence in this case study corroborates the truth is people who make politics and resurgence of the urban poor along Ghana's roadsides such as members of the Nsawam Bread Sellers Association on the new bypass, and members of the Vendors and Hawkers Association at the new ATT has come to stay. They have used innovative methods for expanding and aligning political spaces as well as strengthening social networks, and therefore demonstrated remarkable social resilience manifested in their capacity to reorganise to influence socio-technical management processes vis à vis epistemic imaginaires.

Ground level actors have resisted attempts by the state to micromanage their spacialities and roadside entrepreneurship. As Harvey and Knox observed in their study on road infrastructure in Peru, 'infrastructures do not simply reference or represent political ideology but actively participate in often unexpected ways, in the processes by which political relations are articulated and enacted' (2012: 524). As theorised by Folke et. al. this is also a reflection of 'adaptive governance systems' in times of disruption or change with emphasis on 'adaptive co-management systems and…the roles of social capital, focusing on networks, leadership, and trust' (2005: 444). As posited by Obeng-Odoom (2013), formal and informal actor’s interaction
in times of urban challenges generates positive outcomes in the form of 'good urban governance'.

**Conclusion**

Thus, in a departure from the rigorous policy of decongestion, the AMA’s demonstration of flexibility for dialogue or new 'moral consensus and mutual interest' (Taylor 2014: 2) has ushered in a new deal that has accommodated the persistence of informal economic entrepreneurship as another side of the same coin. Thus, informality is the product of the contradictions of capitalism itself. It co-exists with the practices of capitalism in state and society constantly reproducing itself as indicated in this study by how ground level actors such as the hawking and vending community respond via adaptation and creative (re)purposing. Capitalism however, appropriates the inherent weaknesses of the informal sector for expansion and regulation - demonstrated by urban transformation in the form of construction of roads and roadside facilities. Situated in an open society the interactions among regulators and informal actors have yielded transformational outcome from technocratic-bureaucratic management to collaborative urban governance among diverse stakeholders.

This is a minitiae shift in a larger issue with large-scale learning impacts. In this scheme of analysis, the emergent properties of governance are not just new but also nonconforming and therefore subject to self-renewal. Given the fact that the country is at the consolidation phase of its re-democratisation process these insights offers grounds for rationalising the gains from formal-informal interactions. It also involves a balancing act between strong social configurations, a state system mired in totalitarian lag in its political history, and emergent normative orders. Hence, as argued by Beck, the production of social (dis-)orders and practices along long distance roads are overlapping and the African context is represented by an 'inherent liminality…which serves as thresholds for transitions, translational and conjunctures of manifold kinds' in a dynamic pathway of social organisation and control (Beck 2011).

The entangled histories of informal economic entrepreneurs reveal that their creativity and adaptation is their undergirding resource. This is borne out by their capacity to harness resources and relationships, build trust and solidarity, ensure adaptive capacity for new social learning, all of which help bolster their responses to hegemonic control. The evidence defies the stereotypical narrative of forceful evictions and confiscations, as it is also a story of optimism, solidarity, citizenship, and responsibility. It would however, require a longitudinal study in order to map out livelihood and protective trajectories, fully unpack the meanings of
symbolic and material resources of local agents to make meaning of adaptive capacity and resilience in the context of socio-technical management challenges.

This has implications for policymaking and implementation. The crucial evidence is that in any multi-stakeholder project all actors must be given equal attention throughout the project lifecycle. It is at times disingenuous for epistemic actors to develop their development blueprints and sell them later on to ground level agents. The GPRTU, one of the most powerful representative of private transport owners, drivers and potters in Ghana was not consulted regarding the location of the transport terminal.

By way of proverbial affirmation, *if one wants to tie a knot in an efficient manner one does not bypass the thumb as all fingers must be deployed and equally appreciated; and in that sense diversity matters* (a proverb of the Akan of Ghana: *yen nsaene kokromotie ho mmo epa*). In this case study, the outcome reveal that collaborative responses to unanticipated events generate positive outcomes for transformative and sustainable governance through consultative and participatory approaches, accommodation of local meaning-portfolio, and lived experiences.

One may argue that the crisis of governance should be sorted out first at the level of epistemic actors. Apart from their magnanimous demonstration of flexibility for dialogue, the evidence sums up to institutional laxity, and lack of inter-agency communication and coordination. Indeed, the apt description of the vision of epistemic actors as 'a shared vision…under the eagle eyes of the Ministry of Roads and Highways' is a misnomer as the system is fraught with oversight, arbitrariness, and lack of transparency.

In complexity and resilience parlance, the overall institutional failure in this context can be seen as a resource for regeneration. Thus, the complex properties of emergent governance processes offers opportunities in times of policy failure toward turn on creativity and lateral thinking, and therefore policy renewal through collaboration and communication. The tragic event in this study informs us that we must imbue a new 'culture of active political listening' and democratic stewardship as this does not only enhance 'empowerment and legitimacy' (Dobson 2012: 844) but contributes to reduce the cost of policy and institutional failure. This can be realised via new possibilities of constant social learning in order to enable discernment of the nuances of growing and regenerative/degenerative properties of an emergent socio-technical and political (dis-)order.
Visual Representations

©olympio: A sectional view of the new Achimota Transport Terminal (ATT)

©olympio: "Colonisation" of the outer walls of the concrete, barb-wired ATT by street vendors and hawkers.
©olympio: The Achimota Interchange near the ATT showing its layby as "colonised" by taxi drivers, vendors, and long distance commercial drivers flouting rules of parking, loading and offloading of passengers and freight that should have taken place on the two-minute drive ATT. The bus stop is actually a time-bound halting point for intra-city vehicular movement.

©olympio: A sectional view of the Nsawam Bypass showing bread sellers who have relocated from Nsawam-Adoagyire to occupy an extemporaneous layby.
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Endnotes

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6 After more than two decades of austerity, the country severed cooperation with the IMF in 2006. It rejoined after the 2007-08 financial crisis crippled economic fundamentals. Ghana secured a three-year Extended Credit Facility (ECF, 2015-2018) to assist its medium-term fiscal consolidation, debt sustainability, and economic reform.
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26 ibid.
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