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**MASTER THESIS**

**Managing complexities associated with planning and implementation of rural market  
infrastructure projects in the Ashanti region of Ghana.**

A thesis submitted to the University of Groningen in partial fulfilment of the requirement for  
the award of a  
Master of Science Degree in Environmental and Infrastructure Planning

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## ABSTRACT

The complex and open features of communities coupled with their changing nature have increased the need for adaptive planning approaches to manage challenges such as abandoned projects. This study aimed at exploring the complexities accompanying planning and implementation of market infrastructures and proposing measures needed to make their planning meaningful in complex and open communities. Using a qualitative research method, four cases of abandoned rural markets in the Ashanti Region of Ghana were investigated. Drawing on ideas from complexity sciences which focus on changes and possibility of unplanned developments, a model was developed based on identified changes in Ghanaian markets. With evidence from cases studied, 'mini markets' and 'small scale shops' in rural communities are unplanned developments that have emerged to function as markets. Meanwhile, planning and decision making concerning communities centres on the necessity of a market in every community amidst these unplanned developments. Unresponsiveness of planning efforts to such changing situations concerning markets and communities have resulted in the neglect of markets by beneficiaries. This study therefore, firstly emphasise the need for a new frame of reference; one which accepts the possibility of unplanned developments due to the open and complex nature of communities. Involvement of beneficiaries in planning should be based on this view of communities. Further, such an acceptance will enhance an understanding of changing situations to inform decisions on the actual need of markets in communities. Responsive measures to handle recurrence of abandoned markets and management of complexities in projects will then be promoted.

**Keywords:** market infrastructure planning, differentiations, stakeholder participation, complexities, path dependency, non-linear developments, mini markets, small scale shops, Ghana.

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## **LIST OF ABBREVIATIONS AND ACRONYMS**

BMA – Bekwai Municipal Assembly

CAPs – Community Action Plans

DPCU – District Planning Coordinating Unit

DMTDP – District Medium Term Development Plan

GSS – Ghana Statistical Service

KMA – Kumasi Metropolitan Assembly

MLGRD – Ministry of Local Government and Rural Development

MMDAs – Metropolitan, Municipality and District Assemblies

NDPC – National Development Planning Commission

RCC – Regional Coordinating Council

RPCU – Regional Planning Co-ordinating Unit



## CHAPTER ONE

### PLANNING AND IMPLEMENTATION OF MARKET INFRASTRUCTURES

#### 1.1 Background of research

Globally, market infrastructure plays relevant roles in spatial, economic, socio-cultural and human development (Pourjafar and Pourjafar, 2011; Narteh, 2012; Surya, 2015; Irawan et al., 2015; Alijah et al., 2016). Markets in Ghana like in many other African countries also contribute massively to national economic growth. It promotes agriculture and food security (Mintah, 1997; Sarpong and Nyanteng, 2002; Narteh, 2012), and provides employment avenues such as trading and driving to a larger portion of the 80 percent (%) Ghanaians employed in the informal sector of the economy (Osei-Boateng and Ampratwum, 2011; Ghana Statistical Service - GSS, 2014). Moreover, revenues in the form of rent for stalls/stores or payments for allocated space and tolls are derived from market infrastructure by the local assemblies for development activities like upgrading of market facilities (Nyanteng and Daniel, 2005).

Planning and implementation of development projects like market infrastructure are important to users, and authorities who govern the development of communities. Following Ghana's attainment of independence in 1957, market infrastructure provision has become the responsibility of the national government through the activities of local governing authorities. The later adoption of decentralised planning system in Ghana further led to several efforts to promote development that benefit the people at the grassroots (Boamah and Amoako, 2013). Dominant among these efforts is stakeholder participation. The active involvement of people and/or institutions who have influence and interest in project outcomes and can be impacted by the project in decision making, planning and implementation of such projects at the grassroots level is termed as stakeholder participation (Azizu, 2014). Stakeholders for markets include community members or beneficiaries, users (buyers and sellers), community leaders and district assemblies among others. Stakeholder participation is emphasised in planning and implementation of projects in Ghana to ensure community ownership, maintenance and sustainability of developmental projects (National Development Planning Commission – NDPC, 2013). Notwithstanding, there are numerous abandoned projects, especially market

infrastructures in Ghana (Rocco, 2013) amid this decentralised planning. This could imply that stakeholder participation is inadequate in making market infrastructures meet the needs of beneficiaries. Other prudent measures are required in addition to stakeholder participation to make planning and implementation of projects more meaningful and responsive to the needs of people.

Studies by authors such De Roo (2010) revealed that contemporary planning and decision making are encountering complexity. These complexities are partly due to the changing (usually in a non-linear manner) nature of the world or the context of planning. Again, this context is ‘complex’ and ‘open’ (Portugali, 2006). Consequently, planning issues and challenges are not always simple. These identified features call for more relevant efforts in decision making and planning. Remarkably, the need for planners to accept complexity as a reality of life, and in planning for that matter, have been emphasised by numerous authors like Boelens and De Roo (2016), Rauws and De Roo (2011) and Portugali (2006). Responsiveness to ongoing changes and approaching issues and their context as complex and open, and balancing between robustness and flexibility are some of these required efforts (Rauws and De Roo, 2011; Boelens and De Roo, 2016). Thus, there is the need for ‘adaptive’ planning approaches. Such adaptive approaches will promote development as planning and implementation interventions will be more meaningful and better aid in managing challenges such as abandoned market infrastructures in Ghana.

## **1.2 Problem definition: The incidence of abandoned market infrastructure**

“It is not difficult to run into abandoned structures along the Ghanaian’s roads.....Just a stone’s throw down the road, however, a more modern market stands padlocked, overgrown with weeds and frequented only by local children.....It has never been popular with local traders, and after talking to the villagers, it is easy to understand why” (Rocco, 2013).

Although, there has been a rise in the establishment of market infrastructures in Ghana over the last two decades (Sarpong and Nyanteng, 2002), a large number of such infrastructures are not being used after their construction (Rocco, 2013; Andoh, 2014; Bampoe, 2016). Incidence of abandoned markets is evident in rural, peri-urban and urban areas. Studies on abandoned market infrastructure, though scanty, have indicated the absence of community and market users’ participation in their planning as the main cause (Rocco, 2013; Andoh, 2014; Bampoe

2016). However, lack of acknowledging complexities and non-linearly changing context for subsequent responsive measures during planning and implementation of market infrastructures could be responsible for this problem. Relying on stakeholder participation as the sole mechanism to manage planning issues in the face of complexity and non-linearity remains questionable. Thus, stakeholder participation together with an acceptance of complex, open and changing nature of places are relevant for approaching complexities in planning. Nevertheless, there is an existing research gap concerning the management of complexities related to planning of market infrastructures in Ghana. This research, therefore seeks to contribute to bridging this gap by exploring the complexities associated with planning and implementation of market infrastructures in rural areas in the Ashanti region of Ghana and how these complexities are managed in a (constantly) changing world.

### **1.3 Research Objectives and Research Questions**

This research aims to study the complexities encountered in planning and implementation of rural market infrastructures in Ghana and propose measures needed to make planning and implementation of projects meaningful in a complex and changing context.

The sufficient realization of the objective will be guided by the following research questions.

The main research question is:

How can the complexities associated with planning and implementation of market infrastructures in rural areas be managed in a changing world?

The sub-questions include:

- What are the complexities associated with planning and implementation of market infrastructures in rural areas in Ghana;
- How adequate is stakeholder participation in managing these associated complexities;
- Which additional measures will be meaningful for planning and implementation of the rural market infrastructure in a complex and frequently evolving world?

The questions above comprise theoretical, empirical and synthesizing elements. Theories and concepts from complexity sciences were employed to theoretically study the problem of abandoned market infrastructures in Ghana, with focus on the complexities encountered in planning and implementation of market infrastructure projects. The study empirically explored the sufficiency of relying solely on stakeholder participation in managing such

complexities considering the changes taken place in space (communities) with time. Developing measures that will in addition to stakeholder participation support planning and implementation of projects in the rural areas in a complex and frequently changing world formed the synthesizing aspect of this study.

#### **1.4 Research Methodology**

The plan and approach adopted for this study involved a qualitative approach with a case study research design, drawing from the studies of Yin (1994; 2003), Baxter and Jack (2008) and Creswell (2014). These were adopted to ensure an in-depth exploration for deeper understanding of the phenomenon under consideration - planning and implementation of rural market infrastructure projects in the Ashanti region of Ghana, which results in abandoned markets when the associated complexities are not managed – since it is in real life context. Moreover, this qualitative approach was selected to better aid in acquiring further practical evidence to contribute to the contemporary research discussions on complexity and non-linear rationality in planning. Specific cases of four (4) abandoned markets in rural communities were therefore purposively selected and investigated to provide detailed knowledge about the phenomenon as well as empirical evidence to support contextual and theoretical information initially gathered from literature on the subject under study.

Obtaining empirical evidence or primary data was done with the use of open-ended questions in semi-structured interviews and through observation of the settings. Collated data was analysed qualitatively using inductive processes to help build various themes and patterns based on reviewed contextual and theoretical literature. With the study's focus on developments and changes through time or complexities, further analysis were done to come up with measures for improving planning and implementation of (market) infrastructure in Ghana. The detailed explanation and justification for this adopted methodology is in Appendix 1.

#### **1.5 Theoretical basis**

This research is mainly embedded in theories and concepts from complexity sciences such as path dependency, adaptations, co-evolutions, differentiations (progressive non-linear changes stretched through time) and transitions. Considering the complex and open nature of the issue

of planning and implementation of market infrastructure as well as changes that are evident in its context (communities) and the world at large, planning approaches that respond to or adapt to these changing, open and complex features in time and space are imperative. Hence, the need for adaptation of planning as well as its tools, institutions and processes so that they co-evolve with their changing contexts and situations.

The possibility of unplanned developments to emerge in the space where planners seek to intervene makes reliance only on inter-subjectivity (communicative rationality) and/or objectivity (technical rationality) in planning limited. The non-linear rationality which is based on sensitivity to (non-linear) changes and time needs to be included in contemporary planning and implementation processes. Consequently, this new frame of reference or non-linear rationality for stakeholder participation are needed in managing complexities associated with development planning in Ghana.

Considering the intention of this study to contribute to indicating the reality and management of complexity and the need to take note of changing situations and (non-linear) developments in planning and implementation, the adopted theories are related to complexity sciences with the non-linear rationality. But, in order not to ignore the role of communicative rationality in the complexity theory, a link is made between these two theories. In other words, stakeholder participation is still relevant in planning for complex, open and changing context. However, in this study, much emphasis is placed on the need to base participation on an acceptance of change. This is very crucial as changing (non-linear) processes in the context basically make up the complexity that needs to be coped with. In addition to that, planning and implementation processes, tools and institutions need to make room for unintended changes by being flexible in planning.

## **1.6 Outline of study**

This study is organised into five chapters. The commencing chapter introduces the research with a background, problem definition and methodology. Chapter two covers the historical developments of market infrastructures and the policy framework that guides their planning and implementation in Ghana. The related theories and concepts are discussed in the third

chapter. Chapter four is an empirical analysis of selected cases (market infrastructure in rural areas). The last chapter captures critical reflections on the study, summaries and conclusions.

## 1.7 Summary

This chapter has introduced the study with a background, problem definition, a brief description of how the problem would be explored or research methodology, and what would be investigated or research objectives and questions. The contributions of market infrastructures to development is hindered with incidence of abandoned markets. Lack of participation by project beneficiaries and users in planning is seen as the underlying cause of abandoned markets. However, this study is based on an argument that the absence of a frame of reference that accepts and incorporates of (non-linear) changes in the context in planning have led to such abandonment. Stakeholder participation partly helps in addressing such a challenge and does so even better when it is based on this frame of reference. To identify changes that have occurred in relation to markets and how these have influence (or not) in resulting in their rejection, a critical analyses on the developmental stages in markets is done in the following chapter. The institutional set-up that guides provision of markets is analysed to discover how governing authorities approach planning for markets. Based on such analysis, related ideas from complexity sciences would be discussed and then employed to examine real cases.

## CHAPTER TWO

### CONTEXTUAL REVIEW: HISTORICAL DEVELOPMENTS IN MARKETS

#### 2.1 Introduction

Markets emerged in Ghana to play numerous development roles such as sources of revenues and employment, for community development. The social and economic importance of markets could neither be underestimated. Transformations, developments, changes or progress that have occurred in communities and the world at large with time are however having influence on market infrastructures. For instance, ongoing spontaneous changes such as rampant development of alternative points for trading in food items in communities as well as technological enhancement in mediums for communication in the world have affected the importance of markets. Conversely, these changes or developments have not been given much attention by governing authorities. Unresponsiveness to such changes through time have contributed to the incidence of abandoned market infrastructures. This chapter presents contextual information on the historical developments in relation to markets in Ghana, incidence of abandoned market infrastructures as evidence of ignoring (non - linear) changes through time as well as the institutional framework that guides the planning and implementation of market infrastructures. Discussions in this chapter will further inform theories and concepts that would be relevant for the study.

#### 2.2 Emergence and historical developments of Ghanaian markets

This section discusses the developmental stages that concerns market infrastructures in Ghana. The emergence of markets is traced back to the period before colonisation through to the 21<sup>st</sup> Century.

##### 2.2.1 Pre-colonial markets

The emergence of trading activities in the Gold Coast (now Ghana) commenced when the people (basically farmers) began to exchange the agricultural produce they were incapable of cultivating. Villages which were more connected to others by foot paths rather experienced relatively large scale trading activities (Addo, 1988). Farmers (doubled as traders) from other villages journeyed longer distances on footpaths transporting their commodities mainly by head-porterage to these more accessible market centres to trade. According to Ardayfio (1980), such journeys were not only for profit but also to meet social needs.

Markets served social functions such as places for meeting relatives, socialization, exchanging current news among others (Addo, 1988). With the increased production levels due to access to the bigger marketing centres, extra commodities were bought and sold in small villages (Ardayfio, 1980). This led to an increase in the number of markets at that time. These bigger markets still had a lot of influence due to established periodic market days, wider variety of commodities - both agricultural produce and locally made crafts, which were available for sale, and the larger number of people who visited these markets.

The planning and implementation of market infrastructures were then done by community leaders, thus the traditional leadership. These traditional leaders are custodians of community lands and property and are in charge of the growth and development of people and the community as a whole. Lands were allocated by traditional leaders for the construction of market infrastructure in various communities through communal labour (Narteh, 2012). The most prioritised location were the areas that were much populated, and/or doubled as the convergence of routes from other surrounding villages. Thus, markets were usually located at the centre of communities along existing routes or roads (Addo, 1988). These locations were purposefully selected to ensure easy identification and visibility of markets, and convenience in conveying items to and from the market among other reasons.

### 2.2.2 Colonial markets

The arrival of the ‘whites’ or ‘colonial masters’ had impacts on the activities concerning market infrastructure in the Gold Coast (Addo, 1988). The interest of the whites in the trading of cash crops influenced both farming and marketing activities. Bukh (1979) stated that women were then in charge of the handling and marketing of food crops while the men focused on the production and sale of cash crops, which the foreigners demanded most. According to Ardayfio (1980), foreign manufactured commodities were then introduced into the markets upon exchanges and trading interactions between the whites and some of the farmer-traders. The increase in trading activities by the colonial masters also encouraged migration of people from surrounding nations to trade in the Gold Coast. Some of these migrants specialised in the sale of only manufactured commodities, either locally made crafts or foreign commodities. This commenced the developments of shops popularly known as



‘stores’ (Field Survey, 2017). Although, diverse commodities were traded, food items were still the preserve of the market.

Mobile trading or roaming traders also emerged around that time. Both food and non-food items were carried from house to house for sale (Field Survey, 2017). In the midst of all these, markets played relevant economic and social functions. The planning and implementation of market infrastructures was still the role of the traditional leaders.

### 2.2.3 Post-colonial markets 1 (Centralised planning era)

This period after colonisation saw a rapid increase in the number and size of both market infrastructures and shops. The vision to modernise Ghana’s economy through industrialisation and agriculture led to massive government investments in the economy and in various forms of infrastructure such as markets and roads (Osei-Bonsu, 2012). Government interventions were through centralised planning with support from the locally created governance structures for the implementation of projects for local development (Boamah and Amoako, 2013) such as market infrastructures. This led to increase in their number and improvement in the conditions of existing market infrastructures.

Such investments also led to improvements in the general economic conditions of residents. As part of the newly initiated policies, foreigners from neighbouring countries were deported. There was an increase in the number of shops and these were then owned and operated by natives, both individuals and private companies (Nyanteng and Daniel, 2005). There was still a sharp difference in commodities that were traded in shops and markets. For instance, processed items (e.g. food and non-food commodities) were sold in shops while markets specialised in the sale of food items, basically agricultural produce. These two points of sale co-existed to complement each other.

### 2.2.4 Post-colonial markets 2 (Decentralised planning era)

Decentralised planning was adopted in 1988 to facilitate development that benefit the people especially those at the grassroots (Boamah and Amoako, 2013). Accordingly, market infrastructure is now provided and/or owned by the district assemblies (MMDAs on behalf of

the national government) with traditional authorities as landowners. Market infrastructures are made up of structures such as stalls, sheds with ancillary facilities like water, electricity and public toilets and in some cases parking spaces for vehicles. Revenues in the form of daily tolls and in some cases rents for stalls or spaces are collected by district assemblies (Nyanteng and Daniel, 2005; Field Survey, 2017).

Market infrastructures are located in rural, peri-urban and urban areas (Omore et al., 2004; Horna et al., 2007; Bannor and Bentil, 2014) and are named after the community in which they are located (Nyanteng and Daniel, 2005). Rural market infrastructures are noted for trading in few volumes of goods, which are mainly agricultural commodities with less manufactured goods, and basically serve the people in a community and in some cases the nearby rural communities (Horna et al., 2007). Market women and sometimes farmers usually carry their items to and from the rural markets for sale as these markets are usually situated in the community (Mintah, 1997). Some rural markets also act as assembling points for urban markets (Omore et al., 2004). Generally, the location of the market infrastructure is decided by community leaders, members, users and local governing authorities (Field Survey, 2017). Figures 1 (a) and (b) are examples of urban and rural market infrastructure respectively.

Based on the quantity of items sold, the types of shops included supermarkets, malls, large scale shops and small scale shops. Currently malls, supermarkets, and large and small scale shops are located in urban and in some peri-urban areas while small scale shops are predominantly found in rural areas. Shops are still owned and operated privately by individuals or companies, and are made up of lockable stores where shop-owners do not carry items to and back from the shops after the day's work. Shops in Ghana could be a separate spatial unit located within commercial and residential areas or may be attached to a residential unit. Other locations for shops can be within an open-space, along roads and other vantage locations in a community depending on the land ownership rights and decisions of these private owners and companies and the local governing bodies. Shops also serve as sources of revenue for the district assemblies and communities as owners pay for acquiring land or space, licensing of shops, annual operational fees and other charges depending on the nature of business and location (example as an extension of a house or as a separate unit in space)

(Field Survey, May, 2017).

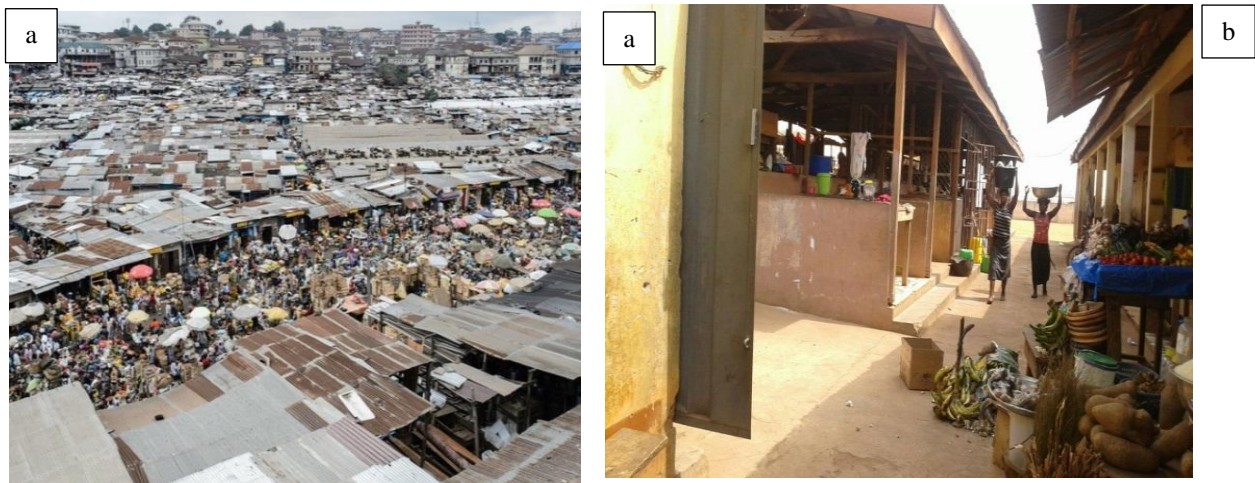


Figure 1: Urban (a) and rural (b) market infrastructures

Sources: Kumasi Metropolitan Assembly (KMA, 2014) and Bekwai Municipal Assembly (BMA, 2017)

### 2.3 Cases on abandoned market infrastructures in Ghana

Some market infrastructures in Ghana have been abandoned (Rocco, 2013; Andoh, 2014; Bampoe, 2016). Contextual situations and changes which came along with time concerning markets have contributed to this challenge. These changes include shops taking up the function of markets, additional required facilities in markets, increase in population and community size, and improvements in accessibility levels and socio-economic conditions. The absence relevant actions concerning such changes by responsible authorities have led to the rejection of purposefully implemented market infrastructure projects in Ghana. Discussed below are such changes and their impacts on the acceptance and use of constructed markets by beneficiaries.

#### 2.3.1 Changes in the context

The studies of Rocco (2013) and Andoh (2014) revealed that some markets have been abandoned by market women and other users. According to these reporters, such markets are located in the outskirts of communities or in areas which are not densely populated. Unlike in the past where people covered longer distances to trade, they now prefer to buy from any

selling point that are very close to them. Drawing from the findings of Ardayfio (1980) and Addo (1988), markets are now basically serving economic purposes. Thus, its social functions of serving as a meeting place for socialization and exchanging of news, which propelled longer journeys have diminished. Overå (2008) have pointed out that the use of mobile phones has facilitated faster communication over longer distances. Thus, the advancement in technology has presented various means for socialization, communication and transfer of information and contributed to reducing the social roles of markets. This has contributed to the incidence of abandoned markets in some communities.

Another remarkable change is the expansion of the scope of anticipated buyers by market women or sellers. This scope now goes beyond residents in the community with market to cover any other potential buyers. Based on this, visibility of the infrastructure as well as items being sold have become very crucial than in the past. Sellers seek for vantage points where items for sale can be visible for them to benefit from the sales of both old (residents) and potential buyers. For instance, routes within communities and roads that pass through communities to link them to neighbouring communities have become major points of attraction for various marketing activities in Ghana. Passengers in vehicles that ply these roads as well as visitors are all potential buyers. Market infrastructures that do not meet this criteria of visibility to attract new buyers have been abandoned.

Increased accessibility due to improvements in infrastructure such as roads have affected the use of market infrastructure by beneficiaries (Weatherspoon and Reardon, 2003). On one hand, improved roads in a predominantly farming community tend to encourage trading in nearby accessible (urban) markets for higher sales and incomes. In essence, the constructed market infrastructure in such a community becomes less useful and subsequently abandoned. On the other hand, with increased accessibility to communities with well-established periodic market days and wider variety of commodities, inhabitants from surrounding areas (not necessarily farming communities) tend to trade in those areas. Trading in such areas is advantageous due to lower prices offered on market days and wider variety of commodities, which promotes bulk purchases. In effect, market infrastructure in rural communities near easily accessible areas with established periodic market days are neglected.

### 2.3.2 Changes in functions of markets and shops

Increase in population, urbanisation and improved socio-economic conditions have influenced marketing activities in shops (Weatherspoon and Reardon, 2003). As a result of these changes, the number of shops rise in response to the increasing needs for items. With time, some of these shops diversify items sold to take advantage of changing demographic and socio-economic conditions of places. Consequently, items that were the preserve of the markets are sold in some shops. These shops in some cases still complement markets as they co-exist in the same community and meet the needs of rising population and expanding sizes of communities (Weatherspoon and Reardon, 2003). Shops, which tend to trade in items that were the preserve of markets together with those they originally traded in compete with markets (Minten and Reardon, 2008). These dynamic shops can potentially replace the markets with time. Such changing functionality in shops thus contributes to the incidence of abandoned market infrastructures especially in rural communities (Field Survey, 2017).

### 2.3.3 Changes in facilities for market infrastructure

Discussions above have indicated that while market women carry items for sale daily to and back from the markets, shop owners have items at one place and do not carry items back and forth. With time, market women do not want to carry items to and from market infrastructures. Studies by Bampoe (2016) revealed that some market infrastructures have been rejected because of the absence of storage facilities and/or lockable stores. The notion of lockable stores and/or storage facilities have not been part of the facilities in the market infrastructure (Nyanteng and Daniel, 2005; Field Survey, 2017). This changed trend has directly influenced the desired design of markets these days. Lockable stores have become a required facility to ensure the use of market infrastructure. Hence, their absence has contributed to the rejection of infrastructures in some communities.

From the forgoing, several changes have occurred regarding markets of which most are far from linear. Additionally, the influence of the changing world and communities have also been evident in markets. Both contribute to making issues on markets exhibit features of complexity; dynamic processes of developments and situations that are changing and not independent of their context (De Roo, 2010). Dynamic processes of developments are

experienced with the emergence of alternative points of trading to markets. The impact of technological advancement on the social role of markets, shops competing and replacing markets, improvements in socio-economic conditions and accessibility, and growth of communities have indicated that the markets cannot be independent of their context and changing situations. The framework that guides decision making, planning and implementation of markets are discussed next. This will inform further analysis such as how these revealed complexities regarding markets are approached among others.

**2.4 Planning and implementation of market infrastructure in Ghana**

Prior to the current decentralised planning system, planning for market infrastructure was predominantly centralised. This was featured by top-down approaches with dominance by traditional leaders and later central government agencies in the planning processes. This system was inadequate to solve development problems as it was insensitive to community needs and interests. The emergence of decentralised planning as a means to redress this and other drawbacks of the centralised planning system, was accompanied by terms such as ‘participatory’ and focused on ‘bottom-up’ approaches to planning (Boamah and Amoako, 2013; Tandoh-Offin, 2013; Azizu, 2014). This led to the establishment of decentralised government institutions (MMDAs) with authority and powers to undertake participatory decision making and planning. Thus, planning for market infrastructure was to be done by local authorities (MMDAs) with the active inclusion of community members, leaders and other beneficiaries.

Ghana’s decentralised planning system is backed by structures like laws and institutions. The laws include the 1992 Constitution; Local Government Act, 1993 (Act 462); National Development Planning Commission (NDPC) Act 480, sections 1, 2 and 9 to 15 among others (Sana, 2011; Anokye, 2013; Boamah and Amoako, 2013). For institutions, the NDPC was set up to guide the planning process by preparing the national development policy frameworks and guidelines for planning at the local levels (MMDAs and sub-district structures) in line with the framework. Regional Planning Coordinating Units (RPCUs) under the Regional Coordinating Councils (RCCs) are in charge of coordinating the preparation, and harmonizing the District Medium Term Development Plans (DMTDPs) of MMDAs under their

jurisdictions. At the community levels, sub-district structures such as assembly members, unit committees and councils are to prepare Community Action Plans (CAPs) and council plans respectively, after interactions with community members and traditional leaders. District Planning Co-ordinating Units (DPCUs) are responsible for planning functions of MMDAs like the preparation of DMTDPs by harmonizing all the CAPs, council plans and plans of the other decentralised departments of the MMDA (Sana, 2011; Boamah and Amoako, 2013; Tandoh-Offin, 2013; Azizu, 2014).

Consequently, planning for the market infrastructure at the district level starts with communities through the activities of the sub-district structures. The mobilization of community members and leaders to support the planning process by giving information and sharing views on development issues (such as the construction of a market) at the local level by DPCUs and/or sub-district structures commences planning for market infrastructure. The needs of a community such as a market for emerges from such interactions between all these stakeholders and are captured in the CAPs. All the activities of plan preparation such as needs assessment, prioritization of community needs and aspirations among others are supposed to be interspersed with public hearings as a means to "seek active participation of key stakeholders throughout the planning process" (NDPC, 2013 p.2). The public hearings and community durbars are some participatory mechanisms further organised to validate and seek approval of beneficiaries or community members and traditional leaders after the plan preparation. These community level endorsed plans are then approved and adopted officially by the General Assembly. The General Assembly is made up of Assembly members for various communities of the district, members of the DPCU, heads of other departments, representatives of the traditional leadership and appointed and elected officials of the district (Sana, 2011; Anokye, 2013). The approved plans are then submitted to the RPCU for further required processes.

Funds are later released and allocated for the respective projects of the district. DPCUs and departments in charge of construction collaborate with political (unit committee and assembly members), traditional leaders in the communities and community members to implement the (market) infrastructure projects. Activities at the community level include the allocation of

sites, project construction sometimes with labour support from community, and subsequent monitoring and evaluation of the projects by these involved parties. In sum, the initiation of stakeholder participation in both planning and implementation of projects (like market infrastructure) by MMDAs and sub-district structures are all stipulated in the NDPC guidelines, supported by institutions as well as laws, and undertaken at the various levels.

From the foregoing, the decentralised planning system in Ghana occur both vertically and horizontally (see also Boamah and Amoakoh, 2013). Vertical decentralisation is evident in interactions between the NDPC, regional, district and sub-district structures. The interactions between DPCUs and local political leaders (both unit committee and assembly members in the community) with community members and traditional leaders show horizontal decentralisation. These governing authorities interacts with community members through meetings, durbars and others forms of gatherings. The incidence of rejected markets despite these existing strategies to ensure involvement of communities or project beneficiaries in planning and implementation raises questions. In relation to markets and communities, decentralised participation is embarked upon to enforce a preconceived idea or notion. This notion is that every community needs a market of its own. Thus, decision making and planning centre on ‘end products’ (markets) and not necessarily the need to build them or not considering the situations in the context concerned.

Markets are still sources of revenues to districts, create employment for community people and boost development (Field Survey, 2017). The prevalence of this deterministic perception is associated with this relevance attached to markets. Investments by central government in markets for communities under the vision to modernize Ghana’s economy after independence (Osei-Bonsu, 2012) can be attributed to this attached condition. This perception is still dominant among contemporary decision makers and planners. Subsequently, it affects the ability of governing authorities to critically examine the actual need of a market in a community amidst changes that are ongoing (for instance shops serving as markets). Community participation is undertaken to subscribe these preoccupations for later implementation. Owing to such ongoing changes, the social and physical importance of market infrastructures as places for interactions and their economic functionality as points for



trading have diminished or even disappeared with time. Therefore it can be said that, the complexities associated with planning of markets in Ghana seem not to be fully acknowledged through these mechanisms of decentralised planning.

## 2.5 Summary

Various changes are evident in the development of market infrastructures from its inception till now. Markets still remain important projects which support community development in Ghana, however, absence of cognizance to the changing trends regarding their functions, context and design have contributed to their abandonment by users. These changes which make up some of the complexities involved in planning of markets have not yet been accepted and identified for subsequent consideration by governing authorities. This gap is attributed to their strong perception and preoccupation that every community needs a market. Thus, community leaders and planners mainly focus on the need for a market amidst transforming situations in the community. Consequently, participatory processes are undertaken to support and approve this notion.

Drawing from the discussions in this chapter, relevant efforts regarding planning of markets are required. Such efforts will be very essential in helping responsible authorities to accept and consider ongoing changes that concerns markets to help them assess if a community really needs a market. Moreover, decision makers and planners could better identify changing situations that emerged with time and have affected the importance of markets in space. For instance, the emergence of shops that trade in items that are the preserve of markets directly affect the relevance of markets as the only point for trading in such items. These transformations and changes in space with time are realities, and need to be recognised in planning for markets in Ghana. Fortunately, these transformations and unplanned changes are linked to and supported by ideas from complexity sciences.

Underlying the complexity sciences are developments and changes that emerge with time. Together with its notions such as differentiations, adaptations among others, complexity sciences further emphasis the possibility of unplanned developments or non-linearly changing situations in time and space. With evidence of shops functioning as markets, technological

advancement leading to limited importance attached to visiting markets among others mentioned in this chapter, the notions of complexity have become very real and imperative in this study and planning in Ghana. Subsequently, resorting to the complexity sciences will provide detailed understanding of the incidence of abandoned markets and well as provide insights on how planning and implementation can be made more meaningful. The reality and essence of complexity sciences in this study and for planning in Ghana are discussed in next (third) chapter.

## CHAPTER THREE

### REVIEW OF RELATED THEORIES AND CONCEPTS

#### 3.1 Introduction

The influence of (non-linear) changing context on points of trading, emergence of alternative points of trading and their subsequent competition and replacement of markets are indications of complexity. Thus, failure to accept and acknowledge such complexities by responsible governing bodies contribute to the incidence of abandoned markets as discussed earlier. These indications of non-linear changes and complexities concerning markets resonate well with some theories and notions from the complexity sciences. Therefore, such ideas are consulted in analysing and understanding the challenge involved in planning of markets. Particularly, more of these theoretical discussions centre on processes of change and non-linear developments through time which are seen as predominant reasons underlying the incidence of abandoned markets in Ghana. Such theoretical discussions in planning research are still ongoing, and are being pioneered most by authors whose studies have been cited in this chapter.

Although planning theories have evolved with time - from technical to communicative rationalities - and in response to approaching planning challenges (Allmendinger, 2009), these rationalities still remain limited in addressing the challenges of such an increasingly dynamic world. Significantly, the ideas from the complexity sciences present planners with wider perspectives to view planning issues (example; planning and implementation of rural market infrastructures) in the light of a complex, evolving and unstable world. As a result, better approaches that acknowledge complexities of challenges and issues would be developed. Accordingly, planning of markets in Ghana will focus on changing situations in the contexts instead of a sole focus on defining and constructing end products or markets.

Based on planning's adoption of notions from complexity, De Roo (2010) argued that planning in the 'being' will give way to one in the 'becoming' where time and the dynamic unpredictable nature of the world will be considered. This emerging third paradigm is non-linear rationality, and it is associated with notions like path dependency, adaptation, transformations, co-evolutions, transitions among others.

### 3.2 Evolutions in planning theories

Planning theory and practice was dominated by the technical rationality planning in most of the 20<sup>th</sup> century (De Roo and Porter, 2007). This rationality is based on factual reality and views the world as stable, certain and straightforward and with direct causal relations (De Roo, 2010; 2016; Zuidema, 2016). In practice, it is evident in centralised planning system and dominated by expert-led problem solving by planners and policy makers (Healey, 1996; De Roo, 2010). Prior to 1988, Ghana's planning system was centralised with much focus on top down decision making, planning and implementation of projects (Boamah and Amoako, 2013), thus it was based on the technical rationality. On the other hand, the prevailing notion that every community in Ghana needs a market of its own is seen to be related to this theory. Thus, communities as well as their markets are viewed as static, straightforward and closed from their environment or world at large. The increasing awareness of the absence of absolute certainty in all cases, and the need to involve actors called for other approaches to tackle planning issues.

Scenario planning approach emerged as a response to the limitations of the technical rational planning. It employs initial information as the basis for deriving series of possible solutions of which the seemingly appropriate are pursued. Extrapolations and population projections are some practical application of this planning approach. De Roo and Porter (2007) and Zuidema (2016) argued that, it is still related to 'bounded' rationality as it relies on existing information which shows an acceptance of certainty and control. Although the inclusion of feedback loops increases the chances of achieving intended aims, this approach is not fit for all planning issues.

The communicative rationality has been the main approach and focus of planners in the 21<sup>st</sup> century owing to the multiplicity of actors in planning issues. According to Innes (1995) and Healey (1996), this rationality first recognises the diversity of actors and, of their perceptions, interests and values which makes issues very complex and almost chaotic. This is an acceptance of uncertainty and therefore requires interactions to collectively reach consensus, leading to the construction of an agreed reality. Though the integration of actors with different interests enhances legitimacy, access to local knowledge and other benefits, this approach is

mostly applicable when “numerous actors have relatively equally-valued and mutually dependent, however opposing interests” (De Roo, 2010 p. 100). In practice, emphasis on solely decentralised planning systems which centre on bottom-up approaches and stakeholder participation are all rooted in the communicative rationality. The currently adopted system for decentralised development planning in Ghana is thus linked to this rationality.

Notably, most planning issues are neither totally chaotic and uncertain, nor absolutely certain and orderly (De Roo, 2010; Zuidema, 2016). The world of planning is static, fixed and frozen from the perspective of these approaches. However, this is not the case in reality as the world is not necessarily stable but could as well be in a situation which is constantly changing. Due to their insensitivity to time, these planning approaches are limited in managing current planning issues. Therefore, a different frame of reference and perspective, one that capitalizes on their strengths and ultimately considers time and the context as evolving will make planning more relevant in such a dynamic world. These qualities of sensitivity to time and changes are met in the non-linear rationality. It is depicted in Figure 2 along with the technical and communicative rationalities.

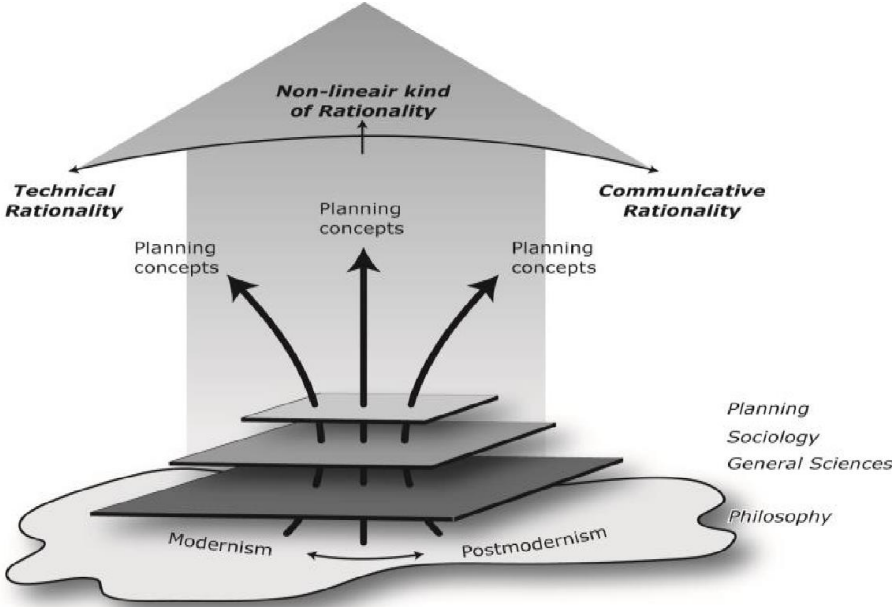


Figure 2: The non-linear rationality positioned with the technical and communicative rationalities (Source: De Roo, 2010)

### 3.3 Complexity theory and Planning

For some decades now, notions from complexity sciences with the non-linear rationality have emerged in the field of planning. Borrowing from these, planners are able to appreciate the various qualities of challenges or cases which inform more appropriate approaches to manage them. It is based on complexity that changing situations in communities in relation to markets can be explored further and understood better to inform strategies that need to be adopted in their planning.

The distinct origins of complexity (natural or hard sciences) and planning (social or soft sciences) however calls for a cautious transfer between these two worlds (De Roo, 2010; Davoudi, 2012). Accordingly, De Roo (2010) among others employs systems and chaos theories to help connect the two worlds. These theories provide general languages that explain complex patterns of interactions between the varying parts of complex systems (Loorbrach, 2010). For instance, the development of planning theories can be grouped using various classes of systems. Closed systems or systems class I are related to the technical rationality, systems class II or feedback systems represent scenario planning approaches and open network systems or systems class III are associated with the communicative rationality (De Roo, 2010).

However, these three system classes relate to a “frozen reality” or “fixed state” (De Roo, 2010, p. 34; Zuidema, 2016) just like their related planning theories. They relate static entities with linear relations, and are not time sensitive, thus not suitable for managing all issues of this present complex and non-linearly changing world. Notably, contemporary planning issues reveal characteristics of openness, dynamism and non-linearity which makes them complex systems or systems class IV (De Roo, 2010). Based on this, planning issues, cases or situations are viewed as complex (adaptive) system.

Portugali (2006) defined complex system as a system that is open and complex. Complex systems are made up of numerous highly interrelated parts (i.e. open). These parts are continuously interacting with their context or environment and with the parts, and influencing each other through feedback and feedforward nested mechanisms which results in

unpredictable ‘emergent’ behaviours (i.e. complex). Accordingly, markets (point of trading) can be viewed as complex systems. Beneficiaries and users of markets, governing authorities, the infrastructure and activities carried in it among others make up the parts of the ‘market system’. Technological advancements, shops, accessibility, neighbouring communities among others have been able to influence markets because the market system is not closed from their environment which includes community where it is located, surrounding areas, nation and the globe at large. Planning for markets should thus be based on such view of markets - open and complex.

In addition to their (complex systems) interactions with and influence from the context, various autonomous and unpredictable behaviours emerge from such interactions which limit the success of predictions and control. Complex systems are open to change, undergo transformations leading to functional and structural changes in the system. The openness of Ghanaian communities to changes and transformations have culminated in changing the role of markets as the only points for trading prior to the colonization era. As a result of such openness, predictions that every community needs a market fail in some communities and have led to abandoned markets.

Complex systems or systems class IV portray dynamic behaviours over time such as adaptations and co-evolutions, and discontinuous and chaotic behaviours (Constanza et al., 1993). Complex systems emerge at the edge of order and chaos and are associated with phase transitions (Lansing, 2003; Portugali, 2006; De Roo, 2010; 2016). The changes or developments in complex systems can be traced to their source or are path dependent. Accordingly, the notion of complex systems provides more insights into planning issues and subsequently enables the development of more reliable coping measures. For instance, autonomous processes and dynamically changing contexts are gradually being used to influence policies and tools for spatial planning. Problems are also now viewed as ‘wicked’ and ‘persistent’ and are being pursued in manners that are adaptive (Rittel, 1972; Loorbach, 2010). Complexity sciences with the non-linear rationality do accept that the other traditional planning rationalities (technical, scenario and communicative) are still relevant.

➤ *Linking complexity and communicative theories*

This relation is skewed towards the communicative (not technical and scenario) based on the

recognised and accepted role of communicative approaches such as stakeholder participation in managing complex planning issues and situations. With this linkage, more attention can therefore be paid to acknowledging changing (non-linear) situations and complex and open context or complexities in planning.

Both communicative rationality and complexity sciences accept that planning issues (systems) are not closed from their context and are made up of many parts which makes them unpredictable and complex. From the communicative perspective, this uncertain, open and complex nature can be handled once all parties involved come together to interact, reach agreements and consensus. Complexity also agrees to the involvement of parties or actors since they are a vital part of the system. However, it goes a step further to indicate that with time changes come up, and such changes can even be unintended and unplanned. The possibility of unintended situations or autonomous developments makes acknowledging time very fundamental to complexity theory (De Roo, 2017). For example, historical developments in markets and unintended changes such as shops fulfilling the roles of markets (discussed in chapter 2) have called to importance sensitivity to time in addition to the much emphasised stakeholder participation in the planning of markets in Ghana.

The discussions on planning framework regarding markets in Ghana have indicated that this emphasised participation is based on a preconceived notion that every community needs a market. However participation needs to be based on an acceptance that the communities that are been planned for are not static nor fixed but change with time, and can even be in a situation of constantly changing and in non-linear fashions. Accordingly, there is need for a form of stakeholder participation that takes into consideration or framed by an acceptance of (non-linear) changes and developments is very critical in this study among other adaptive planning measures.

### **3.4 Dynamic complexity**

Dynamic complexity refers “to situations where cause and effect are subtle, and where the effects over time of interventions are not obvious” (Hertogh and Westerveld, 2010 p. 188). This complexity reveals features such as the potential to evolve over time and change,



unpredictable behaviours, adaptation, non-linear developments and time sensitivity. The dynamic type of complexity rather resonates well with the future orientation of planning by enabling a ‘becoming’ view. This complexity reveals that spontaneous and autonomous developments are feasible in the context in which planners seek to intervene since it is changing and usually in a non-linear way (De Roo, 2010). The development of alternative points for trading in Ghanaian communities were not planned by authorities responsible for governing communities. These developments emerged autonomously and so illustrate the reality of dynamic complexity.

From the dynamic complexity perspective planning actions and institutions should not only adapt to changing circumstances, rather the plans, policies and institutions should be adaptive or flexible to correspondingly co-evolve with their changing contexts (Zuidema, 2016). As a result, different requirements are needed for planning and its embedding institutions so to enhance their ability to cope with (continuous) non-linear changes ongoing in social and physical systems such as neighbourhoods, cities, infrastructure which are seen to exhibit qualities of complex systems (Zuidema 2016, Boelens and De Roo, 2016; De Roo, 2016). In contrast, planning practices and decision making that hinge solely on ability to fully predict and control development or only top-down and bottom-up strategies without recognition of this reality of ongoing non-linear evolving world and their further consideration would not fully thrive in this dynamic world.

Based on the preconceived notion that every community in Ghana must have a market, the exhibited features of communities such as openness to change are therefore seen to be ignored in planning of such markets, resulting in their rejection. In addition to the concern of planners and decision makers (in Ghana and world over) for the future, acceptance of ideas based on the non-linear rationality and dynamic complexity in making decisions for the ‘undefined becoming’ (Boelens and De Roo, 2016) are very much required. Thus, planners and decision makers need to become ‘change managers’ and ‘adaptive responders’ (De Roo and Boelens, 2016) owing to the changing, complex and open nature of the context in which they intervene.

### 3.4.1 Path dependency

Path dependency is crucial to the notion of dynamic complexity since developments in

complex systems are somewhat path dependent. Thus, the pre-conditions of changes or history can provide an understanding of the system and its development when defined. Path dependence “characterizes specifically those historical sequences in which contingent events set into motion institutional patterns or event chains that have deterministic properties” (Mahoney, 2000 p. 507 cited Booth, 2011). It does not only mean that past events influence future developments, it underscores causality thus emphasizing on previous than on later events. It also incorporates temporality, thus how “temporally distant events have had an effect on shaping the direction in which processes and institutions have moved” (Booth, 2011 p. 22). In addition to its focus on causality and temporality, it suggests that the inertia within series of events to a large extent may be reluctant to change and it can create rigidities (Hertogh and Westerveld, 2010; Booth, 2011; De Boer and Zuidema, 2013).

The earlier discussions on markets in Chapter Two have revealed some path dependencies. The dominance of women in handling and marketing of food crops in the past (Bukh, 1979) still remains unaltered based on findings from Rocco (2013); Andoh (2014) and Bampoe (2016). Moreover, the studies of Rocco (2013) and Andoh (2014) revealed that markets located outside densely populated parts of communities and are not visible are abandoned. These were the preferred locations right from the inception of markets as mentioned by Addo (1988). Thus, rigidity to change is seen in regard to the preferred location for markets.

The persistent attempts of decision makers and planners to establish markets in every Ghanaian community are to an extent path dependent. History on markets as recorded by Ardayfio (1980) and Addo (1988) highlighted series of endeavours by communities and traditional leaders to set-up markets in all smaller communities as complements to the bigger markets. Such efforts were not fully achieved due to the higher social role of the bigger markets. This path was then pursued with centralised approaches after colonization and now with decentralised approaches. Thus, a form of unwillingness to change is evident among planning institutions as well as decision makers and planners in terms of planning of markets, although communities have transformed and are still transforming. Therefore, in line with Booth (2011) and Rauws and De Roo (2011), path dependency is still useful in understanding why specific trajectories are being pursued and how shifts have evolved at multilevel

landscape.

### 3.4.2 Transformations and Differentiations

Complex systems undergo processes of transformation and differentiation which culminate in a change in their structure and function. Complexity theories have long been dominant in the natural sciences such as biology (Boelens and De Roo, 2016). Differentiations and transformations are used in the biological sciences to describe processes of change and development in cells. Accordingly, a biological experiment conducted by Xu and Rubin (1990) is employed to help in explaining differentiations and transformations. The experiment - summarised in Figure 3 - indicated that cells differentiate and transform under certain conditions or situations which exist in their contexts or surrounding environments which were serum or culture.

In their experiment, Xu and Rubin (1990) used NIH 3T3 cells, a mouse fibroblast cell line for a transfection experiment. Using various forms of serum and culture conditions, these cells underwent aberrant differentiations or spontaneous transformations and 'normal' differentiations. The experiment revealed that the concentration of the serum or culture conditions determined the frequency of change or transformation of the cells. Thus in higher concentrations, cells transformed more spontaneously. When the culture's condition or concentration of the serum was lowered, the cells differentiated or transformed slowly. In summary, aberrant or 'abnormal' differentiations (spontaneous transformations) occur in highly concentrated 'environments' while 'normal' differentiations (slow transformations) happen in less concentrated 'environments'. In biological cells, processes of differentiations and transformations also indicate that the newly formed cell become specialised in terms of their functions. Thus, changes occur in their make-up and the activities they perform.

Figure 3: Differentiations and transformations in cells  
(Source: Xu and Rubin, 1990).

Using this (Figure 3) as an illustration on these processes of change, it will enhance understanding of these processes for further application to complex systems, and relation then to planning. Differentiations and transformations only found their way into the social sciences – and in planning - through complexity thinking where systems are used to explain various phenomena (Loorbach, 2010). Hence, systems will be used in relating this biological experiment to planning. The cells represent complex systems and can be an issue, situation, case, challenge or event in the planning domain. The serum or culture with its varying

concentrations or conditions representing the context of the system is the world in which decision making, planning actions and interventions are undertaken and implemented. Thus, higher concentrations and lower concentrations represent the unstable and the relatively stable nature of the context of planning respectively. Similar to the cell, systems transform more suddenly or rapidly in an unstable and constantly interfering context and slowly in a relatively stable context.

De Roo (2017) among few authors elaborated on differentiations and transformations in systems and relates them to planning and decision making. Complex systems in a process of transformation adapt to contextual situations, and co-evolve structurally and functionally. In a less stable context, systems transform at a slow pace or progressively while transformations of systems are rapid in turbulent contexts (De Roo, 2017). In the former, systems co-evolve and may enter into a new state however the meaning, purpose, structure and function can be identified as these almost remain. These progressive transformations are known as differentiations. The emergence of renewable sources of energy to co-exist with the classical fossil based energy systems which is more rampant in some developed countries are indicative of differentiations (ibid). In this study, the gradual development of alternative points for trading to function alongside markets in Ghana illustrates differentiations.

In sudden transformative processes (Figure 4b), chaotic contextual disturbances or perturbations pushes the system off track and make transformations more rapid and results in symmetry-breaking bifurcations and transitions (De Roo, 2017). The robust and dynamic layers keep changing at various stages. The system undergoes another process of co-evolutions to be able to adapt to the new unstable environment. The transformed structure and function of the system gives it a new position in its context. Figures 4 (a) and (b) show the two processes of transformations.

The space or situations in the context with which the system responds or conforms to while undergoing changes are ‘transformative conditions’. While contingent transformative conditions facilitate understanding of situations and contextual features of differentiations, adaptive transformative conditions elaborate the chaotic nature of the context and unstable situations with which the system adapts, co-evolves and self-organises and transforms.

Transformative conditions can be intended such as regulations and policies or unintended like disasters, and global developments with which the system (example; points for trading) adjusts to.

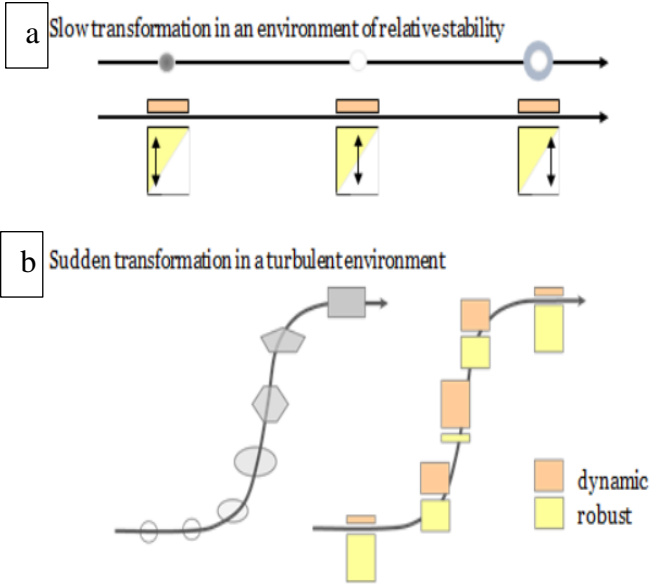


Figure 4: Forms of transformations  
(Source: De Roo, 2017)

Moreover, changes in systems are either inhibited or promoted by certain factors. These become constraining when they push for the system to shift track while they act as enabling factors when they pull the system and allows it to progress in any direction but not shifting it. Some factors can however pull and push the system at the same time, thus, acting to both enable and constrain the transformative capacity of the system (De Roo, 2017). Prior to colonisation of the Gold Coast, the dominant social and economic functions of market ‘constrained’ the emergence of any alternative location or point for buying and selling. Thus, colonisation served as contingent transformative conditions which stimulated a change; shops as points for trading. The differences between items sold in these two points further enabled this change.

The dynamic and transformative nature of the world makes it possible for unplanned developments to dwell with planned developments; for example while markets are planned, shops and mobile trading activities are unplanned. De Roo (2017) have pointed out that

unplanned developments and planned interventions are related, while spontaneous changes can inform purposeful interventions, intended actions can also lay the foundation for autonomous change and developments. Thus, an acceptance of this reality and such an association is advantageous to help planners make for purposeful interventions.

### 3.4.3 Adaptations and adaptive behaviours

Adaptation and adaptive behaviours in planning are important processes that need to be considered in the face of non-linearity and complexity (Keenan, 2015). Adaptation involves the ability of systems to cope with changes; surprises or disturbances. Complex systems (especially social and spatial) through processes of adaptations may entirely change as a result of non-linear developments of patterns and sudden transformations. Hence, processes of adaptation result in changes in the system influenced by changing circumstances around it with which the (social) systems as well as its parts constantly interacts with. Taken advantage of improved accessibility to trade in other communities with well-established periodic market days reveal adaptive behaviours of inhabitants. The inherent non-linear changes and cross-scale interactions of the context in which complex systems adapt to render absolute predictability and control invalid (Davoudi et al., 2013).

Adaptation processes focus is on “the circumstances or the conditions with which the object of planning might co-evolve” (Boelens and De Roo, 2016 p. 49), and in some cases include making these situations suitable to be able to take advantage of them. This process requires an understanding of conditions and contextual issues to make relevant interventions (Wardekker et al., 2009; Keenan, 2015; De Roo and Boelens, 2016). Community participation partly plays a role in this process of understanding of adaptations as members of communities influence and are influenced by their context (Keenan, 2015). For instance, some community members in Ghana are able to shape the system to meet their needs by developing alternative joints for selling and buying. Again, they are adjusted their behaviours to cope with the system in times of disturbing changes or surprises as witnessed in the sharp division of labour between men and women due to the interest of foreigners on cash crops during the colonisation era of the Gold Coast (Bukh, 1979).

Adaptation in planning implies that planners need to take into account developments in the

context which are usually non-linear and accordingly make their actions responsive to such (continuous) changes. In this regard, planning and decision making in Ghana requires flexible institutions, instruments and tools that are responsive to changes or are adaptive. Instead of making decision based on how communities must look like (every community must have a market), changing situations and developments like shops functioning as markets in these communities should be considered by decision makers and planners to inform their decisions and actions in Ghanaian communities.

#### 3.4.4 Co-evolutions and Transitions

Co-evolution - originating from the natural sciences - explains how organisms change or evolve under various biotic conditions through mutual interactions and influence from other related organisms (Ehrlich and Raven, 1964 in Boelens and De Roo, 2016). It is a complex process and takes place at various scales, such as occurring in situations where one species interacts closely with several other species, may include many species or may take place in some subgroups of species but not others (Rafferty and Thompson, 2014). As a notion related to the non-linearity, co-evolution sees changes through time as evolutionary processes of 'becoming'. It goes beyond mutual interactions between systems to also consider the linkages or interdependencies between two evolutionary processes (Tempels, 2016). Emergence of alternative points for trading in Ghana at various times were linked to developments or evolutions in the context (nation or community). For instance, the increase in number and types of shops following colonization have depended much on improvement in socio-economic conditions.

Depending on the nature of interactions, both opportunities and barriers are produced. Further investigations on past underlying conditions for a particular development trajectory (path dependencies) enhance building on the opportunities, while a lock-in situation occurs when prevailing barriers remain unattended to (Tempels, 2016). Co-evolution is a necessary condition for transitions (Rauws and De Roo, 2011). Based on the arguments of Minten and Reardon (2008), shops which tend to trade in items that were the preserve of markets potentially take after the structure and function and can replace traditional markets with time which represents a co-evolutionary process.

Transitions and bifurcations are products of co-evolving interactions between processes at multiple scales (Portugali, 2006). As useful concepts in analysing non-linear developments, transitions focus on the ‘process’ of change while bifurcations focus on the ‘before’ and ‘after’ of the change (Portugali, 2006; Rauws and De Roo, 2011). Transition involves the combinations of fundamental changes at contextual and local levels, and can lead to new approaches, policies or frameworks as well as changes in the behaviour of actors as it generally changes the system. Changes in energy, demography, spatial and societal systems have been conceptualized as transitions (Van der Brugge et al., 2005; Loorbach, 2010; Rauws and De Roo, 2011; Wang et al., 2016).

Transition is a process of structural change from a stage of relative stability to another, where change at each stage affects the whole system (Rauws and De Roo, 2011). The combination of several fundamental processes of change leads to transitions. Co-evolving processes in points of trading can result in a transition in the long-run when the whole societal system (culture, institution, economy, technology, ecology among others) are reorganized on various scales and levels to support this change in Ghanaian communities.

### **3.5 Institutional consequences of the non-linear rationality**

Complexity and non-linearity with their focus on processes of change and autonomous transformations therefore have implications for planning institutions and decision making bodies. Expert-led solutions and/or collective decision making have long been the emphasis of planning institutions, with the goal of directing and steering development of places in a ‘preferred’ and ‘certain’ manner. In other words, institutions rely strongly on either ‘top-down’ or ‘bottom-up’ or both while time and sensitivity to change are ignored and isolated from their domain. As seen in the case of markets, ‘experts’ – planners and decision makers hold on to the mindset of ‘one community one market’, and interact with or involve beneficiaries with such framing. Spontaneity, dynamism, non-linearity and evolutionary processes have been out of their ‘dictionary’, although these are part of life and planning for that matter. Changing situations such as development in alternative trading points in communities, technological advancement in communication devices and their impacts on markets in Ghanaian communities are evidence of non-linearity. Therefore, planning processes require improvements to make relevant interventions in this dynamic world and in



Ghana in this case.

Drawing from the processes or notions of change which were based on identified developments or changes relating to markets, predictions and control hardly succeed. Moreover, sensitivity to time is very crucial to planning institutions making knowledge on past developments vital since developments in systems are to an extent path dependent. Based on the qualities of openness and non-linear changes related to social and physical systems (communities), autonomous developments are feasible. Gradual emergence of unplanned points of trading like shops in communities clearly reveal such features of openness to change with time. The operation of these autonomous developments have resulted in a change in the purpose and meaning of markets. Complexity and non-linearity require that planning and decision making are based on a balance between adopted top-down and bottom up approaches, accepting the reality of unintended or autonomous change and relevance of time. Accordingly, planning processes, plans, policies and institutions are required to equally co-evolve with their changing contexts by being adaptive or flexible.

### **3.6 Conceptual framework**

According to Judge et al., (1995), conceptual frameworks offer a frame of reference and language for examining reality and exploring the details of concepts and theories. These frameworks are advantageous as they provide new insights that are absent from other perspectives. Figure 5 is based on an acceptance of non-linear developments and change through time and in space which are not part of the adopted planning approaches that are rooted in the technical and communicative rationalities. Thus, understanding for new insights in relation to changes that have taken place in markets is enhanced with this framework.

Presented in Figure 5 are developments regarding Ghanaian markets from their inception till now. Selling and buying commenced in ‘traditional’ markets in Gold Coast (now Ghana). Mobile trading and shops emerged alongside markets during the period of colonisation. The arrival of the ‘whites’ created conditions that supported development of shops for the sale of manufactured items as well as the activities of mobile traders. Intensive trading and novelty of foreign items at that time enabled the survival of these shops since the markets still played their key roles of trading in agricultural produce. There was an existence of sharp difference

in items sold in these two points of sale which makes it hard to identify a constraining factor. The vision to modernise Ghana’s economy after independence contributed in ranks of shops such as malls, supermarkets and large and small scale shops which initially specialized in the sale of only processed commodities. Theoretically, these are illustrative of differentiations.

Differentiations in time and space in Ghanaian markets have been progressive. These changes in the points of trading keep emerging with recent ones being small scale shops and mini markets (Blue circles in Figure 5). The former are shops that currently sell items that were the preserve of markets together with the items that are found of being sold in shops (both agricultural produce and processed food and non-food items) while the later focus on the sale of food items that are the preserve of the market (basically agricultural produce). These are non-linear developments and have evolved parallel to classical markets in Ghanaian communities. Their emergence are being supported by certain constraining and/or enabling factors such as increase in population, diminishing social role of markets propelled by technological advancement, improved road accessibility and socio-economic conditions.

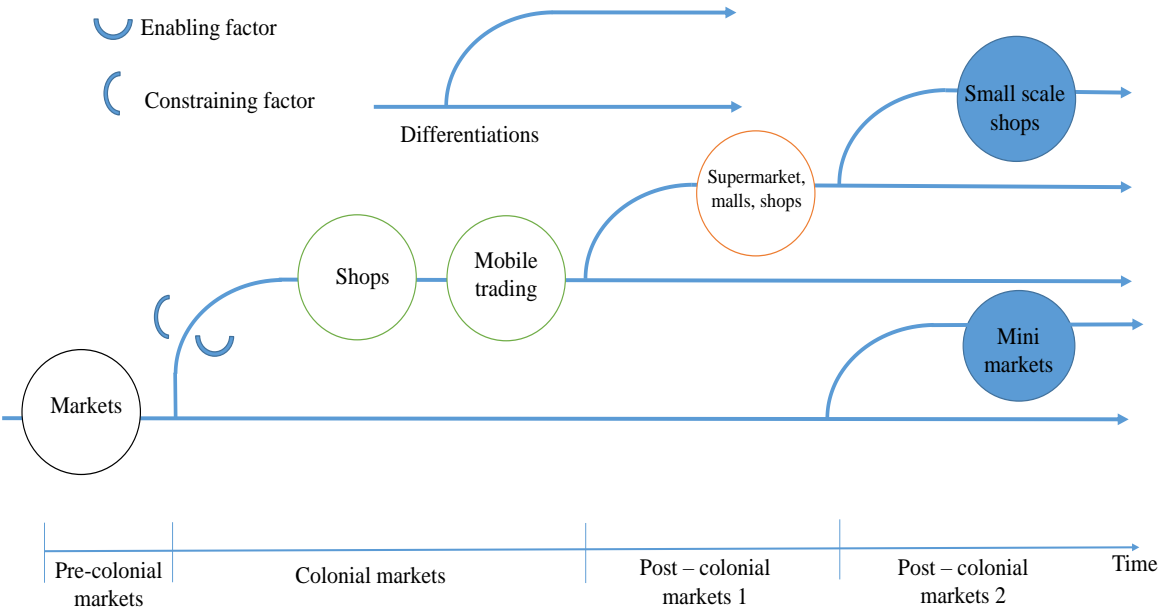


Figure 5: Conceptual framework (Source: Adapted from De Roo, 2017)

The two different points of sale (Blue coloured) are very common in rural communities and

thus would be explored further in the subsequent chapter. These two compete with markets and are potentially capable of replacing market infrastructures in some communities. This situation presents various implications for planning and implementation of market infrastructure in Ghana. As a result of the failure of current development planning approaches – top-down and bottom-up – in accepting, identifying and considering these non-linear developments in space, some planned and implemented market infrastructures are not in use by beneficiaries. In line with Judge et al., (1995), these progressive changes evident in Figure 5 provides a new frame of reference for viewing reality which is absent from current planning approaches. With empirical evidence which will be discussed in Chapter Four, detailed understanding on such changes or differentiations will be developed in support of future planning and decision making.

Consequently, this conceptual framework (Figure 5) will support this new path of exploration where non-linear changes can be considered. It will help in explaining the past and ongoing developments and then enable the formulation of relevant approaches for planning now and in future based on these identified changes. Moreover, the other related dynamic processes of change can be examined for necessary propositions. Figure 5 will help to guide later propositions based on the identified reality of processes of differentiations related to points of trading in Ghana. At a higher level, this model is useful in making decisions and plans concerning cases or issues that possess such gradual developments stretched through time in space. Thus, with the presence of non-linear developments existing parallel to the original or classical entity in space and time, this model could be applicable taking note of the context.

### **3.7 Summary**

This chapter has elaborated the processes of change and non-linear development in complex systems which can be experienced as transformation, differentiation, adaptation, co-evolution or transition based on various contextual features and scale of occurrence. The changing context and its influence in space and time, as well as the complex and open qualities have been reflected in markets in Ghana. The market existed initially as the only point of trading. With time and under various conditions, several points of trading have emerged to co-exist with markets. These new trading points were not deliberately planned but emerged autonomously; examples are small scale shops and mini markets. These unplanned or

autonomous changes have implications for institutions and planners. Presenting a novel idea on how planners and institutions can perceive communities as well as their issues and correspondingly manage them, notions from the dynamic complexity have broadened comprehension of the processes of change and how institutions can learn from them for responsive interventions. As mentioned earlier, these changes are very much evident in rural areas in Ghana. Therefore, specific cases of abandoned market infrastructure in some rural areas in the Ashanti region of Ghana are analysed in the next chapter. This analysis will help identify ongoing processes of change, their impacts on markets as well as the current response of decision making bodies and planning institutions to non-linear developments and changing situations.

## CHAPTER FOUR

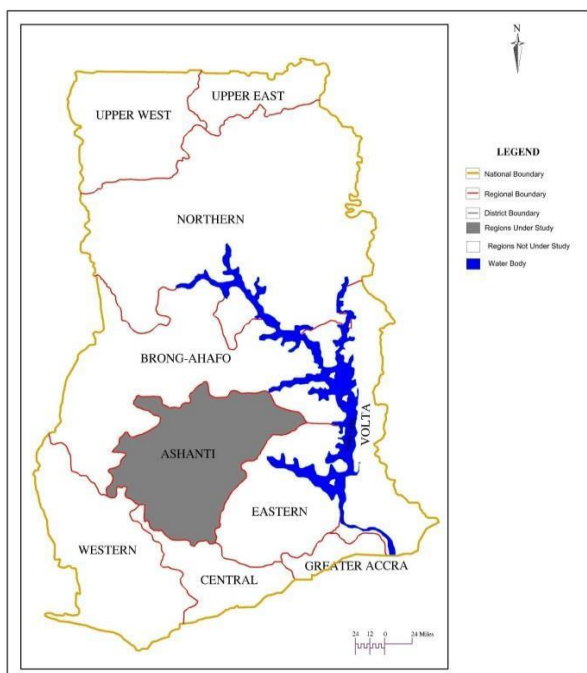
### EMPIRICAL ANALYSIS OF ABANDONED MARKET INFRASTRUCTURES

#### 4.1 Introduction

The incidence of abandoned market infrastructures in some rural communities in Ghana paints a picture of how development planning encounters complexity. Meanwhile, planning is still in ‘the here and now’ while ‘the becoming’ is left out. Lack of recognition for incorporation of the complex nature of communities as well as changes in the world and their influence in planning interventions have basically contributed to the neglect of planned markets by beneficiaries. In this chapter, selected cases in rural areas in the Ashanti region of Ghana are empirically analysed and then related to the theories that were discussed in Chapter 3. This would help to provide more insights on how planning and implementation of projects (market infrastructure) in rural communities could be improved, through the management of the associated complexities.

#### 4.2 Brief description of study area

Ashanti region is the most populous and one of the most rapidly growing regions of Ghana.



It is located in the southern half belt of Ghana, as shown in Figure 6. This region is purposively selected for this research because of its position as the most vibrant commercial hub of Ghana (KMA, 2017). It hosts various markets and shops. This region is made up of thirty (30) MMDAs under which the rural and urban areas in the region are classified and governed (GSS, 2014). Abandoned markets can be identified in the various MMDAs (urban, peri-urban and rural areas) of the region.

Figure 6: Ashanti region in the national context  
(Source: Ashanti Regional Planning Coordinating Unit, 2017).

### 4.3 Cases of abandoned markets in Ashanti region

Four (4) of the MMDAs in Ashanti region with abandoned markets were selected for this research after the preliminary survey. These (mentioned below) were purposively selected on the basis of having rural communities with completed markets infrastructures which have been totally abandoned by communities and users. Figures 7 and 8 show the MMDAs and communities that were studied respectively. The cases included; Antoakrom in Amansie West District Assembly; Ejuratia in Afigya Kwabre District Assembly; Nyaboo in Asante Akim Central Municipal Assembly and Kwamang in Bekwai Municipal Assembly.

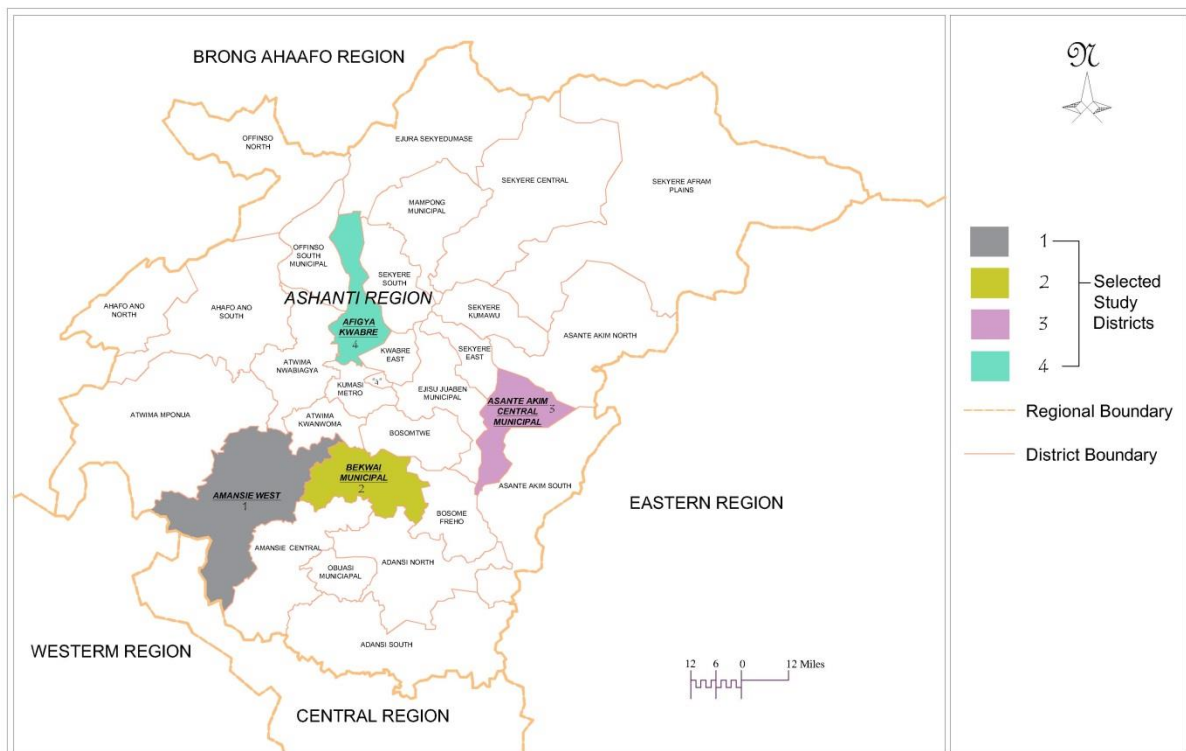


Figure 7: Selected study districts  
(Source; Author's Construct, 2017)

With much attention on complexities or dynamic processes of change and non-linear developments in space through time, selected cases are explored. The realities of changes mentioned in the previous chapters are evident in each case with the most common among them being upspring of small scale shops and mini markets. The conditions that supported these non-linear developments, the institutional set-up for the markets among other relevant issues are explained in the following sections.

### 4.3.1 Antoakrom market infrastructure

The abandoned market is located at the outskirts of Antoakrom and can be reached after a diversion from the main road that connects the community to some urban areas and the regional capital, Kumasi (see Figure 8). This market was constructed to serve Antoakrom and the neighbouring rural communities (Horna et al., 2007). The market consists of several facilities (Nyanteng and Daniel, 2005) such as parking spaces, open sheds, stalls, an abattoir, corn and oil milling centres, waste disposal site and toilets. Trading activities commenced in the infrastructure for some few days after which it was totally abandoned. Market women upon realisation of lower levels of purchases and subsequent loss of perishable food items and trading capital decided not to use this infrastructure again. They returned to the old market infrastructure which is located at the centre of the community and by the road side (Field Survey, 2017).

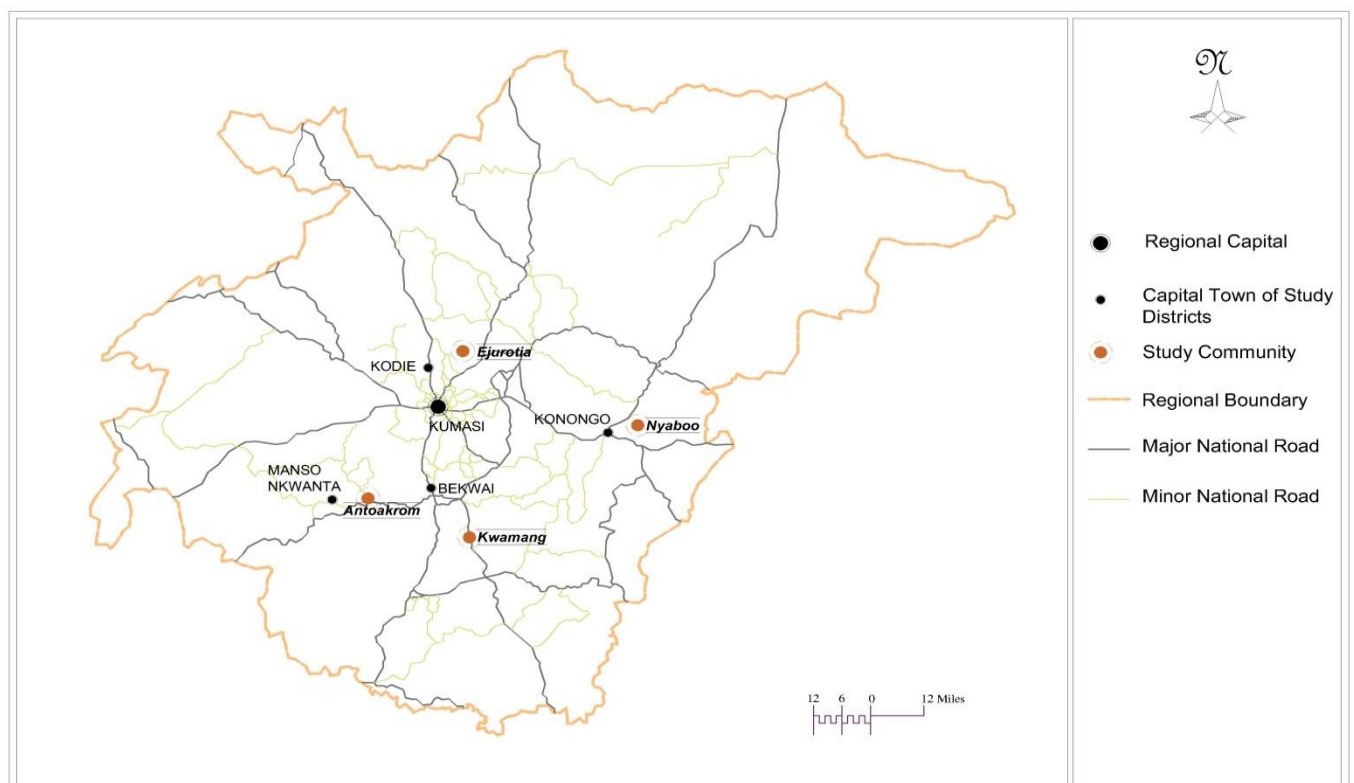


Figure 8: Selected study communities  
(Source; Author's Construct, 2017)

According to the market women, sale of food items are faster and regular in the old market

than in the newly constructed market. The old market is the initial point of trading in Antoakrom. Figures 9 (a) and (b) respectively show the old market where some trading is currently taken place and the abandoned market infrastructure in Antoakrom (Field Survey, 2017). The study revealed that, planning and implementation of the new market infrastructure (Figure 9b) was top down, without any community involvement and insensitive to ongoing changes in the community. Decision making, planning and implementation of the currently abandoned market were done by the chief at that time in collaboration with the Council (now district assembly).



Figure 9: Old Antoakrom market (a) and (b) abandoned market infrastructure

(Source: Field Survey, May 2017)

*“I did not know anything about the market until its construction. It was announced after some time that community members should meet at the site for commissioning and later use,”* (Native of Antoakrom, Field Survey, May, 2017).

According to community members, their participation would have prevented their neglect of the market. Thus, they stated that their involvement would have assisted in choosing an appropriate location for the market; one close to the road and within residential areas where the expanded scope of buyers could all be covered. However, further discussions with residents and observations of Antoakrom revealed some developments and ‘non-linear’



situations which were not identified and incorporated with the adopted ‘technical’ approach. Yet, the expected community participation or ‘communicative’ approach would not have enhanced an acceptance and recognition of such changing situations in planning and subsequently addressed the incidence of abandoned market. These approaches are time and change insensitive.

➤ *Evidence of complexities and non-linear changes in Antoakrom*

The reluctance of community members to walk to the outskirts of the community where the planned market is situated is very indicative of the diminishing social function of markets. Longer distances were covered in the past to visit markets not only to buy and sell but to benefit from its social function (Ardayfio, 1980; Addo1988). Inhabitants now have access to mobile phones which enhance faster communication without covering longer distances (Overå, 2008). Further, the presence of an information centre in Antoakrom serves as a means to disseminate information on current issues concerning the community, district, nation and even around the globe throughout the community.

Moreover, owners of existing shops in Antoakrom had started trading in food items that are the preserve of markets (eg. vegetables). Development of ‘mini markets’ by some inhabitants had also commenced. Figure 10 shows two of these mini markets which are situated next to and on both sides of the road; this connector road links Antoakrom to Manso Nkwanta (district capital) and other surrounding communities (see Figure 8). The mini markets trade in all food items that are sold in markets and have replaced markets in some parts of the community, especially areas farther from the centre where the old market is located. The activities of mobile traders were also rising in Antoakrom as this had become the main economic activity of some inhabitants.

These are autonomous developments had influence on the market but were not reflected in the top down interventions by planners and the chief. Absence of recognition of changing situations is attributed to their deterministic stance that Antoakrom needed a new market. One provided by the government, bigger and with more facilities than what the community established in the past through communion labour; the old market.



Figure 10: Developed 'mini' markets in Antoakrom  
(Source; Field Survey, May, 2017)

Unplanned points of trading - mini markets and small scale shops – together with the old market are operational while the planned market has been abandoned. This case shows an absence of direct causal relationship and limits to predictions and control. The establishment of a market (even an improved version of existing market as in the case of Antoakrom) for a community does not completely imply that all trading activities will automatically be concentrated in that infrastructure. Adapting planning processes and plans to contextual situations and making them flexible to support unintended changes are more crucial. Moreover, the required community involvement had to be based on an acceptance of change.

The dominance of women handling marketing of food items, and community members insisting on the location of markets in densely populated parts of community and/or along roads (Bukh, 1979; Addo, 1988) reveal path dependent trajectories. These instances are indicative of rigidities and reluctance to change (Hertogh and Westerveld, 2010; Booth, 2011; De Boer and Zuidema, 2013), as these existed in the past. The continuous use of the old market in Antoakrom (see Figure 9a) while the newly constructed market has been rejected reveal such rigidity and refusal to change. Acknowledgement and further consideration of

these path dependent trajectories in planning and decision making for the Antoakrom would have provided useful insights to make planning interventions responsive. For example, using past trends could have informed decisions on a suitable location for this infrastructure. In this case, the necessity to involve market women among other beneficiaries in participation regarding the market could also be deduced from historical trends. Ignorance of the influence of past on the present and future contributed to the ‘lock-in’ situation (Tempels, 2016) of an abandoned market infrastructure in Antoakrom.

Zuidema (2016) among other authors stated that the function and structure of complex systems do change and co-evolve under various circumstances in the context and constant interactions between the system and its context. The structure and function of markets both as the only points for trading in the pre-colonial era and as the only point for trading in food items in the colonial era have been challenged. Small scale shops and mini markets are now trading in food items (see Figure 10). Interactions with owners of shops and mini markets during the field survey further supports this changing structure and function.

*“I initially established this shop to sell general items needed in the home like detergents and toiletries. Later, I started selling processed foods like canned foods as well as vegetables, fish and meat among others. I want anyone who visits my shop to get everything needed to keep their home; ingredients for preparing meals and items to clean their bodies, home and clothes. I am turning my shop into a ‘one-stop-shop,” (Shop owner at Antoakrom, Field Survey, May, 2017).*

As a result of this change, alternative points of trading have emerged parallel to the old market which reveals a process of differentiation. Differentiations seen in the gradual development of points of trading have been supported by certain factors. As stated earlier, the diminishing social role of markets with time guarantees successful operation of all these points of trading. Moreover, a critical observation of Antoakrom shows an increase in population and size of community as new residential units have been developed in all directions. Discussions with the resident traditional leader further revealed that, the recent development of small scale mining activities contributed to increasing population movements

into Antoakrom, in search for jobs. He added that small scale mining activities have also led to an improvement in their socio-economic conditions (Field Survey, May, 2017).

Processes of change and non-linear developments in complex systems are stimulated in transforming contexts (De Roo, 2017). Transforming demographic and socio-economic situations in Antoakrom have further facilitated differentiations in points of trading. The system (points of trading) has responded to the transforming community while undergoing change. Hence, improved demographic and socio-economic situations are the contextual circumstances with which changes in points of trading depended on or conformed to; i.e. the contingent transformative conditions fueling this differentiation process. Moreover, technological advancement has contributed to reluctance of people in covering longer distances and further enabled non-linear developments of various points of trade within the community. The collector road that connects Antoakrom to other communities has also played a role in the progress of the system without shifting it. The unplanned points for trading or non-linear developments are mostly sited along the road since it enhances their visibility to potential and regular (inhabitants) buyers. The statement below further explains why points of trading are located by the road as seen Figure 10.

*“A market or any place where items are sold must not be hidden. The best places to locate them are along the community road and within the densely populated residential areas. You can then benefit from purchases by community members and all other potential buyers like passengers in the vehicles that ply the road” (Market woman in the old Antoakroam market, Field Survey, May, 2017).*

The success of all these non-linear developments makes it difficult in identifying a current constraining factor. However, future expansion of the connector road could result in the destruction of some mini markets as these are very close to the road (see Figure 10) which will constrain their operations and may even end their existence. Acceptance and understanding of differentiations in points of trading in Antoakrom, their surrounding transformative conditions and enabling factors and their impacts will help decision makers and planners make meaningful future actions and interventions in such a transformative

context as Antoakrom.

The development of diverse unplanned trading activities in space through time indicates the openness of this complex socio-spatial and physical system (Antoakrom) to change. Based on the growth in socio-economic and demographic conditions, some residents have taken advantage to develop more shops or diversify items sold in the shop, establish mini markets, and sell items from house to house (mobile trading) to benefit from these changes. These are exemplars of adaptive behaviours owing to constant interactions between their owners (parts of the system) and continuously changing circumstances around them (Keenan, 2015). They have turned such changing situations and taken advantage of them. This implies that understanding of contextual situations is relevant for planning and decision making bodies in Antoakrom and Amansie West district (like all others in Ghana) to enable them adapt plans and decisions to changing circumstances in community (ies). Such adaptation in planning will better position them to meet the needs of communities.

Additionally, co-evolutionary processes are evident in Antoakrom in relation to points of trading. Changes in socio-economic and demographic conditions as well as technological advancement with time have encouraged developments in points for trading; changing the structure and function of markets. Owing to the fact that these of changes were evolutionary and unplanned, and are as well linked and interdependent on each other, co-evolutions are evident (Tempels, 2016). While growth in community's size create opportunities for increase in number of such unplanned small scale shops and mini markets, reluctance to cover longer distances for trading purposes which is being stimulated by technological advancements further permits their success in operating as buying and selling points. The outcome of these evolutionary processes through time, and structural and functional changes have laid a foundation for a probable process of transition.

#### 4.3.2 Ejuratia market infrastructure

Marketing activities commenced in Ejuratia on a small piece of land which belonged to a private person. These activities were conducted in an open space with no infrastructure; women carried items from their homes to the place and displayed them on tables for sale.

Items which were not bought were carried back home after the day's activity. Unfortunately, the land owner dissolved marketing activities in order to use the land for a personal purpose. This led to an absence of an open space for trading in food items in Ejuratia for more than ten years. Various unplanned developments in relation to buying and selling of food items emerged during this period. While some owners of the few existing shops started to trade in items which are sold in markets, some inhabitants (most of them used to sell in the open space market) constructed new small scale shops in front or attached to their houses to sell both items sold in shops and markets, and yet others established mini markets. Some women also displayed food items on tables along the streets for sale and others engaged in mobile trading. These developments are seen as 'undesirable' by community leaders such as the Assemblyman.

*“A sizeable community as Ejuratia had no market all this while. Although, this was not the best situation, there were no funds for such a project as a community and had not received any support for it from the Assembly. Hence, we as leaders could not in any way cease nor control the undesired manner in which trading was being carried out in this community. For example agricultural produce have always belonged to markets and not sold shops”, (Assemblyman for Ejuratia, Field Survey, May, 2017).*

The statement above further confirms the earlier argument on the deterministic notion in Ghana on communities and markets. Thus, community leaders of Ejuratia were hoping for an opportunity to control these 'undesirable' developments by concentrating all marketing of food items in their 'dream' market infrastructure at any time when it would materialise. Meanwhile, the inhabitants of Ejuratia (of which these leaders are part) had been accustomed to living without an intentionally planned market as they bought all needed items from these available points of sale and not from a market.

With the support from Afigya Kwabre district assembly and funding from an external donor (a minister of state), a market was planned for and finally constructed in 2012 in Ejuratia. The minister gave out funds purposely for the construction of a market for Ejuratia as revealed from interactions with community leaders and members. Community members and leaders

(both traditional and political) were then involved in providing the needed support such as information, labour among others to ensure its construction (Field Survey, 2017). However, it can be said that this involvement was to support the existing notion that a community as Ejuratia needed a market.

Although situated in the centre of the community and can be accessed by vehicles, this planned market (see Figure 11) has been neglected.

*“All efforts to make these women use the market have not worked. I still don’t know why they prefer to sell food items at unwanted places instead of using the market infrastructure,” (Unit committee chairman for Ejuratia, Field Survey, May, 2017).*

‘Controlling’ efforts including announcements at the Ejuratia information centre, meetings with community members and even threats to arrest and prosecute shop owners trading in items that are to be sold in markets, have all failed. The market is still not used after all these ‘command and control’ mechanisms. This further indicates that efforts that are based on the view that the world is fully certain and straightforward are limited in our contemporary world. The context (Ejuratia) is rather open, dynamic and complex.

➤ *Evidence of complexities and non-linear changes in Ejuratia*

Small scale shops, mini markets together with other points of trading in food items in Ejuratia had replaced the market infrastructure long before one was constructed. Drawing from the studies of Zuidema (2016) and Boelens and De Roo (2016) on complexity, Ejuratia as a complex social and physical system together with its parts (inhabitants) have revealed features such as ability to evolve over time and change, adapt to contextual situations and produce unpredictable behaviours. Additionally, openness to change in points of trading with time enhanced the emergence of other means for buyers to purchase food items when their initial ‘market’ was dissolved. Thus, the need for continuous ‘survival’ without a market is explicit with series of innovations or unplanned developments in terms of points of trading. All these features confirm the reality of dynamic complexity.

In the absence of a market in Ejuratia, the alternative to travel to other communities to buy needed items existed. But, enhanced means for faster communication made this option slim

and not further pursued. Thus, some inhabitants as agents of change bended the absence of a planned market over ten-year period to their advantage. While some invested in developing small scale shops and mini markets among others, consumers adjusted their behaviours to cope by buying from these available points. Consequently, their ability to adapt to contextual situations or adaptive behaviours have culminated in what is presently seen as ‘unwanted places’ or ‘undesirable situations’ by community leaders. Instead of decision makers (community leaders and the minister in this case) and planning institutions that were responsible for constructing market to accept and adapt decisions and plans to those contextual situations, they could not let go their rigidity on the fact that a community as Ejuratia had no market. Hence, their determination to control or restrict these changes through planned intentions – market infrastructure.

Additionally, these change processes are evolutionary (unplanned) and very much interdependent. Success of investments and operations in alternative points for trading in food items is attributed to the availability of buyers of consumers in Ejuratia (since they chose not to travel to other communities to buy food items). This has resulted in co-evolutions - changing structure and function of markets – other points of trading in food items aside the market. Co-evolving processes have been gradual in nature stretched within the ten-year period of an absence of a market. Moreover, this period of absence created conditions which stimulated or enabled differentiations in points of trading. A potential constraining factor would have been the success of strict regulations that aimed to concentrate all trading activities into the planned market infrastructure. This however could not materialize. Availability of buyers for these points of trading are conditions which such change or transformations depend on.

The history concerning the commencement of marketing activities in Ejuratia shows that there was an absence of external coordination or planned actions; marketing activities in this community emerged autonomously as inhabitants organised the markets themselves on someone’s land. The various unplanned points of trading existing presently in Ejuratia reflects the past and its ability to influence future developments; a path dependent development. On the other hand, the location of the market within the centre of the community and accessible



by vehicles and yet abandoned further points out that changes have emerged with time. The manner in which activities were conducted in markets have changed with time.

*“I am not willing to move into the market though it has been allocated freely to users. As it stands now, the stalls are very few to contain all the sellers in this community. There is a vast land left around the market which could have been used construct lockable stores and other basic facilities to make it conducive for buying and selling which are currently absent”, (Owner of a mini market in Ejuratia, Field Survey, May, 2017).*



Figure 11: Abandoned market infrastructure in Ejuratia  
(Source: Field Survey, May, 2017)

The free allocation of stalls in the Ejuratia market should have stimulated the use of the facility, however, changes that came with time have indicated otherwise. Unlike in the past where market women in Ejuratia carried items to and back for sale in open space market, the absence of storage facilities and lockable stores and other facilities in the infrastructure have contributed to its abandonment by community members. As seen from Figure 11, there are no storage facilities or lockable stores for users (Bampoe, 2016). From the statement of this respondent, the size and availability of some facilities like lockable stores makes marketing more conducive and convenient. Such conduciveness and a bigger infrastructure for trading in

Ejuratia was not incorporated in the infrastructure and have still not been achieved since 2012 when the market was completed. The deterministic attitude of governing authorities like the minister, community leaders and planners contributed to absence of accepting changing situations in Ejuratia, but their strong willingness to control the community which has resulted in the abandonment of the market. Thus, the need for a new frame of reference that accepts change and probability of unplanned changes is needed in planning. This will help in making investments both from external sources and government achieve intended objectives as these aim to address challenges of communities.

### 4.3.3 Nyaboo market infrastructure

Nyaboo is a rural community in with an undulating landscape. Due to this special landscape feature, most parts of the community along the connector road are on the hilly side while the some parts are in a valley. Marketing activities in the past commenced in an open space along the road, on the hilly side of the community.

*“This community did not have any market. As a leader, I did my best to lobby for a market for this community. Fortunately, funds for a market were available in 2007 at the Assembly. The current space for marketing activities was too small. The chief then allocated this area which was bigger for the construction of the market,” (Queen mother for Nyaboo, Field Survey, May, 2017).*

Community members were involved to provide the needed labour for the market’s construction. This case to an extent was top down with some level of participation. The extent to which community leaders pursue their preoccupation on the fact that every community needs a market as well as how this drives their efforts clear from this statement. Subsequently, there was failure to recognize and consider critical issues such as ongoing changes among others in Nyaboo which stemmed the neglect of market by users (see Figure 12).

Decision makers had the intention of constructing a bigger infrastructure so a new location was chosen on such premise. The previous space for marketing activities which was seen to be small has been sold out by the chief. This new spacious location is however on the other side of the community which appears to be a valley. This location was also chosen because

the market was built purposely to serve the community of Nyaboo as mentioned by another community leader.

*“Anyone who does not know of this market is a stranger, everyone in this community is aware there is a market in Nyaboo and knows where to find it,” (Unit committee chairman for Nyaboo, Field Survey, May, 2017).*



Figure 12: Abandoned market at Nyaboo  
(Source; Field Survey, May, 2017)

*“The location of the new market is not conducive at all. Marketing activities in the previous open space market was very successful because the passengers of vehicles that ply the road especially the private cars bought majority of our agricultural produce”, (Owner of a mini at Nyaboo, Field Survey, May, 2017).*

This respondent like many others made explicit the reasons for their abandonment of the market. Findings revealed that the market was used for some time before it was totally neglected. The ‘hidden’ location of the market which obstructed access to the expanded scope of buyers is the prevailing factor that actually resulted in its abandonment. Relevant past trends were ignored since both adopted approaches are time insensitive. This further shows the extent to which this deterministic and rigid attitudes can lead governing authorities in their decision and actions. This abandonment propelled the emergence of unplanned developments

in Nyaboo.

➤ *Evidence of non-linear developments and complexities in Nyaboo*

The need for visibility by market women in Nyaboo is seen to be very crucial as mentioned by the respondent (see previous page). Although the need for visibility of markets have been common since time past, it was very eminent in Nyaboo considering the initial spot where trading activities developed. The old location on the hilly side was visible and enabled purchases from both potential buyers (example; drivers of private vehicles that used the road) and community members. Such a path dependent trajectory was ignored on the basis of the need for a bigger market while planning for the Nyaboo market. Considering such path dependencies in planning of the Nyaboo market would have enabled responsive efforts.

Further, the new market is made up of only stalls for various commodity dealers (see figure 12). This implies that market women have to carry their items to the market and back home after the day's activity. This trend has been a past characteristic of markets in that were developed in small villages (Ardayfio, 1980). With their location within central parts of communities, farmer-traders who decided to sell a portion of farm produce in their villages could convey them easily from their homes to markets for sale and any leftover back home. Thus, absence of storage facilities or lockable stores was not problematic. However, this situation has changed with time. Just like in Ejuratia, this absence does not make marketing activities convenient to sellers. Locating markets in the centre and/or along roads were enough to make trading conducive in the past. Unintended changes evident with the demand for storage facilities and lockable stores in addition to these locational preference indicates that points of trading are not closed, but open to change.

*“The current demand for storage facilities and lockable stores have not been part of the ‘normal’ trend of markets for rural communities” (Municipal Planning Officer, May, 2017).*

This assertion of the planning officer explicitly shows the perception on rural communities and their markets. In contrast, rural communities as well as their markets have indicated an ability to change (even non-linearly) through time. This is evident with the identified failure

of what worked in the past – markets in centre of communities without storage facilities – to work in contemporary times. For instance, farming as the main economic activity of rural dwellers has changed with time. Respondents who happen to be owners of these new points of trading are engaged in trading as their main economic activity. Thus, contemporary rural communities differ from the (pre) colonial villages. These are all indicators of changes in space through time (Field Survey, 2017). Consequently, decisions today should be based on past trends and as well consider changing circumstances and even the possibility of unintended and autonomous developments to produce successful outcomes.



Figure 13: Small scale shop at Nyaboo  
(Source; Field Survey, May, 2017)

Change and non-linear developments have been reflected points of trading in Nyaboo (see example in Figure 13). New developments in points of trading after abandoning the market started with existing shops selling food items that were the preserve of markets which was later followed by establishment of mini markets and small scale shops. Displayed in the Figure 13 is a small scale shop made up of a lockable store where agricultural produce are traded in addition to other items known to be sold in shops. The location of this shop by the road and on the hilly part of the community (Field Survey, 2017).

*“These new joints for trading are really helping us. I get every food item to buy in this community without travelling to Konongo,” (Native of Nyaboo, Field survey, May, 2017).*

De Roo (2017) argued that planned interventions can lay a foundation for unplanned or autonomous developments and vice versa. The inability of planned market to meet the current needs of the community became contingent for the development of new structures with preferred facilities and designs and at suitable locations by inhabitants as points of sale for food items. Although there is a good road that connects Nyaboo to Konongo the Municipal capital (see Figure 8), inhabitants are reluctant to travel to buy from this urban area as mentioned by the respondent (see previous page). This reluctance acts as an enabling factor for developments and successful operation of the unplanned markets at Nyaboo. Moreover, their entitlement or ownership of land on that part of the community by these owners is supporting success of their activities as such locations renders them visible to even benefit from ‘external’ buyers. A potential constraining factor will be future expansion of the built environment and roads in the community which will result in a demolishing of these ‘markets’ due to their closeness to the road (see Figure 13).

The development of new points of trading to ‘survive’ by actors in the absence of a market in Nyaboo indicates adaptive behaviours. Actors (sellers) have taken advantage of the situation of abandoned market with evidence of diversification in items sold and developments of new points to sell items that are the preserve of the markets. These developed points are currently playing the role of markets and have replaced the Nyaboo market. Subsequently, this replacement or gap filling situation indicates processes of jointly changing structure and function or co-evolutions.

These dynamic processes of change in Nyaboo upon the rejection of the market confirms the reality of dynamic complexity. Nyaboo as well as points of trading are complex, open and changing often. This makes these complex systems less predictable and able to change even non-linearly. Consequently, an acceptance of these possibilities by decision makers and planners is relevant to make their interventions responsive to contextual situations and changes in the context.

#### 4.3.4 Kwamang market infrastructure

Kwamang is a small settlement, about 900 metres from the community of Bagyewe, all in the

Bekwai municipality. Bagyewe has a well-established market with periodic market days as well as vibrant daily marketing activities. Inhabitants of Kwamang have been used to trading in Bagyewe and in some cases Bekwai and Kumasi. They used to carry farm produce to these markets where they could have access to higher sales and incomes and bought what they needed from there. The study revealed that this trend has changed with time due to comparatively lower production levels of farmers. According to the traditional leader, poor weather conditions and consequent involvement of some community members in other economic activities other than farming have contributed to lower food production levels (Field Survey, 2017).

As a result of this, most of the agricultural produce sold in the community were bought from other communities including Bagyewe and in some cases Bekwai and Kumasi. These were bought in smaller quantities and sold behind the palace by some few women. In 2004, the conditions of the road along which Kwamang is located were improved. Consequently, the number vehicles that run from Kwamang to other places increased making journeys faster, convenient and at a lesser cost. Improved accessibility was seen by leaders as a facilitator of development as it would attract more people to relocate to Kwamang. To benefit from the expected relocation or in migration, the market (see Figure 14) was seen as a vital infrastructure.

*“Every community needs a market of its own. As a local development infrastructure, it creates opportunity to raise revenue in the form of fees and provides employment for community members”, (Assemblyman for Kwamang, Field Survey, May, 2017).*

This relevance attached to markets further underpins the strong willingness of decision makers and planners (in Kwamang and earlier cases discussed) to construct markets in communities. With the support of the Assembly, community members and leaders, a market was constructed in Kwamang in 2006. The market was constructed along the road that links the community to Bagyewe, Bekwai and Kumasi. Kwamang is on one side of this road (see Figure 14). In contrast to the cases of Nyaboo and Antoakrom, this market is visible to visitors as it is at the entrance of the community; along the main road and the main street or route in the Kwamang community (see Figure 14). Unlike in Ejuratia, it is not situated in the

central part of the community but quite close to the residential units in Kwamang (Field Survey, 2017). There were some few shops located in between the market and these houses. Trading activities commenced in the market for some time before the infrastructure was totally abandoned. Interactions with community members revealed some underlying factors that contributed to such an abandonment.

*“Selling in the market was not encouraging. Just when we started selling in the market, the owners of shops in between the market and the houses also started selling the same items which were sold in the market. Therefore, people bought from those shops and did not bother come to the market”, (Former market woman in Kwamang, Field Survey, May, 2017).*



Figure 14: Location of points of trading at Kwamang (Source; Field Survey, May, 2017)



➤ *Evidence of complexities and non-linear developments*

This sudden change in the functions of the existing shops in Kwamang and their success in playing well the role of markets with time led to the market's abandonment. Drawing from this situation, it appears there were no difference in the food items that were sold in the market and what these shop owners sold. Put differently, if items in the market were better in terms of prices, quality, packaging among others, consumers would have been motivated to walk farther. Not disputing the already established fact of the diminishing social function of markets, this assertions are peculiar to the case in Kwamang. The distance between some of these shops and the market is less than 50 metres or 2 minutes' walk as shown in Figure 14. This is far different from Antoakrom where the new market is distant from the community.

These evident non-linear changes in space and time have showed that points of trading (system) in Kwamang are not closed to changing situations. This open nature enhances interactions at various levels in the system, between it and its parts as well as between it and its context and with the world at large. This has contributed to emergence and continuous increase in the number small scale shops with some new mini markets in Kwamang. These continuous interactions results in changes which can be confirmed from the statement below;

*“The sale of agricultural produce and food items in my shop even makes trading faster. We cook every day and make use of these food items. These ones are demanded more frequently than anything else in this shop. So I decided to sell them in addition to the detergents, confectionaries and others I used to sell” (Owner of small scale shop in Kwamang, Field Survey, May, 2017).*

Indications of adaptive behaviours among owners of small scale shops and mini markets are explicit from this statement. They took advantage of their location in space to play the role of markets. The possibility of such processes further reveal that Kwamang and points of trading are not frozen, static, or closed but open to change and developments. Consequently, actors or agents of change have also changed behaviours through interactions with their context.

Moreover, the anticipated impact of improved accessibility on this community has still not been witnessed. Rather, it has supported the developments in these alternative points of trading. Owners of these points take advantage of the improved accessibility to convey items in bulk to be sold in Kwamang (Field Survey, 2017). Absence of direct causal relations or simple and straightforwardness in Kwamang is clear from this situation. The predictions of community leaders have not been successful since Kwamang is complex system. Although change was anticipated by leaders, it was skewed towards a particular direction and no room was left for any alternative or non-linear and unintended changes. As a result of the linear view by planners and decision makers, other possibilities as changing role of shops were not taken into consideration. A ‘lock-in’ situation (Tempels, 2016) has been an outcome of this linear or closed view – abandoned market. Therefore, an acceptance of the reality of non-linearity is crucial to planners and decision makers in Ghana and elsewhere.

Kwamang is now surviving with the presence of these privately developed mini markets and small scale shops which supplement produce of the few farmers while the constructed market has been abandoned. These differentiated points of trading in food items took after the market. The improvement in accessibility which has enhanced lower costs incurred in travelling to purchase items in bulk for sale in Kwamang. This has become the prevailing situation with which points of trading have depended on or contingent transformative conditions. Moreover, the strategic location of these shops and mini markets have enabled their success in replacing the market.

Changing from trading ‘outside’ (Bagyewe in the past) to trading ‘inside’ was gradual and evolutionary. Similar to some of the cases discussed earlier, these non-linear developments and their current functionality as markets in communities have resulted in a co-evolution. All these processes of non-linear changes and developments again supports the fact that decision making, planning and implementation of markets in rural communities like Kwamang is far from simple but complex and less certain. Consequently, planners and decision makers need to accept the realities of these dynamic processes of change to enhance their understanding of communities for better informed and responsive actions and interventions.

➤ *Comparing of cases*

The relevance of the initial points of trading is common in all the cases studied. These were open spaces in Nyaboo, Ejuratia and Kwamang and the old market in Antoakrom and they favoured higher sales due to their visibility and closeness to majority of community members. These features or past trends were not given much attention while planning for (new) markets in all the cases. Again, these currently abandoned markets were all used temporarily before complete abandonment. In addition to ignorance of past trends, their abandonment was due to the existing (Ejuratia and Antoakrom), simultaneous (Antoakrom and Kwamang) or after (Nyaboo) emergence of alternative mediums of trading in food items. Alternative points for trading in all four communities are mostly located along connector roads and/or main streets in communities and in densely populated parts of the communities which makes them visible. The presence and availability of buyers have contributed to the success of these points of sale in all communities. On the part of community leaders and planners, all cases have revealed their strong willingness to ensure that every community has a market of its own. Such deterministic attitude resulted in none acceptance of ongoing changes in communities during planning of the now neglected markets. Also, similar solution mechanisms have been adopted by these authorities - like frequent announcements - to make these markets operational and these have still not succeeded.

One unique finding is the differences in the location of these (new) abandoned markets. While the planned market of Antoakrom is located the outskirts, it is found in a valley in Nyaboo, at the centre of Ejuratia and along the main street and connector road in Kwamang. The case of Antoakrom is quiet exclusive as the old market still functions alongside the alternative points of trading. The rapid continuously increasing size and population of the community further supports such a situation. Also, improved accessibility in Kwamang, great requirement of visibility in Nyaboo and ten year period of no market in Ejuratia respectively enhanced the development of alternative points of trading. The external source of funding for new market distinguishes the case of Ejuratia. The experienced processes of non-linear changes and developments as well as how governing authorities are respond and should respond are discussed in the next sections.

**4.4 Dynamic processes of developments from cases**

Further, these cases have indicated various dynamic processes of change in points of trading. These resulted from the open and complex features of points of trading to changing situations in the world and communities with time. This openness and ability to change through time have led to non-linear developments which occurred at different times, under diverse conditions and with various influencing factors. The developments in points of trading in the form of mini markets and small scale shops as shown in Chapter 3 (Figure 5) have been common in all the four cases. These have completely replaced markets in Ejuratia, Nyaboo and Kwamang and partly in Antoakrom, and contributed to rejection of markets by users and beneficiaries. Figure 15 shows these differentiated forms of unplanned developments based on the rural cases studied. There is a market in the figure because all these unplanned points of sale took after the market (selling of food items). However, the current inoperative status explains their dotted outline.

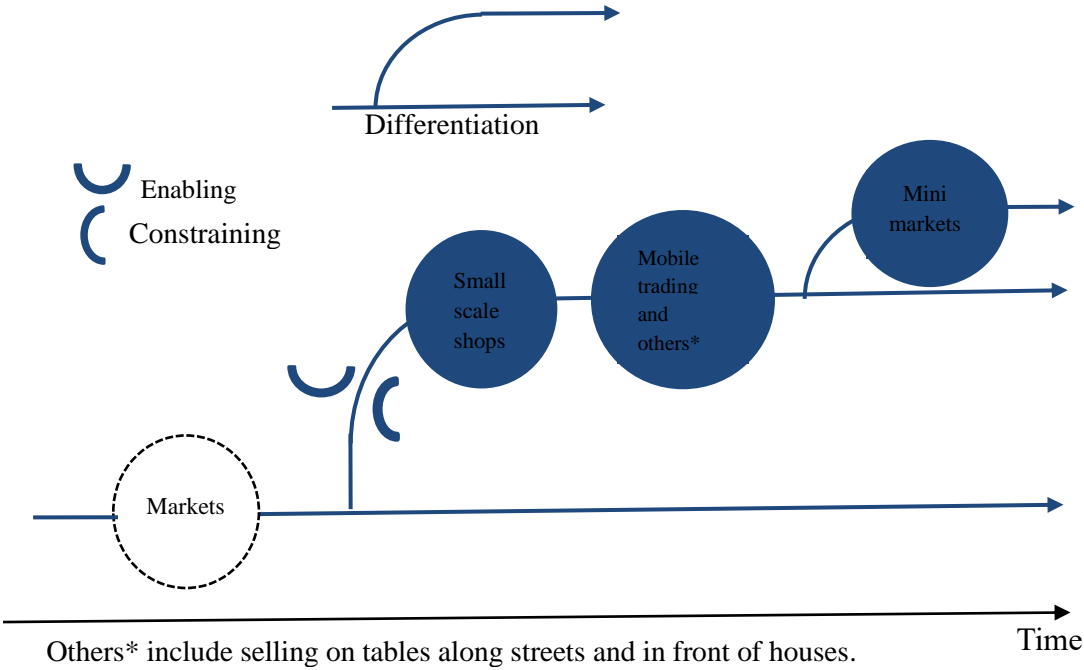


Figure 15: Differentiations in points of trading based on cases studied

(Adapted from De Roo, 2017)

**4.5 Institutional response to non-linear changes and complexity**

The cases elaborated above have indicated the realities of complexities in the form of non-

linear developments in rural communities, which are products of the open and complex nature of communities as well as points of trading. Meanwhile, planning institutions have their focus only on promoting effective stakeholder participation in development planning in the midst of all these transformations. Strategies are continuously being developed to actually decentralize decision making process to ensure that sub-district structures, community leaders and Assembly members present needs and aspirations of community members for subsequent implementation. DPCUs organise frequent durbars to prioritise needs and aspirations of communities with beneficiaries. Prepared plans are taken to communities for their approval. Review meetings and Town hall meetings are regularly conducted to seek for new ideas from people concerning already listed projects that could not be implemented and would be ‘rolled over’ into the plan of the ensuing years (Field Survey, 2017). But, all these current intensive efforts have still not been enough in identifying and considering changes and complexities in communities into decision making, planning and implementation.

From planners and decision makers’ perspective, every community must have a market, which should serve the community and in some cases other neighbouring small settlements. However, the cases elaborated show otherwise. Not all the studied communities needed a market; Ejuratia would have still survived even if no markets were planned and constructed based on the developed points of trading in food items. Thus, this perspective of ‘one community one market’ is deterministic and emphasise the inability to let go ‘control and certainty’. It appears from all these studied cases that planners and decision makers have a ‘prescribed’ and ‘certain’ view of how every community must be like especially in terms of various points of trading. The community’s market must exist and be the location for buying and selling of all food items. Thus, participation at community levels on markets are based on such notion. However, various autonomous locations are emerging with time to play this expected role of markets. These autonomous locations are also sources of revenue to the district and employment to local people, thus planning for markets needs more additional critical evaluation measures based on processes of change and unplanned developments.

Current development planning processes clearly reveal that autonomous developments or non-linear changes are still not been part of the frame of reference of Ghanaian planners.

Moreover, the nature of these autonomous developments have been progressive. Their ability to take up the assumed role of classical market infrastructure is therefore far from consideration by planners and community leaders. This spontaneity is therefore seen as a problem that needs to be solved. Regulations and sanctions are being employed to concentrate all buying and selling of food items which were the preserve of the market into the market or give a clear description of what should be sold in the market and what should be sold in the shops. These endeavours have still been futile. Further additional approaches as well as improvements in current processes are relevant. For instance, alternative points of trading in a community would be evaluated to ascertain if a community still really needs a market.

From the foregoing, reliance of Ghanaian planners and decision makers on technical and communicative approaches without acknowledgment of time is resulting in several problems. For instance, all markets studied are totally abandoned and left to be overgrown with weeds. As it stands, the abandoned structures can only be useful when converted into other uses as communities are not willing to use them as markets. Thus, there is the need for an acceptance of non-linearity as the frame of reference to guide purposeful interventions as the critical initial step in the decentralised planning system of Ghana. Community participation or communicative approaches based on a non-linear reasoning are crucial to development planning; both in cases of markets as well as other infrastructure projects. This will even improve participation as key stakeholders would all be involved and at relevant stages. Moreover, time sensitivity and recognition of change and possibility unplanned developments will be enhanced based on this frame of reference. Consequently the emphasis of planners and decision makers will are not be on market allocation or ‘end products’, rather on the changing processes taking place in the community.

#### **4.6 Summary**

This chapter has presented different cases of abandoned markets in different rural communities in the Ashanti region of Ghana. While population growth and improvement in socio-economic conditions promoted further developments of unplanned trading points in Antoakrom, the lack of a planned market for over ten years in Ejuratia resulted in the development of these unplanned points for trading. Ignorance of the critical role of past trend

of visibility of markets culminated in such non-linear developments in Nyaboo while the unpredictable behaviours of inhabitants of Kwamang owing to open and complex nature of points of trading led to rejection of the market. Generally, the demand for visibility for points of trading is a path dependent trend in Ghana. The reduced social functions of markets courtesy technological developments and expansion of the scope of potential buyers have extremely advanced the demand for visibility in markets today.

On the other side, planning institutions are putting in various intensive measures to ensure stakeholder participation while these changes remain unattended to. Moreover, planners and decision makers hold on to some deterministic views such as every community must have a market of its own, and on how the market of a rural community should look like as well as whom it should serve. Communities or beneficiaries are therefore involved on such premise. These strict predictions and descriptions further contributes to their inability to recognise the gradually emerging, developed or the possibility of unplanned trading points for sale of food items and how these influence planning interventions in communities. Based on findings from these cases and theoretical insights from the complexity sciences, propositions for development planning in Ghana have been developed. The ensuing chapter therefore covers some recommendations to managing these complexities in Ghana.

## CHAPTER FIVE

### MANAGING COMPLEXITIES IN PLANNING

#### 5.1 Introduction

The ability to respond to the changing world and complex and open nature of communities are presently major challenges for the planning and implementation of projects in Ghana. The incidence of abandoned infrastructure projects such as local food markets among others are typical evidence of the limitations of current planning processes to respond to these features. Defining and constructing of ‘end products’ and how to get them accomplished (example; every community must have a market) are the main concern of planning institutions and these have not been easily successful (as discussed in Chapter 4). The massively emphasised process of stakeholder participation in Ghana’s decision making and planning is relevant. Conversely, the evidence of abandoned markets challenges its focus (on ‘end products’) and its adequacy in planning for changing, complex and open contexts. Instead the focus should include an acceptance of change and feasibility of non-linear developments in time and space. Beneficiaries should thus be involved based on such view or mindset framed by an understanding of change.

In addition to existing mechanisms that centre on ‘what to plan’ (markets) and ‘whom to plan with’ (community members), issues of ‘how to plan while being adaptive’ (keeping planning processes and tools flexible to correspond with changing situations) are crucial to planning efforts (Rauws and De Roo, 2011) in Ghana. This study has critically analysed developments of markets, occurrence of abandoned markets and the policy framework that guides their planning and implementation. Unresponsiveness to (non-linear) changes in communities and differentiations in the points of trading have contributed to abandonment of deliberately planned and constructed markets. The deterministic view with which governing authorities make decisions and plan enabled such unresponsiveness and time insensitivity. Notions from complexity sciences have been employed in this study to facilitate the development of meaningful measures for planning and implementation of infrastructure projects. These form the subject for discussions in this chapter.

#### 5.2 Critical reflections: Relating theory to practice

Markets in Ghana have been playing several roles in the nation’s development. Planning for



the development therefore tend to highlight the fact that every community should have a market in order to promote local and national development. This notion has influenced the processes that are undertaking during planning and implementation of markets. Stakeholder participation as a crucial development planning process is therefore based on this deterministic notion with regards to markets. However, with time several changes have emerged in the nation, across the globe and in communities that influence the role of market infrastructures. The ability of such changing trends to affect markets and communities is attributed to their complex and open nature. The emergence of alternative points of trading in food items like small scale shops and mini markets (seen in Chapter 4) are outcomes of such changing, open and complex features. This and other indicators of change have made their planning more complex. But, planning as well as its processes still centre on defining and constructing end products and relying on such deterministic notion. Consequently, these changes as well as their influence on the outcome of planning are hardly accepted and considered in development planning as well as its processes like participation, and results in abandonment of some market projects.

Changing patterns as well as the complex and open nature of places are theoretically categorised under the umbrella of dynamic complexity. Dynamic complexity and its associated concepts focus on progressive and non-linear developments that are stretched through time. The contextual review (Chapter 2) clearly revealed that changes have emerged in relation to markets. This revelation made resorting to notions of dynamic complexity a more suitable direction for this study. Empirical evidence from the field (cases in Chapter 4) further confirmed that situations in rural communities as well as their points of trading in food items have actually changed. The change is marked by replacement and/or taken after markets in terms of buying and selling food items by mini markets, small scale shops and other alternative points for trading. Such change could be explained with the concept of differentiation. Several developments that will later emerge either to exist in parallel or take after markets can still be captured using this notion. For instance, selling on tables in front of houses and along streets which were seen in Ejurata could be included in Figure 15.

Planning and decision making that aim to attain objectives, handle current challenges and

make meaningful impacts must therefore appreciate the possibility of unplanned and non-linear changes with time. Meanwhile, these has not been part of traditional planning theories and practice. Hence, the initial step is to accept the reality of complexities - complex and open nature of issues as well as non-linear transformations - by having a different frame of reference or perception on situations and the nature of the world in which planners seek to intervene. This perception is one that is based on an acceptance of the possibility of unintended change and autonomous developments in planning. Planning processes like stakeholder participation have to be undertaken in the light of this acceptance. Drawing from the detailed empirical evidence - enabled by the adopted qualitative case study research strategy - as well as related theories used, planning in Ghana need to be adaptive and flexible to accordingly co-evolve with their changing context and situations.

The concepts related to dynamic complexity have helped in understanding and exploring the subject of coping with the complexities involved in planning and implementation of rural markets. However, the practical application of these notions in Ghana and elsewhere will require capacity building and training of practitioners to be able to adequately grasp and implement adaptive planning measures or interventions underpinned by these notions. This is because these are novel, and these practitioners are still glued to the 'traditional' planning approaches. Hence, presenting only recommended steps to be followed (De Roo, 2017) is inadequate in such an endeavour.

### **5.3 Answering research questions**

- **What are the complexities associated with planning and implementation of market infrastructures in rural areas in Ghana?**

Complexities include dynamic processes of development and situations which are less stable and could be constantly changing usually in a non-linear manner (De Roo, 2010). The structure and function of market as the only place for selling and buying food items has changed with time. Shops and mini markets have evolved to serve this same purpose especially in rural areas. Technological advancement as a product of a changing world has presented various devices that have enhanced communication, exchange of information and socialization. As a result, the social function of markets which encouraged longer distances

for trading in the past has lessened. Further, rural market as a local common good of communities which must basically serve community members has changed as sellers have a broader scope of buyers. This expanded scope of buyers has additionally increased the need of markets to be visible to all these potential buyers, although this visibility need has been in existence since time past. Another dynamic process in relation to rural markets is the current demand for storage facilities and lockable stores. Lastly, changes in the context (community) of markets such as growth in size, population and socio-economic conditions among others have resulted in an increase in non-linear developments and unpredictable situations in terms of places for trading; thus contributing to a rise in the numbers of mini markets and small scale shops in some rural communities. These less stable situations, dynamic processes of developments and differentiations that came with time have had influence on planning and implementation of market infrastructures in rural areas and made their planning and implementation encounter complexity. Lack of a frame that accepts and recognizes of the complex and open nature of places, changing situations and their subsequent incorporation in planning and implementation have contributed to the abandonment of market infrastructure projects in some rural communities in Ghana.

➤ **How adequate is stakeholder participation in managing these associated complexities?**

The complexities associated with planning and implementation of market infrastructures such as changing social function of markets due to technological advancements, emergence of unplanned mini markets, diversification in items sold in and establishment of small scale shops and other changing (non -linear) situations in communities were not identified and incorporated into planning through the adopted stakeholder participation. Although there was an (active) involvement of people and institutions who had influence and interest in market project outcomes and could be impacted by market infrastructure projects in decision making, planning and implementation (i.e stakeholders), cases of markets studied have been abandoned. This is because stakeholder participation - community involvement in planning by responsible governing authorities - was based on a predetermined frame of how the community must look like (it must have a market). Thus, communities and markets are viewed as closed and can be controlled and directed in desired directions. In contrast, the

evidence from cases have showed that such a reality is rare in rural communities. Accordingly, initial recognition of the reality of change as well as the feasibility of unplanned developments in communities should underscore stakeholder participation. Further, understanding of the open and complex nature of communities as well as points of trading and the impacts of these features on planning efforts can then be enhanced partly through stakeholders' participation. Stakeholder participation rooted in the communicative rationality is deficient in terms of time sensitivity in planning for rural communities which have shown features of dynamic complexity. In a case where a purely top-down approach was used in planning and implementation of market (Antoakrom), or a combination of both top down and community involvement (Nyaboo), markets have still been neglected by users and community members. In effect, an acceptance of the reality of complexity and non-linearity for stakeholder participation and in decision making, planning and implementation of projects in Ghana are necessary in managing these complexities.

➤ **Which additional measures will be meaningful for planning and implementation of the rural market infrastructure in a complex and frequently evolving world?**

Stakeholder participation based on the recognition that change and unplanned developments in space and time are probable is the first required measure. Planning and implementation of projects will better or to a higher degree be responsive to the needs of people when the reality of complexity in planning is accepted and acknowledged. To do this, decision making, planning and implementation actions and interventions must reflect the open and complex nature of communities as well as dynamic processes taking place in such areas. Past developments concerning the markets in a particular community will be useful in making planning actions time sensitive. Current changes in a community concerning the role and function of markets need to be of concern in planning interventions. Again, general changes in the world and specific changes taking place in areas surrounding the community being planned for which are related to the object of planning (eg. market infrastructure) must all be looked at since they have effects on planning actions. Although the attitude of actors is unpredictable, they respond to and adapt to changing situations in their context. Thus, being responsive to contextual changes would be helpful in managing possible unanticipated actions of beneficiaries of projects. Yet, considering that the world is not static but dynamically

transforming and that planning and decision making are not independent of their context, decisions and plans should remain flexible to make necessary adjustments possible whenever the need arises. In sum, adaptive planning and decision making measures are relevant since the context in which planners seek to intervene is not static but changing, and even in a non-linear fashion.

#### **5.4 Recommendations for planning of rural infrastructures**

As established earlier, decision makers and planners should look at communities and issues as complex and open and accept that change is possible and can even be unintended, unanticipated and spontaneous (i. e. non-linear). Such a frame should also guide planning processes such as stakeholder participation (collective decision making by planning authorities, community leaders and members). The responses to the study questions have also suggested more guidelines for managing complexities in planning and implementation of rural market infrastructures in Ghana. These are some more proposed recommendations in terms of managing complexities concerning infrastructure projects for rural communities.

##### **➤ Past trends**

The role and influence of the past even in a changing world should not be overlooked. Most developing trends are strongly rooted in their past. The historical developments of communities as well as the particular infrastructure under consideration are informative for current and future interventions. For instance, tracing back to the historical developments of markets in Ghana, areas which were much populated and/or doubled as convergence routes from surrounding communities were prioritised. These locations are still critical to ensure that markets are visible to both the community and potential buyers. Moreover, women still remain the dominant users of market infrastructure or people who handle marketing activities even after several years of the emergence of markets. Ignoring such past trends have resulted in rejection of markets. In effect, path dependencies are relevant to planning of infrastructure projects.

##### **➤ Broader consideration of issues**

Complexity accepts that interrelatedness of issues and contextual features are crucial in influencing the outcomes of planning interventions. Accordingly, the context is not independent of external influence through the existing feedforward and feedback mechanisms

which permits exchange of energy, matter and information. A better understanding of these for broader consideration can only be enhanced when it is framed by change. Although decisions concerning infrastructure for a community must consider its characteristics such as the main economic activity of inhabitants and others, the fact that these are all open to change must not be underestimated. Notwithstanding, context and case specific approaches are required in planning for communities. In this case, 'one-fit-all' solutions are not applicable. What worked well for one community may totally fail in another community when the contextual and specific features of the community are ignored.

Additionally, adaptation of planning processes and tools are relevant in managing complexities encountered in infrastructure planning. Thus, planning institutions and decision making bodies should balance well between flexibility and robustness in planning for infrastructure for communities. For instance, the focus of population change is usually linear; thus population growth for community development is mostly expected. However, a decline or stagnation in population is possible. Perhaps, population growth does not always guarantee community development. On the other hand, population change is accompanied by transformations which cannot be predicted and controlled beforehand. The rampant developments of various points of trading in Antoakrom gives a clear picture of such situation. Thus, planners in Ghana must be flexible and not anticipate only one direction of change and development because change is not always linear. This implies that the deterministic attitude and perception of planners and decision makers concerning communities and certain infrastructures in communities cannot survive as contextual situations are influential and the world is as well less stable. In effect, acceptance and sensitivity to time and change are crucial to enhance adaptability of Ghana's planning system.

➤ **Transformations and changing situations in the community**

Underlying the complexity sciences are dynamic processes of developments, feasibility of non-linear patterns and transformations, less stable nature of situations and the contexts that planners intervene. With time the economic and social importance of markets have changed, and there have been differentiations in points of trading in food items. Both changes do provide several useful in guidelines in planning for markets in Ghana. Likewise, infrastructure and the benefiting community are exhibit features such as complex and open which makes them transformative. The situations with which the issue or case (infrastructure) conforms to

while undergoing changes or transformative conditions need to be identified and considered in planning. Again, recognition should be given to the factors that inhibit or promote transforming processes in communities. Awareness of these conditions and factors facilitates flexibility in decision making and planning in a (non-linear) changing community. Moreover, this helps planners and decision makers to make meaningful interventions since planners cannot entirely plan everything. They can therefore stimulate transformative conditions and promote enabling factors where the process of change is acceptable. In contrast, such transformative conditions and factors should be regulated when unacceptable or negative consequences are envisaged or happening.

### **5.5 Areas for future research**

Current processes of planning institutions in Ghana are very much centered on the communicative rationality or stakeholder participation. This is seen as the ‘best’ alternative to the previously practiced centralised or ‘top down’ planning system. Several developments in space such as these mini markets and persistence of planning challenges clearly indicate the reality of a changing world and its influence on planning in space and time. However, the immediate willingness to accept this new frame of reference (non-linear rationality) and practical implementation of adaptive planning in Ghana still requires further investigation.

Reports by Rocco (2013), Andoh (2014) and Bampoe (2016) have revealed that the incidence of abandoned markets are also evident in urban and peri-urban areas. Studies by Rauws and De Roo (2011), Portugali (2006) and De Roo (2017) among other authors have indicated cities (urban areas) and peri-urban areas as very dynamic, adaptive and more complex. Consequently, future studies on the reasons underlying abandonment of markets in these settings is recommended. This would enhance the development of more insights on how planning and implementation of projects can remain meaningful and relevant in these settings.

The emergence of unplanned spatial developments such as small scale shops and mini markets as points for trading is increasing with time. The worrying situation is that their spontaneous nature has resulted in haphazard patterns in communities and mostly very close to road transport networks. Their haphazard nature will render future expansion of the built environment like extension of road transport networks very challenging. Moreover, the safety, health and general wellbeing of both sellers and buyers are at the risk of pollution and

accidents caused by vehicles. Further studies need to be conducted into the measures that should guide and manage their growth to mitigate such negative effects.

## 5.6 Conclusion

Decentralised planning institutions, planners and community leaders are investing much efforts into the development of communities' especially rural communities in Ghana. To promote development, the role of stakeholder participation is not underestimated in such efforts. Conversely, some development projects like markets have been rejected by end users and thus not achieving the objectives for their implementation. This entire study aimed to investigate the complexities encountered in planning and implementation of rural market infrastructures in Ghana and propose measures needed to make planning and implementation of projects meaningful in a complex and changing world. The research findings have clearly indicated that planning for rural communities is far from simple and straightforward since communities are less stable, complex and open. Put differently, the changing nature of the world coupled with the complex and open nature of places have made planning a complex endeavour.

With improvements in technological devices for communication and exchange of information, the motivation to cover longer distances to buy and/or sell in other places has been very minimal. Constant interactions and exchange of information between places have resulted in new requirements of storage and lockable stores in market facilities in some rural areas. Considering the increase in numbers of anticipated buyers, the criteria of visibility of a market infrastructure is very imperative. All these coupled with existing contextual changing situations in rural communities such as population growth, improved road transport accessibility, among others have laid foundation for the emergence as well as increase in the number of unplanned points for trading. Both small scale shops and mini markets are competing and replacing markets in most rural communities in Ghana. These dynamic processes in relation to points of trading have influence on the use of purposefully planned markets. The absence of recognition of these processes and subsequent incorporation by responsible authorities in planning led to abandonment of markets.

In view of this, cognizance to ongoing changes (usually non-linear) in communities and the



world at large as well as their complex and open nature are mentioned as key in the management of complexities associated in planning of rural market infrastructure projects. This cognizance is firstly required for undertaken participation in planning and decision making. Again, planners need to acknowledge these changes by accepting that the world does not always move as planned or expected but also develops spontaneously and in a non-linear manner. Consequently, autonomous developments such as unplanned markets are feasible in communities in which planners seek to intervene. There is the need to become sensitive to time, complex and open nature of issues as well as frequently (non-linear) changing communities which will continue to depict dynamic processes of developments such as adaptations, transformations and differentiations, and other unpredictable features. Understanding of these processes as well as conditions and factors that underpin such changes will promote formulation of adaptive and anticipative policy strategies in planning for communities and managing complexities associated with planning.

This study has contributed to practical and theoretical knowledge in the field of planning. The reality of complexity that planners and decision makers encounter in their interventions have been confirmed through this study. Findings on the existence and successful operation of unplanned ‘markets’ which have even taken up the role and/or co-existing with planned markets are vivid illustrations of the emerging notion of the non-linear rationality. The study has helped in bridging the existing research gap on abandoned markets in Ghana and in the planning discipline. Novel ideas enabled by the different theoretical basis employed in investigating the problem have facilitated the identification of some unimaginable and unascertained contributory factors. This is the fact that the changing nature of places as well as their complex and open features have much impacts on planning and decision making.

Dwelling mainly on the dynamic process of gradual changes termed differentiations, this study has contributed to the limited body of knowledge on this notion under the non-linearity and dynamic complexity in planning. Consequently, prudent measures that would, coupled with the existing planning approaches in Ghana, make planning and implementation of (markets) projects more meaningful and responsive and meet the needs of people have been developed. Practical and general guidelines on how development planning can be conducted

in a complex, open and (continuously) changing world have also been developed from this study. In sum, this study has contributed to the ongoing theoretical debate of dynamic complexity in planning and as well proposed some relevant measures on how development planners can manage complexities.

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## APPENDICES

### **Appendix 1: Detailed explanation of Research Methodology**

Presented in this section is an in-depth explanation and justification of the choice of research approach, design and methods adopted in conducting this study.

#### ➤ **Research approach or strategy**

Considering the need for deeper understanding of the problem of abandoned rural markets as well as the study's foundation on a 'transformative' worldview which accepts that situations and places change with time and these changes have implications for planning, a qualitative research approach is preferred to a quantitative approach. Qualitative approach allows different procedures to be used in mobilising less but detailed data from different sources. This would have been limited and/or impossible using quantitative approach as it does not provide in-depth and detailed knowledge rather several narrow (numerical) descriptions. Moreover, the advantage of using open-ended questions under this approach enhanced flexibility for identification of other issues relevant to this problem, and this is absent in quantitative studies where closed-ended questions are used. Accordingly, a qualitative approach supported detailed exploration of changing situations in the four studied communities and their contribution to the incidence of their abandoned markets, past and ongoing planning processes for markets in communities among others discussed in this report.

Moreover, a qualitative strategy was used to help in obtaining rich and in-depth information on an issue which has been less researched (Creswell, 2014) and as well support better contribution of such investigations to the establishment of theories (Rowley, 2002). Managing complexity in planning and implementation of rural markets in Ghana and the incidence of abandoned markets have respectively received no and very little attention in planning research in Ghana. Again, the theory of non-linear rationality with complexity sciences in planning are still developing. More specifically, 'differentiations' related these theories - which emerged predominantly in this study with evidence of alternative points of trading either existing parallel or taking after markets - is still in its infancy. This 'proto' theory is being developed by very few authors. Particularly, so far, De Roo (2017) has conducted a study on differentiations and transformations in space through time. This further explains why a lot of

the literature used in this study are centred around his research on non-linearity and complexity in planning. The use of a qualitative approach was therefore to help in securing detailed information from the empirical cases to confirm the reality of complexity and non-linear rationality and as well contribute to the establishment of this ‘proto’ theory. In effect, the study’s contribution to the ongoing theoretical debate on non-linearity, complexity and planning and as well in proposing measures to improve development planning practice in Ghana were better facilitated with the use of qualitative (case study) research approach.

### ➤ **Research Design**

Drawing from the studies of Yin (1994 ; 2003), Baxter and Jack (2008) and Creswell (2014), a case study is the adopted research design or strategy of inquiry in this study. This is because of its strength in facilitating better understanding of reasons underlying abandoned rural markets (i.e ‘why’), while taken note of the influence of changing, complex and open nature of communities in which these markets are located (i.e. ‘how’). Using case study design was more advantageous than other designs like surveys as it permits gathering more detailed data on several number of units from varying sources (Rowley, 2002; Baxter and Jack, 2008). Again, this design is chosen because managing complexities in planning is a real life issue. Further, the researcher has no ability to manipulate relevant behaviours of stakeholders nor situations in communities, as done in experiments.

Unlike grounded theories where theoretical findings are explored based only on the views of respondents or ethnographies where common patterns of behaviour, actions or language of particular group in their natural setting are investigated, data on the phenomena or ‘cases’ (which can be events, processes, person (s), program) being studied in a case study can be mobilised from varying sources (Yin, 2003; Baxter and Jacks, 2008; Creswell, 2014). Both patterns of behaviour and views of respondents can be studied as cases in a case study and analysed in the light of theories. While multiple stages of data collection and prolonged time are required for grounded theory and ethnography respectively, cases in a case study are bounded by time and activity. Again, case studies are more suitable when there are no clear boundaries between the context and phenomenon under consideration (Rowley, 2002; Yin, 2003). Thus, considering that the subject of enquiry is about the planning and implementation

of rural markets where not only shared patterns of behaviour or perceptions of respondents but the settings (rural communities) as well as their characteristics (open and complex communities) are all influential on the subject (planning and implementation of rural markets), a case study design is chosen. Moreover, the fact that planning of markets is not independent of their context (rural communities) makes case study the most appropriate research design.

Subsequently, cases needed to be selected and adequately explored to help meet the intent of this study. As a result, cases in rural areas were selected based on the emphasis of Ghana's decentralised planning system on the need to ensure participation in development especially in the rural areas (Boamah and Amoako, 2013). Rural areas are localities with less than 5,000 persons (Ghana Statistical Service – GSS, 2014). Cases in rural areas were purposively selected to discover how complexities associated with planning their market infrastructures are adequately (or not) managed through stakeholder participation. The selection was restricted to the Ashanti region of Ghana since it is the commercial hub of the nation (KMA, 2017).

Preliminary data on abandoned markets were initially collected from various sources such as news websites, staff and friends either working or residing in MMDAs with such markets. Statistical report of these MMDAs were reviewed to select the rural communities among the list of communities with abandoned markets which had been obtained (9 out of 14 abandoned markets were in rural communities). To finally settle on the number of cases and specific locations, a reconnaissance survey was undertaken visit all nine (9) cases of abandoned markets. Four (4) out of the nine (9) which were fully completed and abandoned markets were chosen for this study. Their status as fully completed were further confirmed by respondents in addition to the 'plaques of commissioning' on the infrastructures. Completed markets were particularly selected based on the study's focus on complexities encountered both in planning and implementation of these markets. Therefore, abandoned markets in these rural communities and respective MMDAs (Metropolitan/Municipal/ District Assemblies) were studied:

- Antoakrom in Amansie West District Assembly;

- Ejuratia in Afigya Kwabre District Assembly;
- Nyaboo in Asante Akim Central Municipal Assembly; and
- Kwamang in Bekwai Municipal Assembly.

➤ **Research methods**

Qualitative research methods were used for data collection, analysis and interpretation. In addition to its support of using open-ended questions, qualitative research method permits collecting and using data from multiple sources, as a means to increase credibility of data gathered and promote deeper understanding of the phenomenon being studied (Rowley, 2002; Creswell, 2014). Data was sourced primarily from the stakeholders of market infrastructure together with critical observations of the communities under study in May, 2017. Primary data mobilised from stakeholders was done with interview guides composed of open-ended questions and semi-structured form of interview. These allowed deeper probing into the issues under study and even permitted questions which were unanticipated prior to the interview to be asked (Longhurst, 2003; Kajornboon, 2005).

This further helped to obtain detailed views from the different actors concerning the incidence of abandoned markets, planning processes as well as identified changes in selected communities (such as the emergence of alternative points of trading). Respondents included market women and other sellers, residents and other buyers, traditional leaders and political leaders such as unit committee members and/or assembly members in each of the studied communities. The planning units of the respective MMDAs were consulted to acquire information related to the planning and implementation processes for market infrastructure projects. A maximum of nine (9) sellers and buyers in each community who agreed to participate in the study were randomly selected in addition to the available community leaders (both political and traditional) and planning officer (s) to participate in the study.

Data on the processes which were followed during the planning and implementation of the abandoned projects and the processes currently adopted in development planning and decision making in communities were mobilised. This was to allow the researcher to deduce changes that have emerged in planning with time. Additionally, data on the changes that have taken

place in communities, which relate to the market infrastructure and points of trading in food items were collected. Plans, documents and manuals were also used by planning officers to support or confirm their responses during the field survey. On the other hand, sources of secondary data included books, articles, journals, reports, the internet and other relevant materials. These sources provided relevant contextual and theoretical information for the study. Google images and auto card programmes were used for preparing maps of study areas while my mobile phone was used for taking photographs. The phone was also used in some cases for recording of the voices of some respondents with their permission to help have all details which could not be fully captured in writing, and for subsequent transcription. PowerPoints drawing tools were also employed in drawing some of the figures in the research report while other figures were adapted from secondary sources.

The use of qualitative data collection methods made it possible to obtain such detailed data from these diverse sources (beneficiaries, community leaders and planners, setting observations and literature reviews, documents) on various issues (planning processes, abandoned markets, changing contextual situations among others) to strengthen the validity of data and enhance better understanding of the incidence of abandoned rural markets. This multifaceted perspective also harnessed a triangulation of findings from various sources. For instance, some of the responses from the interviews were used in (Chapter 4) to illustrate and/or further confirm earlier (Chapter 2 and 3) contextual and theoretical discoveries on changes and developments concerning markets. To manage ethical issues and power relations which are associated with qualitative research (Rowley, 2002), participants were made aware of the intent of the interview of which they decided to participate or not. Moreover, in situations where respondents were in a group, the views of all were listened to, as a means to manage the challenge of power relations.

The main underlying proposition in this research is that changing situations in communities as well as their complex and open nature have influence on planning and implementation of rural markets. As a result, the difficulty of corroborating different data from varying sources for analysis which is associated with qualitative case study (Baxter and Jack, 2008) was managed in this study with the use of this underlying proposition. Based on the proposition, themes

were identified from the contextual and theoretical reviews. Collected data from varying sources on each cases were then converged to enhance a holistic understanding of each of the cases. These were then categorised under the identified themes. For instance, the recurrence of the need for visibility in markets which is indicative of a path dependent trajectory as a theme run through all the cases studied and were evident in both contextual and theoretical reviews. Collated data were then interpreted by using the theoretical concepts as a ‘templates’ for analysing the empirical findings. The development of alternative points of trading in food items parallel to or taking after market is an exemplar of a differentiation process and this has implications for planning and implementation of markets. Therefore, inductions or ‘making meaning’ were also used in the analysis. Based on the analysis, implications were drawn to help make recommendations for decision making bodies and planning institutions in each case and then generally. All these culminated in this research report, writing this report was however done concurrently as these processes were followed.

Recapitulating, although, a larger number of respondents were not covered under this approach (less than 50 people in total), a qualitative research strategy allowed for in-depth exploration and deeper understanding of each of the cases of abandoned rural markets and how changing, open and complex features contributed to this situation. The choice of a case study design was based on the fact that the planning and implementation of rural markets is a practical issue and is not undertaken outside its context. Qualitative research methods used allowed flexibility in collecting data as well as more detailed analysis. The use of a qualitative case study harnessed the contribution of this study to the ongoing theoretical debates and planning practice.

## Appendix 2: Interview questionnaire for district planning institutions

Name of district..... Position of interviewee.....Date:.....

### **Abandoned market infrastructure**

1. Why is the market abandoned?.....  
.....
2. Were all the stakeholders involved in planning of the abandoned market? Yes [ ] No [ ]
3. Who and how were the stakeholders involved?.....  
.....
4. Was the new market (now abandoned) constructed at the old site of trading or the first point of trading in that community? Yes [ ] No [ ]. Please explain your response.  
.....
5. Were there other points of trading in food items (eg. shops) prior to or while the market was in construction? Yes [ ] No [ ]
6. How were the possible influences of these points of trading on the role and function of the market considered?.....
7. Which other changing circumstances in the community were considered during the planning of the infrastructure?.....
8. How were ongoing changes in the world such as technological advancement for faster communication considered to have an effect on the social function of markets?  
.....
9. What measures have been put in place to revitalise the abandoned market structure?  
.....
10. What lessons that can be learnt from this abandonment for future decision making and planning for this community?.....  
.....

### **Managing complexities and, planning in the (continuously) changing world**

11. Do you accept the reality of complexities and uncertainties in planning? Yes [ ] No [ ]
12. Do you think the changing nature of this world has effects on planning interventions?  
Yes [ ] No [ ] Please explain.....  
.....

13. How are these complexities and changing nature of the world currently considered in planning interventions in communities?.....  
.....
14. How can the complexities associated with planning be managed in a changing world?.....
15. How are changing situations incorporated into planning and implementation processes and tools?.....
16. How adequate is stakeholder participation in terms of managing planning complexities in a changing world? Explain.....
17. What measures can planners put in place to meet the needs of communities in a world which is frequently changing?.....
18. What are the current functions of the planning institutions in terms of rural market infrastructure?.....



**Appendix 3: Interview questionnaire for community leaders (Political and traditional leaders)**

Name of community:.....Position of interviewee:.....

Date of interview:..... Name of district:.....

**Case of abandoned market**

1. Please, give a brief description on the history of markets in this community?  
.....  
.....
2. Why is the market infrastructure abandoned?  
.....  
.....
3. Was the new market (now abandoned) constructed at the old site of trading or where trading started at first in the community? Yes [ ] No [ ]. Why this response? .....  
.....
4. Which issues concerning the old market site were considered in the construction of the new market?.....  
.....
5. Were there other points of trading (eg. shops) prior to or while the market was in construction? Yes [ ] No [ ]
6. How were the possible influences of these points of trading on the functions of the market considered?.....
7. Which characteristics of this community were considered while planning for the market?.....
8. Were community leaders and members involved in the planning and implementation of the market? Yes [ ] No [ ].
9. How were these stakeholders (Q8) made to participate in planning and implementation of the market?.....
10. What lessons that can be learnt from this abandonment for future decision making and planning for this community?.....
11. What measures have been put in place to revitalise the abandoned market structure?  
.....

12. What plans are in place in relation to the abandoned market?.....

**Managing complexity and planning in a (constantly) changing world**

13. What are your main inputs in decision making and planning for the community?  
.....

14. Do you accept that the continuously changing nature of the world have effects on decisions and plans? Yes [ ] No [ ] Please explain yor response  
.....

15. How are these changes incorporated in the planning and decision making?  
.....

16. Which changing circumstances in the community are usually considered during the decision making and planning for the community?.....

**Appendix 4: Interview questionnaire for community members (sellers and buyers)**

1. Where did buying and selling in this community start?  
.....  
.....
2. Have there been any changes in the places for buying and selling in this community?.....  
.....
3. Why is the market infrastructure in this community not used?  
.....  
.....
4. Were there other points of trading (eg. shops) prior to or while the market was in construction? Yes [ ] No [ ]
5. Do you think the changes in places for buying and selling had any effect on the use of the market? Yes [ ] No [ ] Please explain.....  
.....
6. Do you think the possible influences of these points of trading on the functions of the market were considered? Yes [ ] No [ ]
7. Did you participate in planning and implementation processes for the market?  
Yes [ ] No [ ]
8. How did you participate in planning and implementation of the market?.....  
.....
9. Were you involved in the decisions concerning the design of the market?  
Yes [ ] No [ ]
10. Was the new market (now abandoned) constructed at the old site of trading or where trading started at first in the community? Yes [ ] No [ ] Explain your response.....
11. What measures have been put in place to revitalise the abandoned market structure?.....
12. What do you think can be done to restore the purpose of the abandoned market?  
.....  
.....

13. What informed your decision to establish this new mini market/small scale shop/selling on the street or in front of your house? (NB Where applicable)

.....

13b. Will you be willing to go to the market to trade under any circumstance?

Yes [ ] No [ ] Why?.....

.....

**Thank you very much for your time and attention!**

## **Appendix 5: Observational check list and extra required information from field survey**

1. The name of the abandoned market/ community;
2. Location of abandoned market (Centre or Outskirts) and how visible from any part of the community;
3. Number of communities market was expected to serve;
4. Distance of rural community to the district capital or neighbouring community with established markets and/or periodic market days;
5. Road conditions and access to means of transport (good or bad);
6. Facilities in the abandoned market (lockable stores, storage facilities, toilets, water, parking space, size of stalls /store etc);
7. Current alternative points of trading in place or addition to the market;
8. Changes (visible) circumstances in the community.
9. What role is the abandoned market playing currently?
10. Any other relevant issue of concern.