

**ANALYSIS OF SPATIAL PATTERN OF GRAINS AND VEGETABLES
RETAILING IN URBAN ZARIA, KADUNA STATE, NIGERIA**

BY

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SEPTEMBER, 2015

DECLARATION

I declare that this thesis entitled “ Analysis of the Spatial Pattern of *Gains and Vegetable Retailing in Urban Zaria Kaduna State Nigeria* ” was written by me in the department of Geography Ahmadu Bello University Zaria under the supervision of Dr. R. O. Yusuf and Dr. O. M. Adedokun. The information derived from literature has been duly acknowledged in the text and a list of references provided. No part of this thesis was previously presented for another degree or diploma at any university.

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CERTIFICATION

This thesis entitled “*Analysis of the Spatial Pattern of Grains and Vegetables Retailing in Urban Zaria Kaduna State, Nigeria*” by Shiaka Mary Titilayo (M Sc/SCIE/4597/2010-11) meets the regulations governing the award of the degree of Master of Science (M Sc) Geography of Ahmadu Bello University, Zaria, and is approved for its contribution to knowledge and literary presentation.

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DEDICATION

This thesis is dedicated to my loving and caring brother Mr. Olundu Raphael Kolade and his beloved wife Mrs. Kolade Josephine Shola ; to my husband Mr. Peter Gimba Shiaka and to my wonderful children Paul, Precious and Progress.

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ABSTRACT

Retailing distribution comprises the last stage in the marketing process before agricultural products reach the consumers. The features of the unevenness in the distribution is a great concern to geographers and other disciplines. Hence, the analysis of spatial pattern of grains and vegetables retailing in urban Zaria. In a broad sense, this study identified the location of retail outlets of grains and vegetables, characterized the pattern of growth and arrangement of this retail outlets, examine the factors responsible for the growth, analysis the challenges facing the retailer and provided solution to some of the challenges. The sampled markets are categories in to three as structured, semi structured and non structured and 360 copies of questionnaire were used to collect primary data together with interview. The study covers the period of thirty years (1980 - 2010). The study revealed eight selected markets with their year of establishment: Danmagaji Market (1983), Hayin-Dogo market (1986), Kofar-Doka market (1983), Kwangila market (1986), Pada Zaria City market (1993), SabonGari market (1918), Samaru market (1919) and Zaria City Main market (1837). The study also revealed the pattern of growth and arrangement in these selected market within the period under study. The nature of expansion is rapid among the structured market with exception of Zaria City Main market with low level of expansion together with semi structured and non structured market. The pattern and arrangement of retailers are clustered in Sabon-gari among the grains and vegetable retailers (Kasuwan Mata and Bayan gida Iya), dispersed pattern is traceable in all the market but common in Samaru Market. Unidirectional pattern is common in Hayin-Dogo and Kwangila Market. The result also revealed the factors responsible for the growth of both grains and vegetable as: good relationship with customer (15.35% and 24.4%), location of retail outlet (20.4% and 13.4%) and price (30.6% and 12.2%) respectively. However, factors that contributed to the growth of grains in addition with this factors are; population (25.5%) and government incentive (8.2%). For vegetables are freshness (31.7%) and perishability (18.5%). The study also examined the challenges facing the growth of retailing in the selected markets as shortage of land for expansion (31.1%), area prone to accident (7.7%) and inadequate trading fund (61.2%). On the other hand, vegetable has persihability (36.8%) and seasonality of the commodity (24.4%) in addition to the challenges faced by grain retailers. There are solutions proffered to this challenges, they are awareness and accessibilities to loan facilities ,involvement in corporative society, safety precaution and relocation of market to less accident prone area. In conclusion, the spatial pattern of growth of retailing in the sample market under study revealed that the nature of expansion is rapid among the structured markets and most are clustered. Semi structured and non structured markets are relative low and are mostly in unidirectional and dispersed. Based on the finding it is recommended that State and Local Government councils should assist in the construction of some of these markets, awareness and easy accessibility to loan facilities should be made available to the marketers by the Government to enable them support their businesses, marketers can and form a cooperatives society in order to help them boost their finances and there is need for safety precaution in order to reduce the rate of accident.

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CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND TO THE STUDY

Urban structure is concerned with the arrangement of urban public space. The way urban public space is arranged affects many aspects of how cities function and has implications for accessibility, environmental sustainability, safety, social equity, social capital, cultural creativity and economic development. Also Spatial analysis within the past few decades has led to the development of ideas to explain the internal spatial arrangement of cities and this arrangement encompasses several human activities including retail trade, cultivation, fishery among others (Elissalde and Saint-Julien, 2004)..

From a global perspective, research in commercial activities generally has received a lot of attention from social scientists and those in related disciplines. The patterns of trade in the world over time have been areas of great concern to scholars. Studies by planners and geographers have been concerned with the elements of spatial organization and their relationship to commercial activities on global and national levels (Hagen, 2003 and Harry, 2004).

The evolution of retail trade and the analysis of its structure in the developed world have been carried out in greater details while few studies in this respect have been carried out in the developing countries. Research on retail trade in the developing countries has been concerned with a general analysis of the structure of retail trade or commercial activities of specific urban areas, (Mabogunje, 1964 and Vagale, 1972).

According to Dunne, Patrick and Robert (2005), retailing consist of the final activities and steps needed to place a product in the hands of the consumer or to provide services to the consumer. Bharathi (2010), defines retailing as a convenient, convincing and comfortable method of selling goods and services. Retailing, trade and commerce has now taken new forms and shape, this is because of new management and marketing techniques also due to ever changing and dynamic consumer psychology.

Retail trade plays a significant role in terms of local, regional and national economic development. The retail trade turnover of any country can be a good measure of the economic progress of that country. An economically poor country will have a very low turnover in its retail trade (IBIS World, 2004). Retailing, as the sale of goods and services to the ultimate consumer for personal, family or household uses does not only provide value to consumers by offering an assortment of goods and services, it also contributes significantly to the gross domestic product (GDP), through investment in technology, employment, income generation and generation of government revenue through taxation and tax collection (Berman and Evans, 2004).

Retail trade is the last step in the chain of collection, manufacture and marketing of commodities. It is an important phase in the process of manufacture and distribution of merchandise, with the customer or user at the tail end of the chain. A strong retail trade sector is seen as a vital part of a successful community and economic development plan. Numerous benefits are produced for the community such as increased tax revenues

generated through the business will normally be retained for its development. Consequently the community's quality of life will be enhanced (IBIS World, 2004)

The socio-economic characteristics of a population influence retail growth. Fluctuations in the population, age, income and ethnic mix may change the demands for specific retail products in a community, making them important factors to be considered in an analysis of individual retail sectors. A critical understanding of the pattern of retail spending within a community can be related to the spending pattern in the region. A retail sales surplus means that a community pulls consumers from outside the community, and so indicates that the retail location serves as a regional market. On the other hand, if within a community, consumers go out to other communities to shop, this creates retail leakages, draining whatever could have accrued to the community in form of revenues(IBIS World, 2004).

For this work the sampled markets are classified into non structured, semi structured and structured markets. Non structured market is a market that is not built, not organized and few people gathered there to buy and sell their products. Semi structured market is a market that is a little higher than non structured market, this type of market is having a fairly built up area. These two types of market are always owned by the communities. While the structured market is an organized, planned and well built up market and most at times they are owned by Local government or State government.

Spatial pattern is a perceptual structure placement or arrangement of objects on earth. It also includes the space in between those objects. Patterns may be recognized because of their arrangement, may be in a line or by a clustering of points. Everything that has a location in geographic space inevitably creates or contributes to a spatial pattern. This conception of

spatial pattern is adopted in this study because retail markets are points over space(Abler *et al* 1972).

Vegetables are the fresh and edible portions of herbaceous plants. They are important food and highly beneficial for the maintenance of health and prevention of diseases. They contain valuable food ingredients which can be successfully utilized to build up and repair the body. Vegetables are valuable in maintaining alkaline reserve of the body. They are valued mainly for their high carbohydrate, vitamin and mineral contents. There are different kinds of vegetables. They may be edible roots, stems, leaves, fruits or seeds. Each group contributes to diet in its own way (Robinson, 1990)

Vegetables contribute minerals, vitamins, and fiber to the diet. Minerals are naturally occurring inorganic substances with a definite chemical composition and an ordered atomic arrangement. Among the plants, vegetables are the excellent sources of minerals and contribute to the RDA of these essential nutrients. Minerals are very important and essential ingredients of diet required for normal metabolic activities of body tissues. Out of 92 naturally occurring minerals 25 are present in living organisms. They are constituent of bones, teeth, blood, muscles, hair and nerve cells. Vitamins cannot be properly assimilated without the correct balance of minerals (Alvarez, 2002).

Vitamins are organic compounds occurring in natural foods especially in vegetables either as such or as utilizable “precursors”. Vitamins are needed for maintenance of skin, mucous membranes, bones, teeth and hair, vision and reproduction. They help body to absorb

calcium and phosphorous; needed for bone growth and maintenance. Vitamins are involved in blood clotting, normal functioning of nervous system and endocrine glands. They are also needed for metabolism of macro molecules. Also vegetables as a whole are considered as natural caches of nutrients gift to human beings for example spinach and tomato contains enough amount of vitamin C to prevent and cure scurvy. Some vegetables contain high amount of dietary fibers and help to prevent constipation (Chatterjea and Shinde, 1998).

Grains are rich protein source, supplying half the world's protein needs. Mostly low in fat, grains are generally rich in the B vitamins and contain many minerals needed for good health. Generally grains are high in soluble and insoluble fiber. Fiber contains few vitamins, minerals or calories but perform a vital functions in the digestive system of humans. Grains and vegetables are part of household commodities in urban Zaria and have been cultivated for many years. Residents have obviously been purchasing and consuming same these grains and vegetables which deserves some analysis. Zaria Urban area has ethno-cultural mix of people with different socio-economic characteristics that require vegetables and grains from retail outlets. The analysis of this will deepen the knowledge on spatial organization of Zaria. In view of this, the study will examine the spatial pattern of grains and vegetables retailing in urban Zaria.

1.2 STATEMENT OF THE RESEARCH PROBLEM

Geographical studies of retail trade in developed countries have been done in great detail, especially for items like clothing and textile, electrical goods and electronics and other

consumables such as foodstuffs. Such studies dealt with pricing and sales of these commodities in developed and developing countries (Fundafunda, 2000; Prochilo, 2002).

Among the studies that have been carried out is the work of Dan (2008), who examines the spatial structure of retail trade in pharmaceutical products in Kaduna metropolis. The study revealed that the evolution of the spatial structure of retail trade in pharmaceutical products in Kaduna metropolis over the study period was a concomitant of the growth of the metropolis in terms of area and population. The study also reveals that the spatial structure of retailing in Kaduna metropolis has evolved into a three tier hierarchy. Wholesale and registered large retail pharmacy stores occupy the top of the hierarchy and are found mainly in the central market area. Below that level, are registered retail stores located in the Government Reservation Areas (GRA), and major streets. Patent medicine stores selling only non-prescription drugs occupy the bottom of the hierarchy and are located mostly in the low income areas of the city. Dan (2008) works on pharmaceutical products and not on grains and vegetables.

Onu and Iliyasu (2008) Examines the food grain market in Adamawa State. Specifically, the participants in the market were identified and the performance of the food grain market was determined. Primary data were collected from 117 respondents who were randomly sampled from markets in Yola North, Yola South and Girei local government areas of Adamawa State. The data were analyzed using descriptive statistics, the multiple regression model and the operational efficiency formula. Results of the analysis revealed operational efficiency was found to be 254.7 percent indicating that the food grain market is highly efficient in its operations. Among the problems affecting the food grain marketing in

Adamawa State, the poor transportation network was identified as the most severe. Hence, it was recommended that Government should encourage the private sector initiative in providing transportation by assisting in provision of credit facility to enable the private sector operators to procure means of transport. Onu and Illiyasu (2008) examined grain marketing in Adamawa state and not in the study area.

Akintunde, Akinremi, and Nwauwa, (2012) also examines the trend in food grain prices in urban and rural market of Osun state, Nigeria. The study revealed price trend and long-run relationships between market price series. In the analysis of dynamic price relationships in the long-run, the study investigated the order of integration of the time series data so that spurious regression estimates could be avoided. The stationary test indicated that the prices were not stationary at level form. However, at first different prices became stationary there by leading to the rejection of the null hypothesis of no stationary in the prices of the commodities. The indices of market connection market exhibit low short run market integration which revealed that price changes in the rural market do not cause immediate change in the prices in the urban market. The integration test showed that none of the markets examined had prices tied together in the long- run. The Index of market connection (IMC) indicates that the markets exhibit low short run market integration. The study concludes that the agricultural commodity markets in Osun state may be subject to a high degree of marketing inefficiency and recommends a nation-wide policy to improve food marketing efficiency in Nigeria. Akintunde, Akinremi, and Nwauwa (2012), examined the trend in food grain price in urban and rural market and not on spatial pattern of grains and vegetables retailing.

Studies with focus on perishable commodities are also available outside Nigeria. Mari (2009), focused on structure and efficiency analysis of vegetable production and marketing in Sindh, Pakistan and observed that the yields of vegetables in Sindh have grown at higher rate when compared to other provinces, perhaps due to higher demand based on the increasing level of urbanization. The results of this study indicated that the vegetable production system is partially efficient, while the marketing system is moderately efficient. This work examined structure and efficiency analysis of vegetable production and marketing in Sindh, Pakistan and not in Nigeria. Also it did not focus on grain and vegetable retailing

Teka (2009) investigated fruit and vegetable market chains in Alamata, Southern zone of Tigray, Ethiopia with attention on onion, tomato and papaya. Specifically the study assessed structure-conduct-performance of fruit and vegetable marketing, analyze market supply determinants, and the institutional support services of extension, input supply and credit. The survey result indicated that the overall horticulture (onion, tomato and papaya) marketing system was found to be traditional and underdeveloped, fragmented and inefficient. This work examined fruit and vegetable market chains in Alamata, Southern zone of Tigray, Ethiopia and not grain and vegetable retailing in Urban Zaria.

The rapid growth of Zaria has resulted in changes on the spatial structure of the various commercial activities. Retail trade development in the metropolis is now carried out on a larger scale. Many markets have been established while modern shops and stalls have been built along major streets to take the place of poorly built shops and stalls. The variety of goods and the volume of commodities have also increased as larger population and

financial resources go into commercial activities. Urban retail studies in Nigeria and elsewhere have focused mainly on the general analysis of the spatial structure of specified urban area at particular point in time using pricing and land value as explanatory variables of the differentiations observed (Persson, 2003). However, despite the fact that Zaria is a major grain and vegetable centre, not much has been done on the pattern of grain and vegetable retailing. Therefore, this work focuses on the spatial pattern of grains and vegetables retailing in urban Zaria.

The following are the research questions the study seeks to answer :

- i Where are the locations of retail outlets of grains and vegetables in urban Zaria?
- ii What are the spatial pattern of growth and arrangement of these retail outlets in the study area?
- iii What are the factors responsible for the growth?
- iv Are there any challenges facing grains and vegetables retailing?

1.3 AIM AND OBJECTIVES

The aim of the study is to examine the spatial pattern of grains and vegetables retailing in Urban Zaria. However, the specific objectives are to:

- i identify the location of retail outlets of grains and vegetables in urban Zaria.
- ii characterize the spatial pattern of growth and arrangement of these retail outlets.
- iii examine the factors responsible for the growth of retail outlet of grains and vegetables in urban Zaria.
- iv examine the challenges facing grains and vegetables retailing.

1.4 SCOPE OF THE STUDY

The spatial coverage of this study is urban Zaria (conceptualized as the urban section of Sabon-Gari and Zaria Local Government Areas) . The scope of the study in terms of content covers eight retail outlet of grains and vegetables in urban Zaria, four from each of the Local Government Areas. Information that will be required will include; location of the retail outlets of grains and vegetables in the study area, the types of markets and the structural pattern of retail trade are investigated. Other issues include the policies and other socio-economic variables responsible for the spatial pattern of retail outlets of grains and vegetables in urban Zaria. The study for grain covers maize, millet and guinea corn while that of vegetable are tomato, onion and spinach. The temporal scope for this study is a period of twenty eight years (1986-2014).

1.5 JUSTIFICATION OF THE STUDY

Zaria urban area grew from a small 15th Century, pre-colonial city of Zazzau Kingdom into an extensive metropolis consisting of about twelve parts namely Zaria city, Tudun Wada, Wusasa, Dakace, Zaria Township (GRA/PZ), Sabon-gari, Chikaji, Hanwa, Layin-zomo, Palladan, Samaru and Shika.

The two commodity approach adopted in this research for examining the development of spatial pattern of grains and vegetables retail trade in urban Zaria should provide a deeper insight into the factors that underlie the development of spatial structure of food stuff retail trade in urban centers in general especially urban centers in developing countries. Information on spatial pattern of retail trade may be useful to those engaged in the new

development or improvement of rural and urban retail markets, including market managers, planners and public administrators, and engineers preparing detailed project designs. The information derived from this study will be useful by urban planners, public administrators at national, regional and local levels, and individual researchers. It will also provide a base line information for further research (Dan, 2008).

CHAPTER TWO

CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW

2.1 CONCEPTUAL ISSUES

2.1.1 Retail Trade

The North American Industry Classification System (NAICS, 2012), conceived the retail trade sector as “establishments primarily engaged in selling goods to end users generally without transformation and rendering services to customers incidental to the sale of merchandise”. Retail trade entails selling goods in small quantities to the general public for consumption. According to Dunne, Patrick and Robert (2005), retailing consist of the final activities and steps needed to place a product in the hands of the consumer or to provide services to the consumer. Bharathi (2010) defines retailing as a convenient, convincing and comfortable method of selling goods and services. Also Retailing, trade and commerce has now taken new forms and shape. This is because of new management techniques, marketing techniques and also due to ever changing and dynamic consumer psychology.

Retail trade is defined in the international standard for industrial classification (ISIC, 2003) as the resale (sale without transformation) of new and used goods to the general public, for personal or household consumption or utilization. Retail trade include the following non specialized retail trade in stores, retail sale of food, beverages and tobacco in a specialized store, retail trade of agricultural product among others except repairs of personal and household goods. The retailing process is the final step in the distribution of merchandise. This sector according to Bureau of Labour Statistics (2013) comprises two main types of retailers: store and non-store retailers.

- i. Store retailers operate fixed point-of-sale locations, located and designed to attract a high volume of walk-in customers. In general, retail stores have extensive displays of merchandise and use mass-media advertising to attract customers. They typically sell merchandise to the general public for personal or household consumption, but some also serve business and institutional clients. In addition to retailing merchandise, some types of store retailers are also engaged in the provision of after-sales services, such as repair and installation.
- ii. Non-store retailers, like store retailers, are organized to serve the general public, but their retailing methods differ. The establishments of this subsector reach customers and market merchandise with methods, such as the broadcasting of "infomercials," the broadcasting and publishing of direct-response advertising, the publishing of paper and electronic catalogs, door-to-door solicitation, in-home demonstration, selling from portable stalls (street vendors, except food), and distribution through vending machines.

However, for the purpose of this study retailing involve all activities directly related to the sales of goods and services to the ultimate consumer. These activities could take place in shops, stores, open places, over telephone lines and elsewhere.

2.1.2 Spatial Pattern

A spatial pattern is a perceptual structure placement or arrangement of objects on earth, it also includes the space in between those objects and patterns may be recognized because of their arrangement, may be in a line or by a clustering of points. Everything that has a

location in geographic space inevitably creates or contributes to a spatial pattern. This conception of spatial pattern is adopted in this study because retail markets are points over space (Abler *et al* 1972).

Spatial patterns are everywhere, they include naturally occurring patterns, such as the concentration of plant life in a certain area as well as man-made patterns, such as those found in towns and cities. Also the human mind naturally searches for patterns and trends (Abler *et al* 1972).

Researchers studying spatial patterns attempt to understand why objects are placed in particular locations. For example, on a city-wide scale, the study of spatial patterns would include where businesses are located, how many of a particular type of business are present, and where the businesses are located in relation to each other and to residential areas. Spatial patterns in this case could include how far apart businesses are or how densely populated a particular residential area is (Nicole, 2012).

2.3. THEORETICAL FRAMEWORK

2.3.1 Central Place Theory

Christaller's Central Place Theory was evolved from the concept of centralization as an ordering principle. Christaller proposed that if the centralization of mass around a nucleus is an elementary form of order, then the same centralistic principle can be equated in urban settlements. The Christaller model proposed a hierarchical arrangement of settlements and conceptualized the model with hexagonal arrangements. The hexagon best equated a circle

for maximum coverage and some of the problems of overlap within circular arrangements were removed from hexagonal arrangements. The population size and importance of a settlement were not necessarily synonymous, but the centrality of the place was conceptualized in terms of its importance in the region around it (Argawai, 2004) .

The central place theory describes the relationship between central places, cities and the hinterland they serve. The central place is a settlement or a nodal point that serves the area around it with goods and services (Argawai, 2004). Centrality of the town represents the extent to which surplus goods are sent out of the central place to the region of which it is part. Christaller (1933) focused not only on a single system but on systems of central places. This theory explains therefore the centrality and growth of urban centers and why they are commercial magnets.

Three concepts that relate to centrality as postulated by Christaller (1933) consist of the following. The first concept is “threshold population” or the minimum demand that is needed to bring about a product or service into existence and keep it on. Goodall (1972) in a discussion of the central place theory and retailing in urban areas added that threshold is the minimum size of the demand below which a shop will not be justified in supplying a good. This corresponds to the volume of sales that permits a business to earn normal profit. The threshold sales level is therefore, the entry condition for business to commence and locate in a certain place.

The second concept is “range of a good”. This is the average minimum distance that people travel between centers to buy goods or obtain services. The range of a good has both an upper limit beyond which a shop is unable to pull consumers for a commodity, and a lower limit below which is the minimum level of demand for the good to be offered in the first place. The two limits meet at a perfectly competitive equilibrium situation. Thus the range is the market area of the shop for a good (Goodall, 1972). So in retailing of goods, shops are located to supply their thresholds most efficiently and make maximum profits possible. It follows therefore that the number and location of shops in an urban area reflects to a great extent the level and distribution of demand.

The third concept is that of “least effort“ which explains consumer travelling behavior in which the norm is to cover the least distance possible to obtain goods and services from the nearest central place. Frequently purchased goods like vegetables and milk are available on a widely dispersed basis while goods that are purchased occasionally like cars are located in a few central places. Thus retail activities within urban centres are located in such a way that each retail unit would supply its own threshold market more efficiently Christaller (1933). However a larger threshold market area is needed to support the profitable operation of a shop selling a commodity that is purchased less frequently than the first one. Such a commodity will therefore be obtained from a second higher order urban area.

Also consumers go to the shortest distance possible to buy commodities they often need. The spatial organization of retailing in urban areas is patterned after accessibility to market and the availability of products. This means that from the retailing of convenience goods in

which the consumer goes a short distance to the neighborhood to get his supplies, to that of the consumer buying goods from the lower order urban areas covering longer distances, and finally the consumer travels longer distance still to purchase products as cars supplied by higher order urban areas (Christaller 1933).

Intra-urban studies of retailing and the location of establishments show that competition between shops that retail similar goods may cause them to locate separately. On the other hand demand may be very high and several times greater than the threshold level for one retailer as in densely populated parts of the town, where more traders dealing in the same good may be supported in the same centre (Goodall, 1972).

In discussing the central place theory, Berry (1986:18) in a study of markets and retail distribution in Southwestern Iowa in the United States of America observed that “markets, the retail and service businesses located in them, conform in their spatial pattern to that of consumers, because only those centrally located in markets areas can attract patronage from consumers eager to economize on travel”. Thus the location of retail and service businesses in central places is closely related to the distribution of consumers. However changes in technology of retailing, distribution and consumer preferences over time, have led to continual alterations in the pattern of central places. The alteration could also be attributed to the foresight of some business entrepreneurs who successfully locate businesses away from market centers but along newly developed highways and urban areas, even before the improvement in technology set in. The theory that is applicable to this study is the central place theory because it explained spatial distribution of urban centre in a region or country

and how the region serves the area with goods and services for example retailing. A central place is a market center for the exchange of goods and services by people attracted from the surrounding area. It explains how services are distributed and why a regular pattern of settlements exists. The size of population and the average maximum distance people will travel to purchase a good or service is one of the factor required for this study.

2.4 LITERATURE REVIEW

2.4.1 Pattern of Urban Growth

Urban growth describes the expansion of human populations away from central urban areas into low-density, mono functional and usually car-dependent communities. In addition to describing a particular form of urbanization, the term also relates to the social and environmental consequences associated with this development.

Urban growth is a two-way process because it involves not only movement from village to cities and change from agricultural occupation to business, trade, service and other professions but it also involves change in the migrants attitudes, beliefs, values and behaviour patterns. The process of urbanization is rapid all over the world. The facilities like education, healthcare system, employment avenues, civic facilities and social welfare are reasons attracting people to urban areas (Bayoh, 2002).

Patterns of urban growth are different in different cities; but there are global patterns and mechanisms (Wu, 2011). Urban growth is the result of endless waves of suburbanization at the cities' edges. Two macro-mechanisms are usually at work, which are Urban DNA and

suburbanization. Urban DNA is a concept referring to a city's characteristics such as topography, soil, economic, political, cultural and environmental characteristics.

Hall, (2004) wrote that every city has its own DNA which makes the city unique. Second mechanism is suburbanization moves that are the result of these events including: natural evolution, flight from blight and urban land value. Natural evolution emphasize the population and life style changes such as changes in the level of income, family size and other characteristics that increase the demand for new and larger residential units in the suburbs and surrounding rural areas (Bayoh, 2002).

Urban growth pattern follows the urban transition pattern. In phase one, urbanization, the highest level of growth occurs in the core. In the second phase, suburbanization occurs further from the core. In third phase "counter urbanization" occurs, when the population moves from core and suburbs to outer layers and surrounding rural areas. On the basis of this model, urban sprawl occurs in phase three.

Several factors are responsible for urban growth, most especially, increase in population. This was also noted by (Best, 1970); who remarked that there is a correlation between population changes and urban growth pattern (Oyesiku, 1995) also remarked that growth depends on the natural increase on the part of the total population that is already in urban but it is affected more by difference in the natural level between rural and urban areas. He identified further two major factors responsible for urban growth; these are natural increase and rural urban migration.

According to Adedibu, Opeloyeru and Ibrahim (1998) it was established that there are two major forces shaping the pattern of development of any city in the world. One is centrifugal force while the other is centripetal force. Moreover, it was added that factors that constitute the later force dominate the development of most of the developing world cities while centrifugal force is often associated with cities in the developed world.

Another factor given by Adindu and Ogbonna (1998) for urban growth was rural unemployment, increased rural poverty, deteriorating living condition, declining soil fertility and unchecked rural urban migration. According to them, all these are responsible for people's movement out of rural land to urban center. Salami (1997) also remarked that among factors responsible for growth in Ibadan region includes urbanization, associated population increase, nature of urban uses, the landscape configuration, location of development scheme, government policy and pattern of route development. Route development serves as a major force in reorganizing land use. Nkabwe (1984) supporting this issue remarked further that it is the pivot for economic growth, population expansion and overall progress of any region,

2.4.2. Spatial Structure of Retailing in Urban Areas

The evolution of the spatial structure of retailing in urban areas is tied to the growth and patterns of cities. To date, Christaller's central place theory represents the most comprehensive statement on the location of retail and service activity. However, a number of other hypotheses and statements have also been advanced that deal specifically with the

spatial behaviour and structure of retail activity within an urban area. In two of the earliest statements, factors leading to a clustered spatial pattern of retail activities and those leading to a dispersed spatial pattern were identified the later formulated the interceptors and cumulative attraction location strategies (Yuk and Michael 2012). Also the investigation of the spatial pattern of retail trade within an urban area constitute another major thrust in retail structure research. Various probability distributions and spatial statistics have been used to describe the spatial pattern of retail trade in an attempt to determine the process that generated the spatial pattern (Yuk and Michael 2012).

Spatial patterns of retailing arise as a result of the dynamic interaction between the consumer and retailer, each following their own agenda. The interactive relationship depends largely on theory and practice. The conventional attraction of pedestrian movement generates potential of built forms; which has been adopted by the retail planners in the internal design of retail centers. From the author view points, retail outlets attract consumers, channel travel patterns, and ultimately affect the location of other outlet (Simmons, 1999). On the contrary, specialization of retail activity is more critical within a process of rapid urban growth. A varied socio-economic group of retailer's and consumer's participation gives rise to a large mix and variety of retail structures (Paddison, Findlay and Dowson, 1991).

More recently, a number of researchers have studied the intra- urban retail spatial structure. Several emphases among these studies can be identified. One of the emphases involves the analysis of the hierarchical and topological structure of retail and business districts that can be traced back to Proudfoot (1937) and Johnston (1977) as reviewed by Yuk and Michael

(2012). It is recognized in these studies that ‘retail and service establishments are grouped spatially according to the special location needs of the business types.

A second emphasis deals with the relation of the number of retail facilities, sales and prices with such socioeconomic factors as the size of population, household, income, occupation and trade intensity. Economics, geographers, and marketing analysts alike have made numerous contribution. The general hypothesis being examined in these studies is that the level and distribution of retail facilities, sales and prices are related to various characteristics of the households that make up the market areas.

Many studies on spatial pattern of retail trade within an urban area were discussed extensively by Schmidt and Lee (1996), Simmons (1999) and Lord and Wright (2000) among others. These studies have identified and established various factors that can affect spatial retail structure. One of the factors is competitive strategy which is the process of deliberate location of an outlet next to its competitors, but not for the benefits of customer convenience and customer interchange. The strategy effectively negates location as a competition advantage and the retailer must compete using other factors to be able to stay in that location.

2.4.3. Factors Affecting Location of Retail Activities in Urban Areas

From the foregoing conceptual exposition there are factors that affect the location of commercial activities, including retailing, in urban centers. These factors are further expatiated.

2.4.3.1. Accessibility

Selling of goods to end-users is a commercial activity that is highly dependent on the location of the shops. The ease with which customers can reach the location of any establishment affects its volume of sales. Attraction of customers to their shops by retailers is considered paramount but the number of profitable sites for retailing is limited. This situation makes retailing offer the highest prices for locations with the greatest relative access advantages. Before the advancement of non-store retailing where electronic broadcasting and courier delivery are used, the mutual attraction of shops and residences is reflected in retailing being influenced by population distribution to the extent that retail facilities encourage residential development in certain urban areas (Goodall, 1972). Shops, according to Christaller (1933) as cited in Chau and Pretorius (2002), are located where they supply their thresholds, that is, the minimum size market below which the retailer will not make a profit.

In some urban areas the population density is high and customers have many shops or centres of varying attractions within reach. Such a situation can sustain many retailers in the same area and alternative methods of retailing may boost the threshold size and thus introduce irregularities in the spatial pattern. However, innovations in retailing as the modern electronic broadcasting and the retailer delivery of goods, bring additional spatial elements into the pattern of retailing and more profit making than would have otherwise been expected.

2.4.3.2 Customer Behaviour

Customer behaviour as a factor in the location of commercial activities revolves around expenses incurred on shopping trips, types of goods to be bought, taste of customers and facilities provided by the retailer. Retailers consider the customer preferences in locating and selling their goods. The central place theory treatment of location of commercial activities emphasizes customer attraction because the customer wishes to minimize expenses incurred in shopping (Klein, 2000). The shopping trips of the customer varies depending on the type of commodity required, how urgently the goods are needed, the frequency of the purchase, the degree of the selection desired, and the value of the commodity relative to the customer's income. The cost of a trip to buy goods is directly related to the value of purchases, such that the nearer the shop where the goods are bought, the lower the expenses incurred on the trip. For instance, low-order or convenience goods, such as bread and vegetables are purchased by consumers at regular short intervals from the nearest shop (Klein, 2000).

Therefore the retailer selling low-order goods must locate close to customers' residences. Profit-maximizing site for such a retailer comes from the greatest access to the local population who buy his goods. Purchase of high-order goods, on the other hand, are seldom and done at irregular intervals. High-order goods include cars, furniture, electrical goods and electronics for which consumers take time to purchase and they travel longer distances to buy them. Shops retailing high-order goods need high populations and higher thresholds. Retailers of such goods need access to the urban population as a whole and so establishments locate at convergence points and wherever visibility and space are adequate.

For a consumer to go on a shopping trip for such goods, the items to be purchased must be many or costly enough to cause the consumer to make the trip (Chan and Pretorius 2002).

2.4.3.3. Taste of Consumers

Another factor that influences the location of shops is the taste of consumers. Consumers have different tastes and incomes and where their homes are spatially separated they prefer to go to retailers who satisfy their tastes. Therefore, shops provide goods differently to the income group base on their taste (Hall, 2004).

2.4.3.4 Choice of market

According to Chau and Pretorius (2002), one of the factors that guide a retailer's decision of choice of retail location is the market for the goods in that area or region. There has to be a demand for the goods to be retailed and so conditions like a booming economy of the country, favourable market forces, and a high total urban expenditure must be carefully studied for location of retail activities.

2.4.3.5 Choice of Site

The next factor in deciding locations for shops is the choice of a site that will give the retailer maximum profit possible. The retailer is guided by two principal location considerations in making the choice of site for the shop. These are first of all, the consideration of specific location options for their desirability relative to immediate physical urban structure variables such as public transportation, infrastructure, other sources of accessibility and facilities. The second consideration in this factor is the desirability of zones

with particular characteristics that might have developed within the centre, for example the choice between clusters of older properties compared to clusters of newer properties. This consideration guides the retailer to make the best choice that is most likely to optimize retailing performance given urban development and characteristics urban structure (Harry, 2004).

2.4.3.6 Store Location Potential

This is an important factor in deciding the location of a retail store given the physical and institutional requirements within the district. The physical environment must be favourable for the location of the retail outlet. Moreover the institutional requirements like policies relating to access to the business and zoning regulations should be met before retail outlets are located (Forgey *et al* 1995).

2.4.3.7 Government Policies

Government policies play a major role in the location of commercial activities. Policies (such as those of government's regulatory, macroeconomic and land use) affect retailers' decisions to locate shops. Such government policies are often enacted in the interest of the traders and the society at large(Lewis, 2001).

2. 5 Review on Empirical Studies of grain and vegetable retailing

Ashenafi (2010) worked on analysis of grain marketing in southern zone of Tigray Region, Ethiopia. The author examined grain marketing in Ofla and Endamohoni wereda with the specific objectives of identifying marketing channels, organizational structure and

coordination of the grain markets, and identifying factors affecting grain supply in the weredas. A total of 145 head of households were selected randomly using probability proportional to sample size (PPS). Data from 24 traders was also collected from the two markets. This particular study revealed that 41% of the total grain production in the sample area was supplied to the market. According to the results of the study in 2009/10, 30% and 23% of farmers' production was purchased by cooperative unions and directly by consumers, respectively. The measures of market concentration indicated that the grain market structure in the study area is fairly competitive; however the existence of barriers to entry, and the constraints facing traders have a negative impact on the performance of the grain marketing system. The major barriers to entry in to grain trade in the study areas included lack of working capital, market information and high competition with the cooperative unions and unlicensed traders. The major determinant factors affecting market participation decision and quantity of grain supply were estimated by Tobit and Heckman two stage econometric models.

Among the variables included in the analysis, 5 variables such as nonfarm income, total livestock unit, oxen number, market information and yield influence the quantity of grain supply positively significantly and family size affected negatively the supply of grain at 5% significant. Transport cost was identified as the major cost component of marketing costs which accounted 44.19% and 45.13%, for wholesalers and assemblers respectively. The main grain marketing constraints for traders are shortage of capital, shortage of supply, lack of timely and accurate market information, poor access to credit and competition with unlicensed traders were few of the inherent problems. The possible recommendations

forwarded are support formal access to credit for traders and farmers, strengthen access to market information encourage licensing of traders, intervention to increase production by using improved agricultural inputs, strengthen cooperatives and their unions and conduct a research on the different components of the marketing system.

The study by Abraham (2009) in Lume wereda added to the literature where the author said the structural organization of the grain marketing system appeared to be competitive for millet and maize. The study found the market conduct, the behavior that traders manifest in issues like price setting, was found to be influenced by factors like timing of loans return by farmer, the presence of informal traders, and uncertainties created by price fluctuations in the terminal markets. Contrary to Wolday (1994), he stated that the competition from the informal traders also did not result in a real increase in income of producers'; but has just made the market unstable and created unprofitable environment for all.

Thompson and Ikechi (2013) researched on Marketing of tropical vegetable in Aba area of Abia State, Nigeria. The study was carried out with three purposes. The first purpose included a description of socio-economic features of vegetable marketers in the study area; the second described the marketing channel; and the third determined their marketing margin. Multi-stage sampling method was adopted for the study. In the first stage, three Local Government Areas were randomly selected from the five Local Government Areas. In the second stage, two communities were selected from each of the Local Government Areas. In the third stage, three markets were randomly selected from a list of major markets which are situated in the communities previously selected. In the fourth stage, twenty tropical

vegetable marketers (made up of 40 Ugu marketers and 40 Okra marketers) were randomly selected from each of the markets. This gave a total sample size of 80 respondents for the study. Most of the vegetable wholesalers and retailers interviewed were females indicating that these were doing active marketing of vegetables in Abia State. According to the first purpose of this study, which included a description of socio-economic features of vegetable marketers, eight marketing channels were identified, and the marketing margin analyses showed a higher percentage (93%) for the marketers. Key words: Tropical vegetables, ugu, okra, marketing, market.

Aparna and Hanumanthaiah (2013) worked on Organized Retailing of Vegetables: A Farmer, Retailer and Consumer Perspective in India. The study revealed the increasing demand for high-value food products in developing countries is creating incentives for expansion of supermarket chains as an alternative marketing system to the traditional marketing channels. In India the emergence of supermarkets has profoundly influenced fruit and vegetable marketing system. The study was conducted to assess the impact of the upcoming supermarkets on farmers, consumers and different marketing channels in Rangareddy district of Andhra Pradesh which is operating their retail outlets in Hyderabad city. Three vegetables for example., tomato, brinjal and bhendi were selected. The study revealed that the cost of cultivation of supermarket supply farmers was less than the traditional marketing supply farmers due to efficient utilization of resources and the net price received by the farmer in supermarket channel was more for all the three vegetables when compared to traditional channel farmers. The total marketing cost incurred by growers was more in traditional channels. The producer's share in consumer's rupee and marketing

efficiency was higher for supermarket channel than traditional market channel producers for all the three selected vegetables. The innovative institutions contribute in reducing transaction costs and augmenting farm profits. The income, credit cards, refrigerator ownership are consistently significant determinants in the shopping behavior of the consumers. Government has to regulate prices, open and operate retail outlets and should assess the production and consumption level and announce the minimum support prices of the vegetables.

The above mentioned studies provide information on the organization and functioning of the grain market system and also organized vegetable retailing. However, the previous studies did not give a complete picture on the spatial pattern of grain and vegetable retailing. Thus further studies are required. This study attempted to bridge the current information gap on the spatial pattern of grain and vegetable retailing in Urban Zaria.

CHAPTER THREE

STUDY AREA AND METHODOLOGY

3.1 STUDY AREA

3.1.1 Location

This study focused on Urban Zaria, Kaduna State of Nigeria. It is located at about 83km to the north of Kaduna with an approximate Latitudinal position of $11^{\circ}3'$ - $11^{\circ}9'$ N and Longitudes $7^{\circ}36'$ - $7^{\circ}45'$ E It falls within the central high plains of northern Nigeria and stands within height of 1800 -2350 feet above sea level (Thorp, 1970). Zaria in this study comprises of Zaria and Sabon-Gari Local Government Areas (LGAs) and are the second largest population concentration in Kaduna State (Bello, 2000) (see Figure 3.1& 3.2). The population of the two LGAs as at 2006 census is 695,069 (Federal Republic of Nigeria, 2007). Zaria is an ancient city in Nigeria and is among the seven Hausa states (*Hausa Bakwai*). The urban area of Zaria is made up of Zaria city surrounded by a huge old wall called *Ganuwar Amina*. The colonial towns of Sabon-gari, Tudunwada, Samaru and many other sub settlements which have grown over the years are the other areas.

Tudunwada, Gyallesu, Wusasa, Tukur-tukur and Saye are fully Hausa/Fulani dominant areas. Tudunwada came into existence in 1939 as an extension of Zaria city mainly for the migrants of northern origin while Sabon-gari came up in 1912 as a result of the extension of Railway line which was developed by migrants of Southern origin into an urban centre which is presently the commercial centre of Zaria area (Omeiza, 2005) (see figure 3.3). Zaria and the surrounding rural areas support a variety of grains and vegetables. Zaria is cosmopolitan, comprising the indigenous Hausa Muslims and Christians and other ethnic groups (Yusuf, Ukoje and Orire, 2012).

Both cash and food crops are grown which provide commodities for retailing in urban Zaria. This include groundnuts, cassava, maize, guinea corn, millet, rice, beans, yam and a variety of vegetables. In some areas, fadama and dry season farming through irrigation canals are under taken (Abbass, 2010).

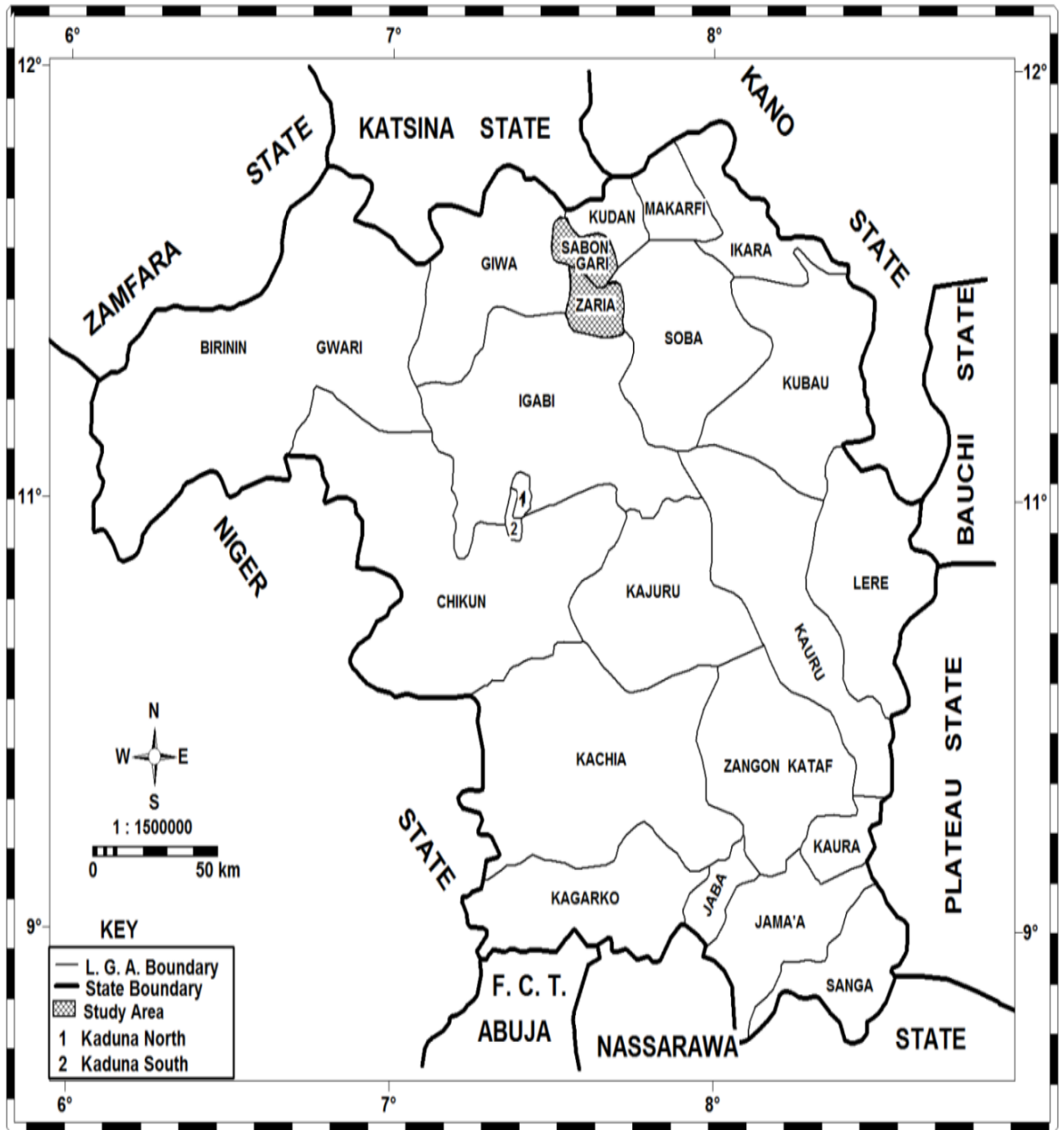


Figure 3.2: KADUNA STATE SHOWING THE STUDY AREA

Source: Modified from Administrative Map of Kaduna State

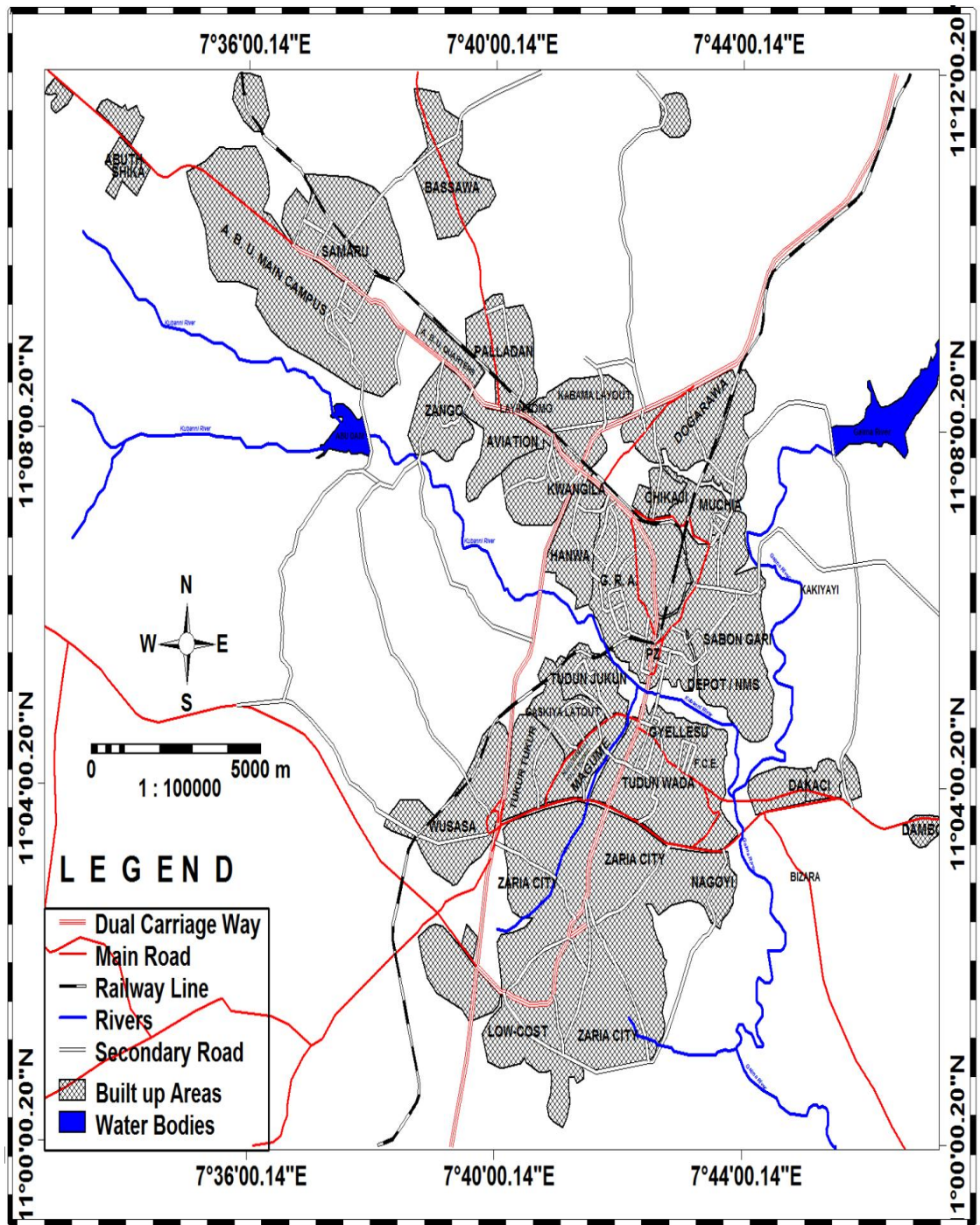


Figure 3.3 : Map of Urban Zaria showing the localities
 Source: Modified from Administrative Map of Kaduna state

3.1.2 Geology and Relief:

The bedrock geology is predominantly metamorphic rocks of the Nigerian Basement Complex consisting of biotite gneisses and older granites. In the south eastern corner, younger granites and batholiths are evident. Deep chemical weathering and fluvial erosion, influenced by the bioclimatic nature of the environment, have developed the characteristic high undulating plains with subdued interfluves (Wright, 1970). Also in some places, the interfluves are capped by high grade lateritic ironstone especially in the Northwest.

However, rocky granitic residuals form inselbergs of varying sizes and shapes, and constitute the main local relief (relative relief is less than 150m) here and there with Kufena, Kagoro hills and Dutsen-Wai Kudara Ring complex standing out very prominently. The valleys are shallow but wide, stretching several tens of kilometres into the headwater areas with gentle sloping valley sides; imperceptibly grading into flat moist to marshy alluviated bottomlands or floodplains, called "fadamas" in Hausa. Although stream valley incisions and dissections of the high plains are evident in several areas, especially in the Zaria region (Smith,1970).

3.1.3 Climate

Zaria has a tropical continental climate, which is suggested by its latitudinal and continental location. The highest temperatures do not coincide with the period of the highest Sun which is June but occurs just before the onset of the rainy season in March/April. The mean daily maximum temperature shows a peak in April and in October while mean minimum temperature is less in December/January due to the influence of the harmattan winds and in July/August due to the influence of cloud cover and cooler atmosphere. The climate has

distinct wet and dry seasons. The total annual rainfall in the region is about 120 cm. This low and seasonal character of rainfall make mark on the vegetation of the area which assumes various shades of green in the wet season and turns brownish or yellowish in the dry season (Hare, 1970).

3.1.4 Drainage

Zaria area is basically drained by the Galma River being a major tributary of the river Kaduna, the Kubanni and Saye rivers. These rivers are characterized by high stream frequency and drainage densities. The Kubanni river passes through the study area and its source is from the Funtua water shed. The River Galma forms the main focus of the drainage systems in Zaria. Although the Galma carries water throughout the year, most of its tributaries such as the River Samaru dry up between January and June. The valleys of the streams to the North of Zaria are generally wide, shallow and not incised. To the west and north-west, the valley bottoms are alleviated and are singularly flat, wide and level. The soil in Samaru is made up of accumulated clay lying in a depth of between 36cm and 119cm (Mortimore, 1970).

3.1.5 Soil and Vegetation

The main soil type of Zaria is the red soil as well as the heavier and more blackish soil. The laterite soils are shallow and of low medium fertility. The main feature is the accumulation of clay between a depth of 36cm and 119cm (Klinkenberg, 1970). There is evidence of down-wards movement of clay. The clay soils that are in the river valleys are formed from alluvial materials. They are less porous, and are called Fadamas. The Fadamas are of

special importance. They are fairly rich in nutrients and have a good retention to excessive water supply which persists in the dry season. Many parts of the Fadamas are therefore, used for the cultivation of sugar cane, rice etc, and during the dry season for vegetables farming, usually called dry season farming (Klinkenberg,1970).

The relatively deep tropical ferruginous soils and climate conditions of Zaria are suitable for and sustain a good cover of savanna woodland (Northern Guinea Savanna) with a variety of grasses, woody shrubs and short trees. However, increase in human population with its concomitant demands for grazing, subsistent cultivation, fuel-wood, and poor land management have had great impact on the natural vegetation. Consequently, new plant communities are developing around the townships and the densely nested villages of Zaria. The present vegetation may thus be described as parkland with annual grasses/shrubby cover interspersed with trees of special food and economic values such as shea butter trees (Jackson, 1970).

3.1.6 People and Socioeconomic Activities

Zaria Urban has increased in its population over the years. At present, it is next only to the state capital based on the most recent population figure. Zaria and Sabon-gari Local Government Areas have a total population of 695,069 (Federal Republic of Nigeria, 2007) . This is quite a great increase when compared with about 110,000 populations figure in 1970 .Urban Zaria being the study area comprises mainly the Hausa/Fulani as indigenes and many other ethnic groups.

The indigenes predominantly practice Islam as their religion. However, cultural practice can hardly be separated from religion practices such as seclusion or purdah. This is a practice of restricting women at home and can only move out with their husbands permission and mostly at night. Family settling in the area are of two types, a simple unit (nuclear family) consisting of married adult, his wife or wives and children, and a composite unit (extended family) also known as economic unit, consisting of two or more male adults usually married staying together in a compound setting. In some cases they cooperate to secure income from the farm. In this complex unit which is also known as sociological unit, members are ranked in order of decision making power and the subordinate having minor rights while basic decisions are taken by the head of the unit (Nwachukwu, 1990).

Agriculture is the basic and oldest economic activity in Zaria, which involves the cultivation and production of grains, legumes and some root crops. These crops are used for food and as cash crops. Other crops produce also include tobacco, sugarcane and cotton. The rearing of livestock is also an important economic activity and it is a means of livelihood to some people. There are many other modern economic activities in Zaria due to increase urbanization. These ranges from small scale industries to many more like metal work, mechanic works, tailoring, printing press, trading shops etc. these activities develop as a result of individual pursuing returns for family up keep (Mortimore, 1970).

3.2 METHODOLOGY

3.2.1 Reconnaissance Survey

A reconnaissance survey was carried out in the study area. The objective was to identify the locations of retail outlets of grains and vegetables in urban Zaria and also the number of traders selling grains and vegetables in each of the markets. The reconnaissance survey guided choice of data and sampling procedures.

3. 2. 2. Types of Data Utilized

In line with the stated objectives, the type of data collected include socio- economic data of traders in urban Zaria, location of retail outlets of grains and vegetables in urban Zaria and the, structural pattern of the market when it was established and what it is now at present, among others.

3.2.3. Sources of Data

The study used both primary and secondary sources of the data for the study.

3. 2.3.1. Primary Sources

Primary sources involved the administration of questionnaire and the use of interview with selected retailers of grains and vegetables. The questionnaire was divided into three sections. The first section elicits information on socio-economic characteristics of traders of grains and vegetables. The socio-economic characteristics are important factors for evaluating the analysis of spatial structure of retail trade.

The second section of the questionnaire-elicited information on the spatial structure of retail trade on grains and vegetables in urban Zaria such as the structural pattern of the market in the study area. The third section deals with the variables responsible for the development of grains and vegetables retail outlets.

3.2.3.2 *Secondary Sources*

Secondary data were obtained from document collected from the retailer/ marketers association for instance *Sarikin kasuwa*, and revenue office in local government council secretariats. Materials for literature review was obtained from published and unpublished sources such as journals, textbooks, seminar papers, thesis, conference papers and material from the internet.

3.2. 4. Sample Size and Sampling Techniques

For the primary data, the study adopted a stratified sampling technique for the administration of questionnaire and face-to-face oral interview with the retailers. The study classified the market into three strata, first non structured market, second semi structured market and the third is structured market.

Non structured market is a market that is not built, not organized and few people gathered there to buy and sell their products. Semi structured market is a market that is a little higher than non structured market, this type of market is having a fairly built up area. These two types of market are always owned by the communities. While the structured market is an organized, planned and well built up market and most at times they are owned by Local government or State government.

Table 3.1 Distribution of sampled size by market.

S/N	Names of market	Grains		Vegetables	
		Sampled market		Sampled market	
Non Structured Markets		Population	Sample size	Population	Sample size
1	Kwangila market	6	3	20	12
2	Kofardoka market	25	13	-	-
Semi Structured Markets					
3	HayinDogo market	12	6	40	23
4	Pada market Zaria city	80	40	40	23
Structured Markets					
5	Dan-magaji market	30	15	20	12
6	Sabongari market	150	75	100	58
7	Samaru market	80	40	60	35
8	Zaria city main market	15	7	5	3
Total		398	199	285	166

Source: Field Survey (2013)

In order to determine the copies of questionnaire to be administered, Yamene (1967) formula for sample size determination was used. That is;

$$SS = \frac{N}{1 + N(e)^2}$$

Where

SS = sample size

N= Number of Population under study

e = Proportion of population given as (0.05%)

l= constant

Using the above formula a total of 199 respondents were obtained for grains and 166 for vegetables and were therefore administered questionnaire. To determine the proportion of the respondents, Yamene (1967) sampling method for determining respondents was also used. i.e

For Grains, was

$$SS = \frac{n \times \text{sample size (199)}}{N}$$

For vegetables, was

$$SS = \frac{n \times \text{sample size (166)}}{N}$$

Where;

n= population of each market

N= total population of retailers is presented in Table 3.2

Based on the reconnaissance survey, the various categories of retail outlets and number of participants form the basis for sampling technique and choice of size. This is presented in Table 3.1. Total number 360 copies of questionnaire were found to be adequately completed for both grains and vegetables.

The random sampling technique was used in selecting individual respondents in the sampled markets.

3.2.5 Methods of Data Analysis

Descriptive statistics were used to analyze the data and satellite imagery. The analytical techniques applied to achieve the objectives are explained.

Information and data obtained on the field through the use of questionnaire, interview were used alongside with documented materials to identify the location of retail outlets in Urban Zaria Descriptive Statistics such as tabulation and percentages were used.

Satellite imagery was used in achieving the pattern of growth and arrangement of retail outlets and was then mapped for cartographic clarity.

Descriptive Statistical techniques was used to analyze the responses gathered from the questionnaire and interview with retailers on the fact and challenges facing grains and vegetable retailing.

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSION OF RESULTS

4.1 INTRODUCTION

This Chapter presents the data obtained from the field research as well as their analysis and the findings resulting from them. The first part presents the socio economic data of the respondents, including the age status, religion, gender and so on. The second part presented information in respect to the locational attributes of the market centers and so on. The study evaluates the spatial pattern of two products; grains (maize, millet, and guinea corn) and vegetables (tomato, onion and spinach) all in a bid to achieving the objectives of this research.

4.2 SOCIO-ECONOMIC CHARACTERISTICS OF RESPONDENTS

Before interpreting the data collected, it is important to consider the general characteristics of the respondents. The respondents are combination of grain and vegetable sellers within the eight markets sampled in urban Zaria. Socio-economic characteristics of the respondents are discussed in the sub section that follows:

Table 4.1: Showing Social Economics data of the Respondents

	Grains		Vegetables	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Gender				
Male	136	69.4	124	75.6
Female	60	30.6	40	24.4
Total	196	100.0	164	100.0
Age				
20 – 30 yrs	20	10.2	14	8.5
31 – 40 yrs	110	56.1	90	54.9
40 – above	66	33.7	60	36.6
Total	196	100.0	164	100.0
Educational Qualification				
Primary School	90	45.9	80	48.8
Secondary School	62	31.6	43	26.2
OND/HND/Degree	24	12.2	16	9.8
Not Educated	20	10.2	25	15.2
Total	196	100.0	164	100.0
Marital Status of respondents				
Married	80	40.8	61	37.2
Single	96	49.0	87	53.0
Divorced	20	10.2	16	9.8
Total	196	100.0	164	100.0

Source: Field Survey, 2014.

Table 4.1 shows the socio-economic data of the respondents for both grains and vegetable sellers covered in the study area. The result revealed that greater population of the marketers of grains (and vegetables products are mainly male (due to the cultural practice in the study area (where females are mostly in doors and the male engage in economic activities to meet the family needs in a system known as Purdah). This shows that those within the age bracket of 31-40 years dominated the respondents. Migration to a large extent may be a contributing factors where young adults move from rural area to urban area in search of better life and good education. Mari (2009) reported the same age distribution where 25-40 years dominated the population of marketers.

The study revealed that the population with the highest number of respondents in educational qualification is primary school graduates. This shows that being a grain or vegetable retailer does not necessarily require a high formal educational qualification. This result is in line with opinion of Ligthelm (2004) who said that retailing has long been regarded as the industry where a successful career is possible without any advanced degree or prior experience. It also revealed the marital status of the respondents for both grains and vegetables retailers that single as a status takes the highest number of the respondents. This shows that people of different marital attributes engage in grain and vegetables retailing. It further illustrates that, when viewed alongside gender characteristics, most of those engaged are fairly young population who may not yet consider marriage a priority.

4.3 LOCATIONAL ATTRIBUTES

Location is very crucial to the success of any business. This can prove quite difficult because one of the challenges of starting a successful business is getting a good site.

4.3.1 Location of the markets

Population were drawn from some sampled markets for adequate spatial coverage. Grains and vegetables retail outlets are spatially distributed all over the study area (Figure 4.1).

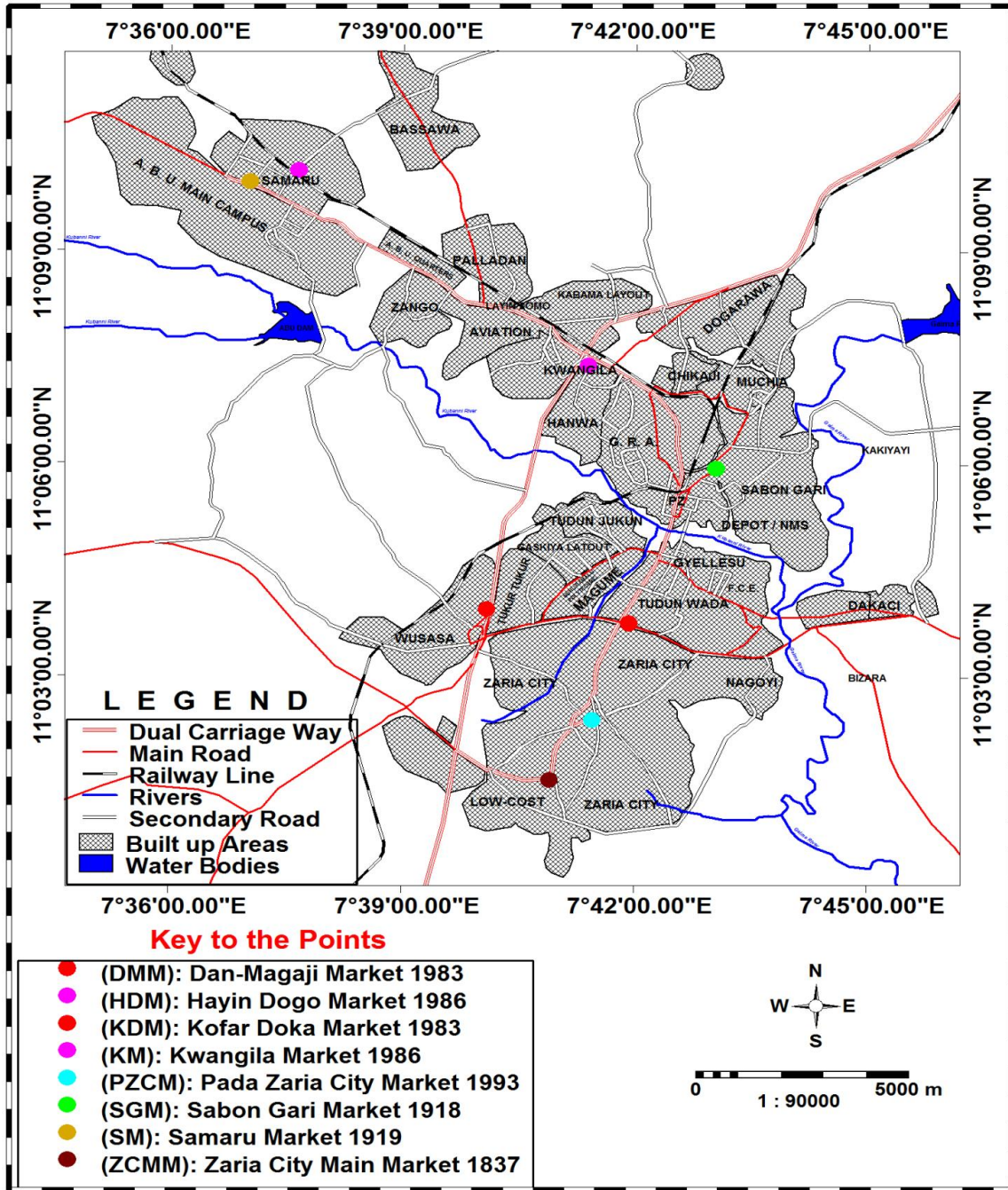


Figure 4.1: Urban Zaria Showing Location of Markets
 Source: Modified from Administrative map of Kaduna State

Figure 4.1 shows the location of the 8 sampled markets. Some of these markets are located by the road side, for example Samaru market, Kwangila market and Dan-magaji market. these markets tend to have most of their patronage from people on transit and residents of the area. Some of them are located within residential area for instance, Zaria main market, Pada market and Sabon-gari market. These markets have their patronage from people around the market except Sabon-gari market which serves as the main market in Zaria (the core of commercial activities) where people come from different places in order to transact their businesses. The highest proportion of sellers and patrons in Sabon-gari market also is more likely attributable to the heterogeneity of participants and centrality of its location to the “strange element”. These are the Igbos, Yorubas and other non-Hausa population that live in surroundings of Sabon-gari markets. Location of Hayin-dogo market is after the railway, this may be as a result of the settlements around the place. This is in agreement with the opinion of Bayoh (2002) which says the growth and pattern of cities depend on the spatial structure of retailing in any area.

4.3.2 Year of Commencement of Trade by the Retailers

Trade involves the transfer of the ownership of goods and services from one person or entity to another in exchange for other goods and services or for money. The date when a trade or business commences is of huge importance to trade and thus Table 4.6 presents the year of commencement of trade by respondents.

Table 4.2: Year of commencement of trade by the retailers

Year	Grains		Vegetables	
	Frequency	Percentage (%)	Frequency	Percentage (%)
1986 – 1996	46	23.5	34	20.8
1996 – 2006	60	30.6	55	33.5
2006 – 2014	90	45.9	75	45.7
Total	196	100	164	100

Source: field work 2014

As revealed in Table 4.2, there has been a consistent increase in the number of retailers of grain and vegetable. This may be as a result of increase in population and number of people seeking for a way to earn income and a improved standard of living through trading. A critical look at the percentage increase shows that 2006 – 2014 have a fairly large increase compared to previous years. This may also be attributable to the period of “new democratic” dispensation where increasing attention is paid to economic empowerment of people through various poverty alleviation programmes. Also with democracy, a lot of financial resources is released into the economy through campaign and election processes where people may get substantial money to invest in grains and vegetables retailing.

4.3.3 First Market Location of Commencement of Trade by the Respondents

Choosing a business location is perhaps the most important decision a small business owner or startup will make, so it requires rigorous planning and preliminary inquiries. It involves looking at demographics, assessing the supply chain, staying on budget, and much more. In line with this understanding the respondents stated their first place of commencement of trade as presented in Table 4.3

Table 4.3: First Market Location of Commencement of Trade

Market	Grains				Vegetables			
	Yes	%	No	%	Yes	%	Yes	%
Kwangila	2	1.4	1	1.9	11	9.6	3	6.8
Kofandoka	8	5.5	3	5.5	--	--	--	--
Hayindogo	6	4.1	--	--	14	11.7	5	11.4
Pada Zaria city	23	5.9	15	29.4	15	25.5	8	18.2
Dan magaji	8	5.5	5	9.8	7	5.8	5	11.4
Sabon-gari	58	40.0	15	29.4	41	34.2	17	38.6
Samaru	35	24.1	5	9.8	30	25.0	5	11.4
Zaria city main market	5	3.5	2	3.9	2	1.6	1	2.3
Total	145	100.0	51	100.0	120	100.0	44	100.0

Source: field survey 2014

Respondents that started the sales of the commodity in the present location dominated the respondents. The respondents believed that their present location is good and perfect place for their business. This reflects that grains and vegetable retailing may not have specific requirement except availability of prospective customers, hence moving and relocation to new markets are unwarranted. This is in agreement with the opinion of Strivatava (2008), which states that traders consider the most favourable outcome or profit for business in current location and relocating.

4.4 PATTERN OF GROWTH OF MARKETS AND RETAILING ACTIVITIES

Patterns of urban or population growth in a market, are important consideration in retail trade, growth pattern are known to affect sales of commodity within a market. Pattern of growth of markets are examined under the physical structure of the markets and nature of

expansion while the pattern of retailing activities are seen under ownership of retail centres and perception of traders on sales.

4.4.1 The Nature of Physical Structure of The Market

The physical structure provides the essential background for all human activities on earth including grains and vegetables retailing as presented in Table 4.4

Table 4.4: Distribution by the nature of the Physical structure of the market

Material structure	Grains		Vegetables	
	Frequency	Percentage(%)	Frequency	Percentage(%)
Concrete	30	15.3	25	12.8
Not build	65	33.2	50	25.5
Wooden	47	24.0	35	17.9
Open space with table tops	34	17.3	30	15.3
Open space without table tops	20	10.2	24	12.2
Total	196	100.0	164	100.0

Source: Field survey, 2014

Table 4.4 revealed the physical structure of grain and vegetable in the selected markets. Some of the respondents used different structures and materials for their retails. Most retailers in Kwagila and Kofar-doka markets use wood to make their shops but in Sabon-gari market (*Kasuwan mata*) and Zaria city, most of the retailers use concrete.

Selling in the open space without table and open space with table are common in Danmagaji market, part of Sabon-gari (*Baya gidan iya*) and some few locations in Zaria city. This may be as a result of the structural characteristics of the markets. Most of the shops that are made of concrete shops are found in a structured market and wooden shops mostly are found in a semi structured while non-structured market are mostly open space with table and without table.

Particularly, the physical structure reflects the economic fluidity of grain and vegetable retailing. As illustration, most of the retailers deals with commodities that are seasonal and immediately consumed by buyers who purchase in little quantity hence there is no need for large stores to keep the wares for buyers to see the variety of commodities on sale. Although these retailers (especially grains) usually bring out 3-4 bags for daily transactions, the bulk are usually stored in jointly owned stores close to their retail location. From these stores, they re-stock once the bags brought out for sale have been exhausted. This is similar for vegetables too (especially for *Amaranthus*) and other leafy vegetables whose shelf life are shorter. For the latter categories they restock on daily or 2–3 day basis since their commodities are sourced from areas close to their retailing points. This is in agreement with the work of Harris and Ullman 1945 which says retailing in urban area is a part and parcel of the pattern and growth where by certain district or streets are known for such functions

4.4.2 Ownership Shops / Stalls and Marketing Space

Ownership of shops and stalls in a market reveals the nature of retailing efficiency and independence. Self owner/occupied shops will be made (presumably) of good quality

materials compared to rented apartment. Similarly, government built and sold shops will be of similar pattern and structural standard. This ownership can be a pointer to the pattern as presented in Table 4.5.

Table 4.5: Nature of Ownership of Retail Outlets in The Markets

Ownership	Grains		Vegetables	
	Frequency	Percentage(%)	Frequency	Percentage(%)
Self-owned	110	56.0	89	54.0
Rented	70	36.0	60	37.0
Government	16	8.0	15	9.0
Total	196	100.0	164	100.0

Source: Field survey, 2014

Table 4.5 shows the nature of ownership of the structure for both grains and vegetables, the number of respondents that take the highest are those that own the building or shops by themselves while those that rent them are the next. This revealed that most of the buildings or shops were built by individuals and some of them gave it out for rent- age. For example in sabon-gari market some of the retailers owned their shop or open space as the case may be and other have more than one, gave the second out for rent age. This behaviour is applicable in all the markets. There are other retailers who are no longer interested in the business but owned a shop, or are relocating to another place and decided to sell it out to other retailers.

4.4.3 Nature of Market Expansion

Market is an arrangement that brings buyers and sellers together for the purpose of exchange. Such an arrangement may be a physical / geographical location where sellers and

buyers assemble to carry out exchange transaction. Expansion which is a subset of development of markets has some relationship with the general level of economic development in the society. The stage of economic development correlates with the form of market arrangement that is dominant in any particular society. The nature of market expansion is presented in Figure 4.2, 4.3, 4.4, 4.5, 4.6.

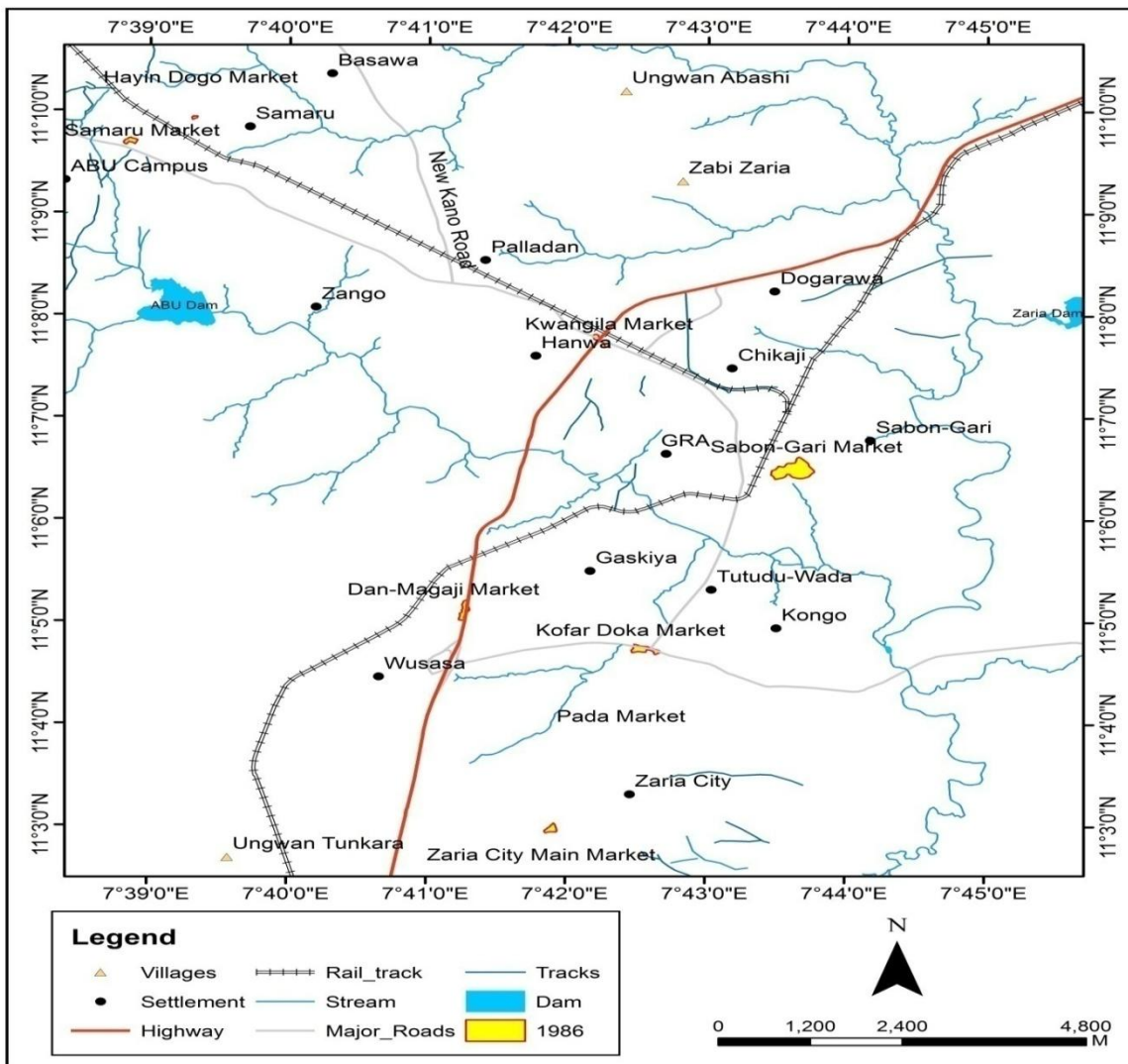


Figure 4.2 : Urban Zaria showing the nature of market expansion in 1986

Source: Satellite imagery

Figure 4.2 revealed the nature of market expansion of the 8 sampled markets in 1986. Dan-magaji market was 2.5 hectare in this year. Pada market was not in existent as at 1986. Sabon-gari market is the market with the highest hectare and is 12.6 hectare, this may be attributed to the fact that sabon-gari market is the main market in Urban Zaria while Hayin – dogo market is the market with the lowest hectare as at 1986 with 0.3 hectare.

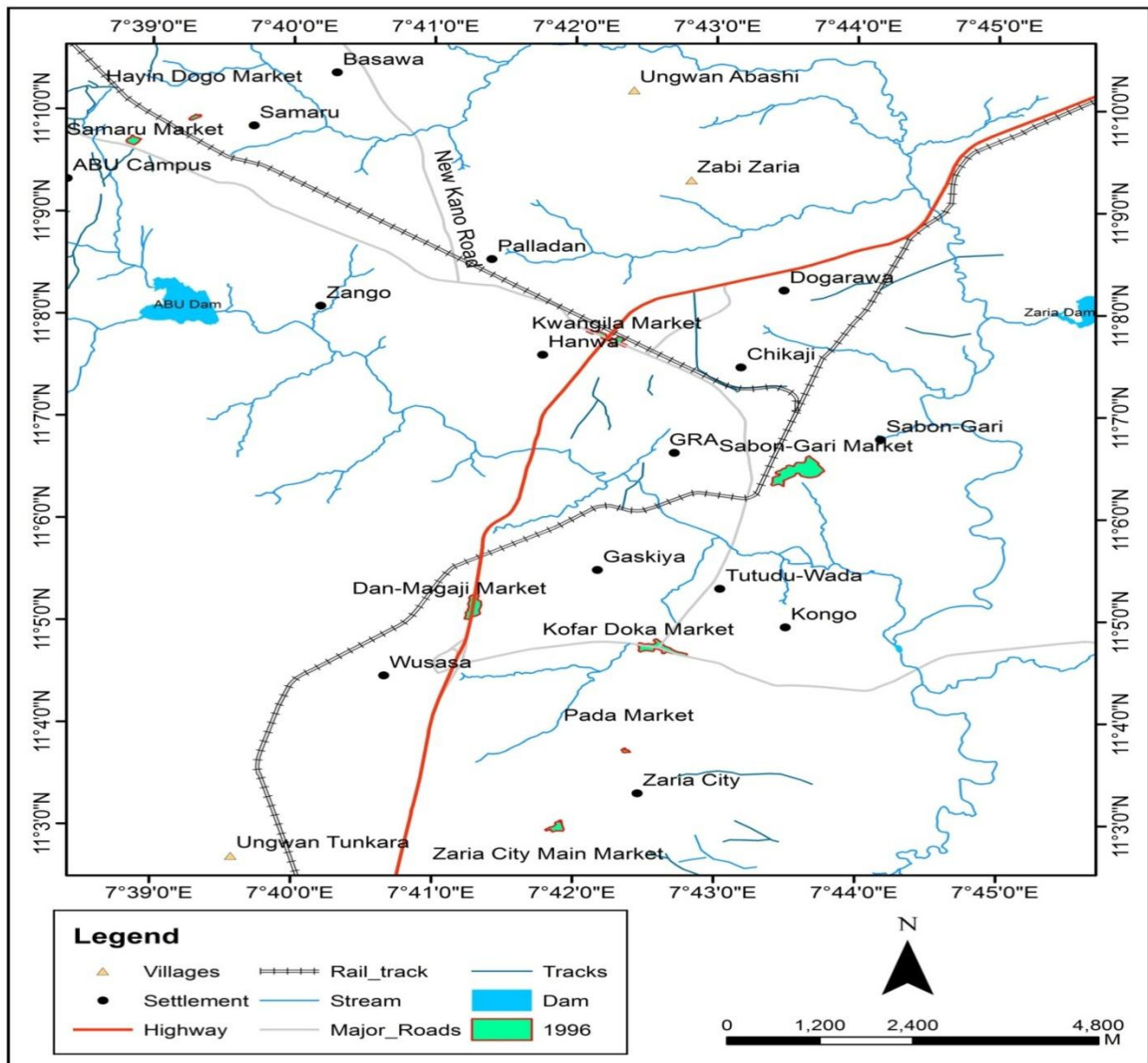


Figure 4.3 : Urban Zaria showing the nature of market expansion in 1996

Source: Satellite imagery

The study also revealed that after 10 years (1996) another imagery was taken in order to reveal the nature of expansion of the 8 sampled markets in the study area. The findings revealed that in 1996 all the markets increase but some were relatively high and others were low. For instance, Dan – magaji markets has increase to 6.0 hectare, Sabon – gari 15.6 hectare, Zaria city 2.4 hectare, Hayin – dogo 0.8 hectare among others. And Pada market has come to existence with 0.5 hectare.

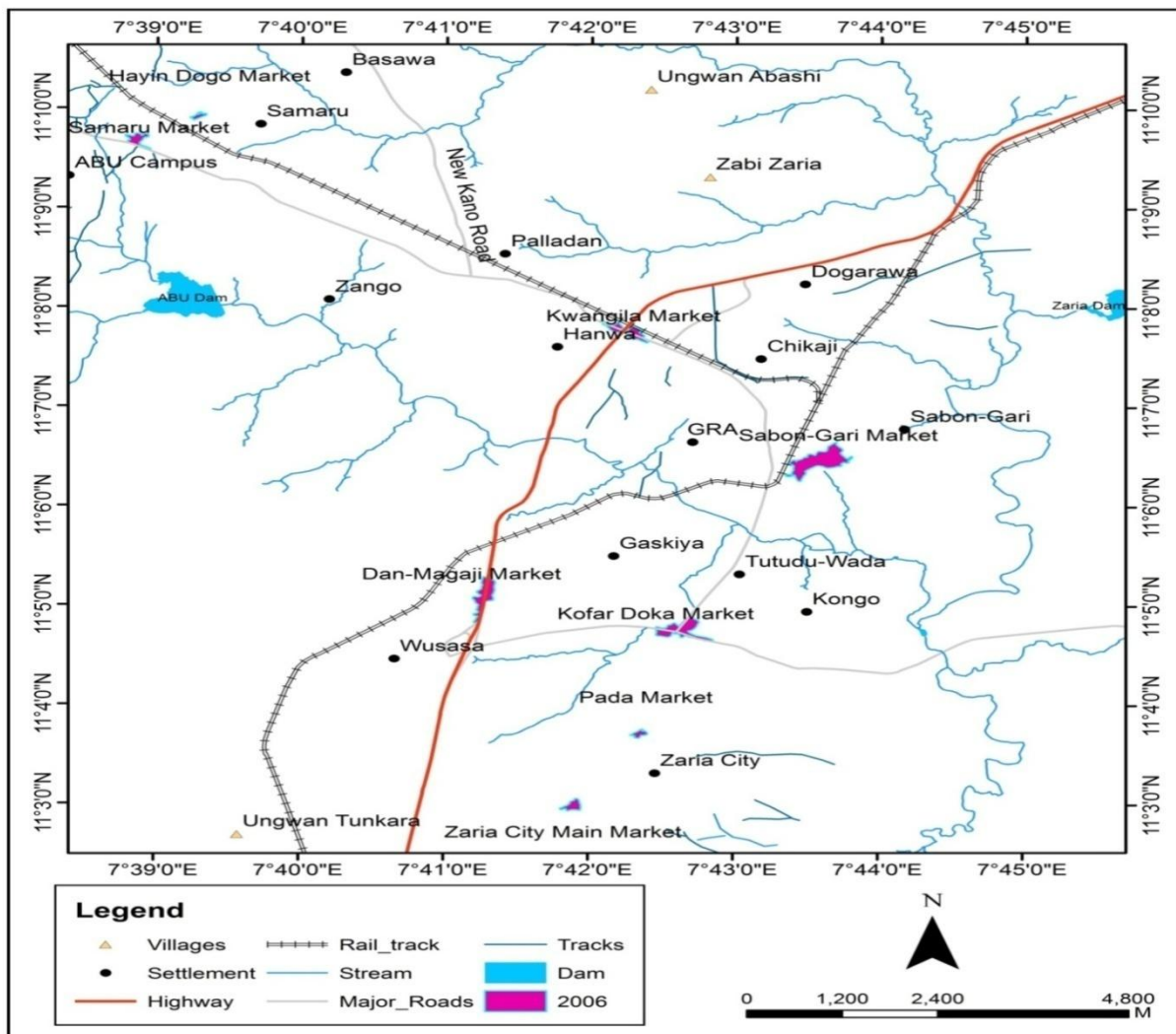


Figure 4.4 : Urban Zaria showing the nature of market expansion in 2006

Source: Satellite imagery

Figure 4.4 revealed the nature of expansion of markets on Urban Zaria in 2006. The increase still follow the same trend where some markets increased rapidly while others are relatively low. For example, Dan-magaji market has increase to 9.9 hectare, Hayin-dogo 1.2 hectare, Sabon-gari 21.3 hectare and Zaria city main markets to 3.1 hectare.

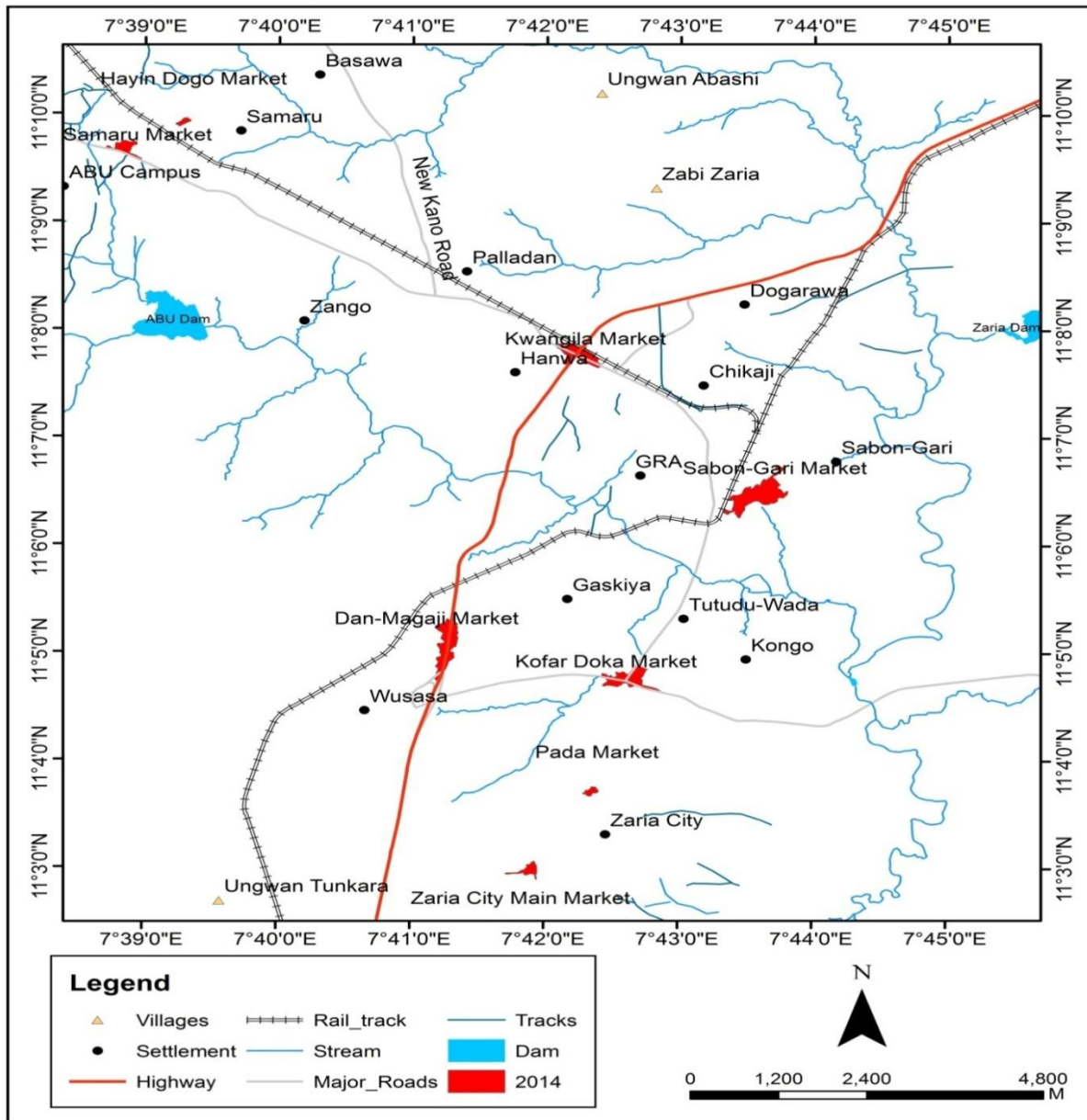


Figure 4.5 : Urban Zaria showing the nature of market expansion in 2014

Source: Satellite imagery

Figure 4.5 revealed the nature of markets expansion in 2014. This map revealed the nature of expansion after 8 years. For instance, Dan – magaji is 17.7 hectare, Sabon-gari market is 25.1 and Zaria city main market is 3.9 hectare. Comparing with 1986 nature of expansion of the markets, in some markets the expansion is rapid especially among the structured markets while some are relatively low among non structured and semi structured markets.

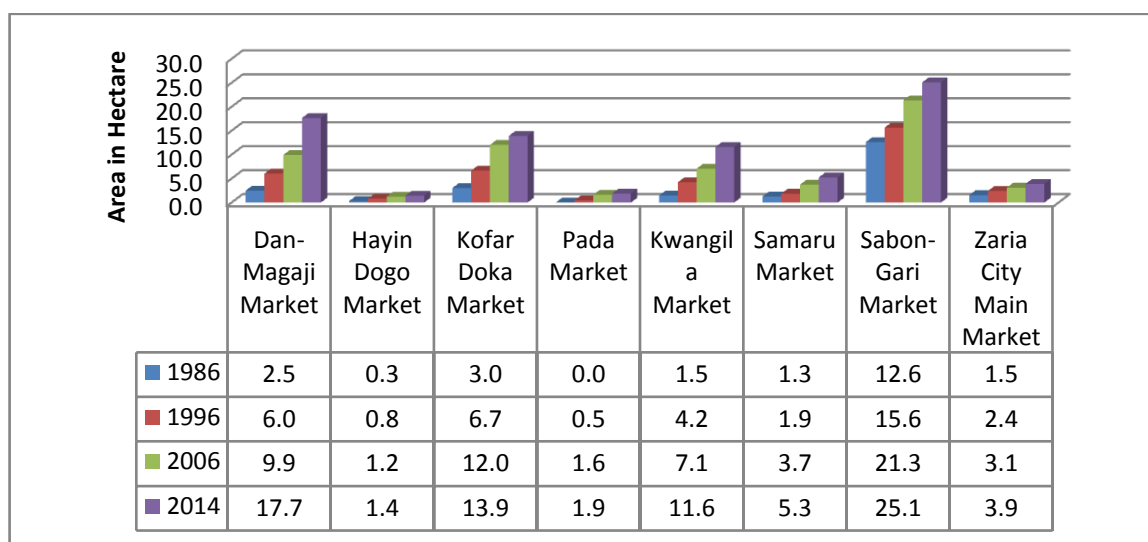


Figure 4.6: Summary of the nature of market expansion from 1986 – 2014

The study revealed the nature of market expansion from 1986-2014. Looking at the selected markets under study, there has been an expansion over the years. In some markets the nature of expansion is rapid especially the structured markets. While some are relatively slow and is common among non-structured and semi-structured markets. For example, Sabon-gari market witnessed tremendous expansion within the year under study. In 1986 the size of market was 12.6 hectare but by the year 2014 it has increased to 25.1 hectare which is almost double the size as at 1986.

Similarly, Dan- magaji follow the same pattern of expansion. In 1986 the market was on 2.5 hectare land and by the year 2014 it has increased to 17.7 hectare. This may be due to new settlements that emerged or spring up as a result of increase in population (e.g Ungwandankali, Jushi among others), intra-urban movement of people and also desire for better standard of living which will in turn lead to growth and expansion of market around the settlement.

On the contrary, Zaria city main market experienced low level of expansion. This market, being among the structured market in the study area is expected to have witnessed rapid growth like Sabon-gari and Dan- magaji. In the year 1986 the market was 1.5 hectare in size but in 2014 it was 3.9. The differences is 2.4 hectares which is low compared to other markets in the same structure. Kwangila market which ranked among the non-structured market has the same coverage as at 1986. In 2014, it has increased to 11.6 hectare making 10.1 hectare difference. This low expansion in Zaria city main market may be attributed to the fact that Zaria city is an ancient settlement that has reached all limit of spatial spread which may not favour the expansion of the market and most settlers settled around the boundary of the market which makes expansion difficult. This shows that for such settlement with expansive maturity only aerial expansion is the option through storey - building and sky – scrappers as currently experienced in some areas for departmental stores and industrial merchandize.

The pattern of growth among retailers in this selected markets under study are distinct in nature. Some are clustered, like '*Bayan gidan iya*' for vegetable and *kasuwa mata* for grain

in Sabon-gari market. Dan- magaji market is also experiencing clustered pattern among the vegetable retailers. Unidirectional pattern is prominent in Hayin-dogo and Kwangila markets. Dispersed pattern are traceable in all the markets but are common in Samaru market. This is in line with the findings of Klein (2000) that market expansion is considered as one of the priorities for booking agricultural production, marketing activities also have an intrinsic productive value, in that it adds time, place and possession utilities to products and commodities.

4.4.4 Perception of Sales Among the Respondents

Sales of agricultural commodities greatly influence the pace and direction of agricultural development. Sales serve as market signals of the relative scarcity or abundance of a given product; sales also serve as incentives to direct the allocation of economic resources and to a large extent determine the structure and rate of economic growth. The perception of estimation of sales made daily on grains and vegetables are illustrated in Table 4.6. Perception of sales is done because respondents were seriously unwilling to provide actual figures of sales (volume and value in Naria).

Table 4.6: Perception of traders on sales

Perception	Grains		Vegetables	
	Frequency	Percentage(%)	Frequency	Percentage(%)
High	35	17.9	22	13.4
Low	35	17.9	22	13.4
Fluctuating	126	64.2	120	73.2
Total	196	100.0	164	100.0

Source: Field survey 2014

Table 4.6 shows that sales of grains and vegetables are quite unstable. The majority indicated that their sales fluctuate with time and season. This is quite understood because these commodities are not only agricultural (that deals with seasonality) but many farmers supply commodities at the same time leading to gluts hence reduced price and corresponding low income. This finding agrees with that of Teka (2009) where the author found out that sale observed through time are as a result of a commodity mixture of changes associated with seasonal, trend and irregular factors. The most common regularity observed in agricultural sales is a seasonal pattern of change. Normally, sales of storable commodities are lowest at harvest time, rise as the season progresses and reach a peak prior to the next harvest.

4.5 FACTORS RESPONSIBLE FOR GROWTH OF GRAINS AND VEGETABLE RETAILING

Retail trade plays vital roles in the economic growth and overall development of a nation. Trade has become an increasingly important part of any economy, and it has been a significant tool used for economic modernization. Many factors influences retail trade as indicated by the respondents in the selected population under study and they are shown clearly in Table 4.7 and 4.8

Table 4.7 Ranking of factors responsible for growth of vegetable Retailing

Factors	Frequency	Percentage (%)	Rank
Population	59	35.9	1st
Good relationship with customers	45	27.4	2nd
Location of the market	27	16.5	3rd
Price	20	12.2	4th
Perishability	13	18.5	5th
TOTAL	164	100.0	

Source: Field survey, 2014.

Table 4.7 presented the factors that are responsible for growth of vegetable retailing as revealed by the respondents. Population and good relationship with customers ranked the highest in the factors and they were believed to be facilitating the growth of retailing. Also personal relationship built between retailers and customers developed trust for both groups hence some buyers regularly patronize the same retailers. This behaviour ensures customers loyalty as consumers continue to purchase from the same retailer. Price, location of the market and perishability are also factors responsible for the growth of vegetable retailing. For example, low price attract more customers while high price sent them away. Location of market determine the volume of sales for example retailers of vegetables in Sabon-gari market and Samaru cannot compare their sales with that of Hayin-dogo market. vegetables is a perishable food and has a short life span, it can easily get bad if not sold on time and this can go a long way in affecting the growth of retailing of it. This finding agreed with Abu (2004) and Chang (2002).

Abu (2004) reported the importance of personal interaction between retailers and customers which eventually developed customers loyalty. Also Chang (2002) indicated that population increase is a very important factor of growth in vegetable retailing alongside factor such as good environment. However, interview conducted with the retailers, revealed that good environment and cheap price are part of the factors that contributed to the growth of vegetable retailing in the study area.

Table 4.8 Ranking of factors Responsible For Growth of Grain Retailing

Factors	Frequency	Percentage (%)	Rank
Price	60	30.6	1st
Population	50	25.5	2nd
Location of market	40	20.4	3rd
Good relationship with customers	30	15.3	4th
Government incentive	16	8.2	5th
TOTAL	196	100	

Source: Field survey, 2014.

As revealed from Table 4.8, price ranked highest in factors affecting the growth of grain retailing in the study area which accounted for about one-third of the identified factors by respondents. This can be attributed to the fact that in marketing, price is a powerful and convincing tool to attract customers to purchase from a particular retail outlet. Customers tend to patronize retailers with low price or market where commodities are sold at a cheaper rate, for example price of grains are cheaper in Sabon-gari and Samaru markets compare with Kwangila market though Kwangila grains are neater than other markets. As Pride *et al*

(2005) had rightly said in their work that price is a tool which informs customers about the value of a product. Value ultimately bring satisfaction to the customers. Population ranked the 2nd in the factors, the higher the population of an area, the higher will be the level of patronage of the market, for example, due to the nature of the study area grains retailers have more patronage toward month end because most government and private workers buy commodities in bulk from the market. Location plays an important role in retailing, if market is too far from the people the rate of patronage will be low and it will affect the growth and development of retailing. For example Sabon-gari is the main market in Zaria and is located at a central place. Other markets too within the study area are located where people can get to. Government incentives ranked lowest in the factor. This is in line with the focus group discussion had with grain retailer, which revealed that most of the retailer complain of loan being difficult to access.

4.6 CHALLENGES FACING THE DEVELOPMENT OF GRAIN AND VEGETABLE RETAILING

Despite the increase in number of shops, and expansion of markets, retailers still face some challenges which need to be overcome. There are challenges facing the development (or the expansion) of grains and vegetables retailing in urban Zaria and are presented in Table 4.9

Table 4.9 : Challenges facing grain and vegetable retailing

Challenges	Grains		Vegetables	
	Frequency	Percentage(%)	Frequency	Percentage(%)
Shortage of land for expansion	61	31.1	24	14.6
Perishability	-	-	60	36.8
Location of markets in area prone to accident	15	7.7	10	6.0
Inadequate trading funds	120	61.2	30	18.2
Seasonality	-	-	40	24.4
Total	196	100	164	100

Source: Field survey, 2014

Table 4.9 illustrates the challenges facing the growth of grain and vegetable retailing as understood by the respondents in the study area. Inadequate funds and shortage of land for expansion ranked the highest among the challenges facing grain retailing activities. Starting a retailing business demand capital and most especially the retailing of grains demand more capital than of vegetable. As a result of inadequate trading funds most of the retailers cannot make head way For example Samaru market is close to the road and there are also residential buildings around the market so there is no room for expansion. The same is applicable to Sabon-gari and Kwangila markets. While that of vegetable are perishability and seasonality of the commodities. For both grains and vegetables, area prone to accident ranked the lowest i. e the rate of accidents in all the markets has been low.

These major constraints of the retails marketers in Urban Zaria, may be due to the fact that some of these retailers are not aware of the loan made available at Micro Finance Banks.

And also in some of the market location, houses are built around the markets that did not give room for proper expansion. For vegetables, this may be due to the fact that there is no large mechanized irrigation farming which is why some of these commodities are scarce in certain period of the year. This is in agreement with the observation of Kearney (2006) that retailing is capable of providing employment to millions of people if the challenges are handled. Solutions were given by the respondents to the challenges facing grains and vegetables retailing in the study area. The solutions are awareness and accessibility to loan facilities, involvement in cooperative society, safety precaution and highly mechanized irrigation farming .

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

This Chapter deals with the summary, conclusion and recommendations. Summary of findings based on questionnaires and in depth interview were presented. Conclusions were drawn based on the findings and recommendations were made.

5.2 SUMMARY OF FINDINGS

The study has analyze the spatial pattern of grains and vegetables retailing in Urban Zaria. The organization and placement of retailers in terms of distance between them and regularity of distribution among them necessitate the need for this study, with the view of understanding the nature and characteristics of the pattern and factors that are responsible for the pattern during the year under study. The spatial pattern of growth in the sampled market within the period of 28 years under study revealed that the nature of expansion is rapid among the structured markets and relatively low in semi structured and non structured markets. For instance Sabon-gari market in year 1986 was 12.6 hectare in terms of area coverage and in 2014 it has 25.1 hectare. Also Kwangila market had 1.5 hectare in 1986 and 11.5 hectares in 2014. The study also revealed that, Zaria city main markets ranked among the structured markets with low rates of expansion i.e. in 1986 the area covered was 1.5 hectare and in 2014 it is just 3.9 hectare.

The distribution patterns of the retailers in the selected market are with clustered, dispersed and unidirectional pattern depending on locations. Clustered pattern is observed in Sabon-

gari markets among the grain and vegetable retailers, similar to Dan-magaji markets among the vegetable sellers. Dispersed pattern is observed in all the market but common in Samaru market. Unidirectional pattern is prominent in Hayin-dogo market.

The factors responsible for the pattern of growth of vegetable retailing as revealed by the study are population (35.9%), good relationship with customers (27.4%), price (12.2%), location of retail outlet (16.5%), perishability (18.5%) and for grains the factors are good relationship with the customers (15.3%), price (30.6%), location of retail outlet (20.4%), population (25.5%) and government incentive (8.2%) as identified by grains and vegetables retailers.

The study also reveal some challenges faced by the retailers of both grains and vegetables. Some of the challenges for grains are shortage of land for expansion (31.1%), area prone to accident (7.7%) and inadequate trading funds (61.2%). On the other hands vegetable has perishability (36.8%) and seasonality of some of the commodities (24.4%). However, suggestions are proffered by the respondents on how to tackle and overcome some of these challenges which are awareness of and easy accessibility to loan facilities, involvement in cooperative society, safety precaution, and highly mechanized irrigation farming among other.

5.3 CONCLUSION

In conclusion, the study has evaluated the analysis of the spatial pattern of grains and vegetable retailing in urban Zaria. It can be deduced based on the findings of the study that

the spatial pattern of growth of retailing in the selected market with in the period of 28 years (1986 to 2014) under study revealed that the nature of expansion is rapid among the structured markets and most are clustered. Semi structured and non structured markets are relatively low and are mostly in unidirectional and dispersed pattern. The factors that are responsible for this pattern of growth as revealed by the study are population, good relationship with customers, price, location of retail outlet, population and government incentive as identified by grains and vegetable retailers. The findings also revealed some challenges faced by retailers of both grains and vegetables. Some of the challenges are shortage of land for expansion, area prone to accidents, inadequate trading funds, perishability and seasonality of some of the commodities which need to be overcome.

5.4 RECOMMENDATIONS

The following recommendations are made

1. There is need for State and Local Government councils to assist in the construction of some of these markets. This is because some retailers carry out their activities in open spaces and are vulnerable during rainy season and hot weather conditions.
2. Awareness and easy accessibility to loan facilities should be made available to the marketers by the Government to enable them support their businesses. This can be done by public awareness and enlightenment programmes. Also the loan should be flexible and easy for them to refund.
3. Marketers can form a cooperative society among themselves in order to help them boost their finances and also reduce the rate of drop out because of no capital.

4. There is need for safety precaution in order to reduce the rate of accident. This can be done by relocation to areas that are not prone to accident and the marketers should also take proper precaution.

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APPENDIX I

DEPARTMENT OF GEOGRAPHY, AHMADU BELLO UNIVERSITY
ZARIA, NIGERIA

Dear Respondent,

I am carrying out a study on the Spatial Pattern of Retail Trade in Grains and Vegetables in Urban Zaria. This study is an academic research leading to the award of master degree in M.sc Geography in the above named institution. Any information given will be kept confidential and used for the research study only. Your kind corporation is appreciated.

Thanks

SECTION A

Socio - Economic Characteristics Of Respondents

Instruction: please tick () your answer in the space provided

1. Gender of Respondent: Male ()
Female ()
2. Age of Respondent: (i) 20 – 30 years () (ii) 31 – 40 years () (iii) 40 and above ()
3. Level of Education: (i) Primary () (ii) Secondary () (iii) OND / HND/Degree () Not Educated ()
4. Marital Status: (i) Single () (ii) Married () (iii) Divorced
5. Religion (i) Islam () (ii) Christianity () (iii) Traditional ()

SECTION B

Locational Attributes and Year of Establishment

6. Location of the market _____

- i. Kwangila()
 - ii. Kofandoka ()
 - iii. Hayindogo ()
 - iv. Pada Zaria City ()
 - v. Dan Magaji ()
 - vi. SabonGari ()
 - vii. Samaru ()
 - viii. Zaria City main Market ()
7. In what year did you start the retail business? (i) 1986 – 1996 ()
(ii) 1996 – 2006 () (iii)2006 – 2014 ()
8. Is this the first market location you stated your retail business? (i) Yes (ii) No
9. If No, where was the location? _____
10. Where is the source of your commodity? (i) Jigawa () (ii) Kano () (iii)
Sokoto () (iv) Kaduna () (v) others ()

SECTION C

Pattern of Growth

11. What is the nature of Physical structure of the market ?
(i) concrete () (ii) wooden () (iii) open air with table top ()
(iv) open air without table top()
12. Who build the structure you are presently in? (i) Self-owned () (ii) Rented () (iii)
Government ()
13. Is the market expanding? (i) Yes () (ii) No ()
14. If No, what are your reasons _____

15. What are the factors responsible for growth of vegetable retailing?

- (i) Freshness ()
- (ii) Good relationship with customer ()
- (iii) price ()
- (iv) location of retail outlet ()
- (v) perishability ()

16. What are the factors responsible for growth of grains retailing?

- (i) Population ()
- (ii) Good relationship with customer ()
- (iii) price ()
- (iv) location of retail outlet ()
- (v) government incentive ()

17. What is the estimation of sales that you make daily?

- (i) high () (ii) low () (iii) fluctuating ()

18. What are the major challenges affecting the growth of your commodity?

- (i) Shortage of land for expansion ()
- (ii) perishability()
- (iii) Areas Prone to accident ()
- (iv) Inadequate trading funds ()
- (v) seasonality()

19. How can this challenges be overcome or reduced

APPENDIX II

INTERVIEW GUIDE FOR *SARIKIN KASUWA* AND RETAILERS

These questions were prepared to collect information on the project topic “**Analysis Of The Spatial Pattern Of Grains And Vegetables Retailing In Urban Zaria, Kaduna State, Nigeria.**”. The following are the questions researcher asked during the interview section.

1. Sir, when was this market established?

2. Where do you source your commodity ?

3. What are the factors responsible for the growth of grains and vegetables?

4. In what way has government been contributing to the growth of your retailing?

5. What are the challenges facing the growth of retailing in this market?
