SPATIAL DISTRIBUTION OF AUTOMOBILE MECHANIC WORKSHOP AND ROAD CONDITION IN EGOR LOCAL GOVERNMENT AREA OF EDO STATE

BY

HUVIEZO DIVINE CHINONSO
SSC1506876

DEPARTMENT OF GEOGRAPHY AND REGIONAL PLANNING
FACULTY OF SOCIAL SCIENCES
UNIVERSITY OF BENIN
BENIN CITY
NIGERIA

JULY, 2021

SPATIAL DISTRIBUTION OF AUTOMOBILE MECHANIC WORKSHOP AND ROAD CONDITION IN EGOR LOCAL GOVERNMENT AREA OF EDO STATE

BY

HUVIEZO DIVINE CHINONSO
SSC1506876

A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF GEOGRAPHY AND REGIONAL PLANNING IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF BACHELOR OF SCIENCE (B.Sc.) DEGREE IN GEOGRAPHY AND REGIONAL PLANNING,UNIVERSITY OF BENIN, BENIN CITY, NIGERIA

JULY, 2021

CERTIFICATION

We the undersigned, certify that this research project was carried out by HUVIEZO DIVINE CHINONSO in partial fulfillment of the requirements for the award of Bachelor of Science (B.Sc.) Degree in Geography and Regional Planning of the University of Benin, Benin City, Nigeria.

..... Date.....
Dr. T. F. Balogun

(Project Supervisor)

..... Date.....
Mrs. E. Otabor-Olubor

(Project Coordinator)

..... Date.....
Dr. G.O. Athedor

(Head of Department)

DEDICATION

This work is dedicated foremost to God Almighty for his grace and protection over my life. To my Parents Mr and Mrs Huviezo, to my sisters Mrs Odibei Victory, Miss Huviezo Favour, and to my beloved Nephew and Niece Winner, Daniel, Joy and Peace Chukwuneye without whose help and guidance I wouldn't have made it this far.

ACKNOWLEDGEMENTS

I would like to take this opportunity to express my profound gratitude to my beloved parent Mr and Mrs Huviezo **f**or their parental care and financial support all through my stay at this prestigious university. To my siblings, Mrs Odibei Victory,Miss Huviezo Favour Ebelechukwu,and the entire Huviezo family and my ever loving Friend Miss Iwuala Onyinyechi, Miss Aghas Rose their support and encouragement throughout the years.

I will also like to take this opportunity to express my profound gratitude and deep regards to my supervisor Dr T.F Balogun for his exemplary guidance, valuable feedbacks and constant encouragement throughout the span of the research work. His advice, suggestions and incisive criticisms helped shape the research work.I will also like to thank the HOD of Geography and Regional PlanningDr G.O Athedor,Prof Mrs. Ezemonye, Mrs. V.S. Balogun, Prof. B.A. Chokor, Dr. Osirike, Prof Mrs. Ikelegbe, Dr. Onaiwu, Dr. J. E. Agheyisi, Dr.Orobator.

I will also like to extend my sincere gratitude to my friends and colleagues including Rhwrona, Emmanuel, Anthonia, Obaro and every student of the department together; we shook the bridge.

TABLE OF CONTENTS

CHAPTER TWO: LITERATURE REVIEW AND THEORITICAL FRAMEWORK

CHAPTER THREE: RESEARCH METHODOLOGY

CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND DISCUSSION OF RESULTS

CHAPTER FIVE: SUMMARY OF RESULT, CONCLUSION AND RECOMMENDATIONS

LIST OF FIGURES

LIST OF TABLE

ABSTRACT

This study examines the spatial distribution of automobile mechanic workshop, and road condition in Egor local government area of Edo state Nigeria. the objectives of the study were to examine the distribution pattern of mechanic workshop in Egor; to assess the condition of roads; to ascertain the level of patronage of automobile mechanics during dry season and raining season; to identify some of the major challenges faced by vehicle owners: to examine the factors that influence the location of automobile mechanic workshop, and finally to examinethe effect of seasonal change in relation to the number of times vehicle owners visit automobile mechanic. Questionnaires were administered to a total of 200 respondents and the data collected was fed into the SPSS, ArcGIS and Microsoft Excel . The frequency table, bar graph, pie chart and regression model were applied to achieve the objectives and to test stated hypothesis, from our study, we realize that the automobile mechanic workshop are randomly distributed across the study area. We also discover that the condition of the road are very bad and has a direct effect on vehicles which therefore encourages the spatial location of the automobile mechanic workshop for vehicle maintenance and repair. It has been discovered that the level of patronage of the automobile mechanic workshop is high during raining season than during dry season because the road condition during raining season tends to be flooded, which in return has a negative effect on automobile vehicles. The study recommend that automobile mechanics should be giving every opportunity to undergo a series of training to upgrade their technical knowledge to meet the world standard of automobile vehicle repair and maintenance, also government should move swiftly in attending to the issues of the bad road condition in the study area.

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

The Urban landscape provides opportunities for diverse land uses as against rural which is homogenous in terms of activities. This is the reason why concerted efforts are taken by government to organize, allocate and utilize the urban land in a way that best suits the use of such land. This is perhaps the most fundamental role of urban planners. The spatial location of these activities within our urban environment defines not only the form and structure of such urban centers but determines the health, safety, convenience and beauty (aesthetics) of the community and its inhabitants; thus fulfilling the objectives of urban planning (Zhang 2004).

The location of economic activities within the urban area is very significant as every urban centre needs them not only as an integral component of the urban land use, but more importantly as the much needed economic base which is a spring board for urban growth and development. These economic activities are represented either as organized private and public sector otherwise called the formal sector or relatively unorganized and non public sector activity which is regarded as informal sector of the economy.

The quality of a work environment has a significant effect on its efficiency, productivity, and satisfaction of operators and customers. Automobile workshops are also

known as garages, they are places where automobiles are repaired by artisans which include mechanics, rewires, battery chargers, upholstery makers and vulcanizers, among others. Their locations, like several other informal activities, are without formal arrangement (Nwako, 2005) and as such remain unpredictable. This characteristic makes their potential impacts difficult for evaluation. Although the informal nature of the automobile workshops suggests that it will be fraught with quack and sub-professional services, they constitute an important aspect of urban land use and economy. Their location and organization must therefore be aimed at achieving a balance between proximity to service and the demand for harmonized aesthetics. Studies like this in spatial planning would lead to a better understanding of the distribution of informal automobile workshops, help dissect the dynamics of informal urbanization and further give direction to such urbanization thereby formalizing it (Potter, 2004).

On the other hand, the nature of road condition are observed in terms of its components of accessibility, connectivity, traffic density, level of service, compactness, and density of particular roads as well as the ability for it to aid the free movement of vehicles (Mannering, Walter, and Scott, 2004).Access to good roads provides relative advantages consequent upon which commercial users locate to enjoy the advantages. Modern businesses, industries, trades and general activities depend on transport and transport infrastructure, with movement of goods and services from place to place becoming vital and inseparable aspects of global and urban economic survival. (Zacks and Tversky, 2001).

Road transportation infrastructure has been recognized by many scholars in recent years not only as an important economic growth facilitator, but also as the backbone of economic development activities for many industrialized countries, this means that road transportation infrastructure including highways and rural roads is vital for movement of goods and services critical to a country's economic vitality, and has been recently categorized by many scholars as the most important engine for economic development (Burmingham and Stankevich, 2005).

The nature of the road in Egor is not in any way encouraging, the road is over flooded with pot holes, in fact the problem of Pot-holes on the Egor roads has become an embarrassing stigma. This deplorable conditions of the roads is such that require a quick emergency to ameliorate the situation. Indeed, normal interactions in several parts of the local government has been frustrated by pot-holes that hampered vehicular movements. Most vehicles are not optionally utilized as these several and multiple pot-holes and detours imply that these vehicles break down severally, which at the end prolong and frustrate commuters, leaving them stranded with numerous severe consequences on the road (Burmingham and Stankevich, 2005).

The nature of the road pushes the vehicle owners to visit the mechanic workshop in the area more often than expected. The effect of this is that the cost of living in the area is now high and the cost of transportation is also high. Egor is a Local Government Area of Edo State, Nigeria. Its headquarters is Uselu. Egor is one of the LGAs that makes

up the metropolitan area of Benin City. It has an area of 93 km^2 and a population of 339,899 at the 2006 census. The postal code of the area is 300.

1.2 STATEMENT OF THE RESEARCH PROBLEMS

The lack of road maintenance has created huge market for automobile mechanics. inadequate maintenance is associated with rapidly growing traffic, poor road maintenance standards, and design and construction deficiencies. Reports shows that lack of proper road maintenance result in huge damage to vehicles plying the road and also increase the cost of living and transportation as a result of the huge money spent by vehicles owners in repairing the damaged vehicles, the effects can be exacerbated by natural disasters (Annual Evaluation Review, 2013). According to reports in a finding conducting on the nature and conditions of the Nigerian roads, less than 5% of Nigerian budget is spent on routine road maintenance, with most maintenance funds used to respond to emergency needs. Where road condition surveys took place, many roads were found to be in poor condition. In one case, only 40% of national roads were in good condition; in another, 60%; in a further case, 48% in poor condition and 32% in very poor condition (Annual Evaluation Review, 2013).

The lack of implementation of urban master plans, development plans and other related type of plans in our urban centers has continually been the bane of effective planning in Nigeria. Consequently, land use such as that of automobile mechanic workshop evolved unplanned with artisans identifying any open space within the built

environment to carry out their activities. This can lead to deterioration in environmental quality, poor sanitary condition, poor accessibility, and change in land use. This is a major problem even in the new millennium, (Ijaiya and Umar 2014)

The urban land uses are left at the dictates of these mechanics who take decision on where their activities are located and function even at the detriment of other land users; this, most times brings about conflicts on the use of land whereby incompatible uses tend to find themselves juxtaposed with one another, thus negating the fundamental objectives of urban planning.

However, in Egor local government area specifically, the spatial distribution of automobile mechanic workshop has created a huge problem for registered vehicles in the area, this is more devastating considering the nature of the road of the area. It becomes worrisome when the authorities concern shows little or no concern about the bad conditions of the road.

1.3 RESEARCH QUESTIONS

The following questions are stated for the purpose of this study:

1 What is the distribution pattern of automobile mechanics workshop in Egor?

2 What is the condition of the road of Egor?

3 What is the level of patronage of automobile mechanic during dry season and raining season Egor?

4 What is the effect of seasonal change in relation to the number of times vehicle owners visit automobile mechanic workshop?

1.4. AIM AND OBJECTIVES

The aim of this study is to assess the spartial distribution of automobile mechanic workshop in Egor Local Government Area Of Edo State **.**

The following objectives were considered in this work.

1 To examine the distribution pattern of mechanic workshop in the study area.

2 To assess the condition of roads in the study area.

3 To ascertain the level of patronage of automobile mechanics during dry season and raining season.

4 To examine the effect of seasonal change in relation to the number of times vehicle owners visit automobile mechanic.

1.5 RESEARCH HYPOTHESIS

The following Hypothesis will guide the study

Ho: the spatial pattern of the mechanic workshops in the study area is randomly distributed.

1.6. SIGNIFICANCE OF THE STUDY

This study is imperative as it reveal the distribution and implication of automobile mechanics workshops in Egor local government. The work is also significant as it will

serve as a working document for policy making especially on repairing the bad roads in the local government as well as determining the road condition in the local government area.

The work also reveals the effect of seasonal change on the level of patronage of automobile mechanic workshop in the area. Furthermore, the work is important to general road users like motorist, it will reveal what inform their decision to locate where mechanic workshop are. This work will serve as a model for other local government in the state and the country at large.

1.7 SCOPE OF THE STUDY

This research study is on spatial distribution of automobile mechanic workshop, road conditions and registered vehicles in Egor local government area. It discusses the operations of automobile mechanic workshops in Egor local government area. The condition of the road in Egor was also examined, this is necessary as it will give a clue to policy makers and government to know the problem encountered by the motorist in the area.

1.8 STUDY AREA

1.8.1 Location and Size

Egor Local Government is one of the 18 local government areas in Edo State. This local government was carved out of the defunct Oredo Local Government in 1996 with its headquarters at Uselu by the late General Sani Abacha's regime.. Egor is one of

the local government areas that are part of the larger metropolitan area of Benin City and it has a landmass area of 93 km^2.

1.8.2 Population

According to the National Bureau of Statistic (2008), Egor Local Government is one of the rapidly growing L.G.A in Nigeria, with a population rising rapidly from 339,899 in 2006 to 445,800 in 2016. In the same vain the population of Egor is projected to be 482,000 by 2020 taken into account a population growth rate of 2.7.

1.8.3 Climate

The weather is uncomfortably hot and humid year-round, and generally very dull, especially between July and September. It has a mean annual rainfall in the range of 1500 mm to 2500 mm and the mean monthly temperature varying from 25 °C to 28 °C (Benin Kingdom/Edo State Weather, 2018) and an average elevation of approximately 466m above the sea level (Ojeifo et al., 2012).

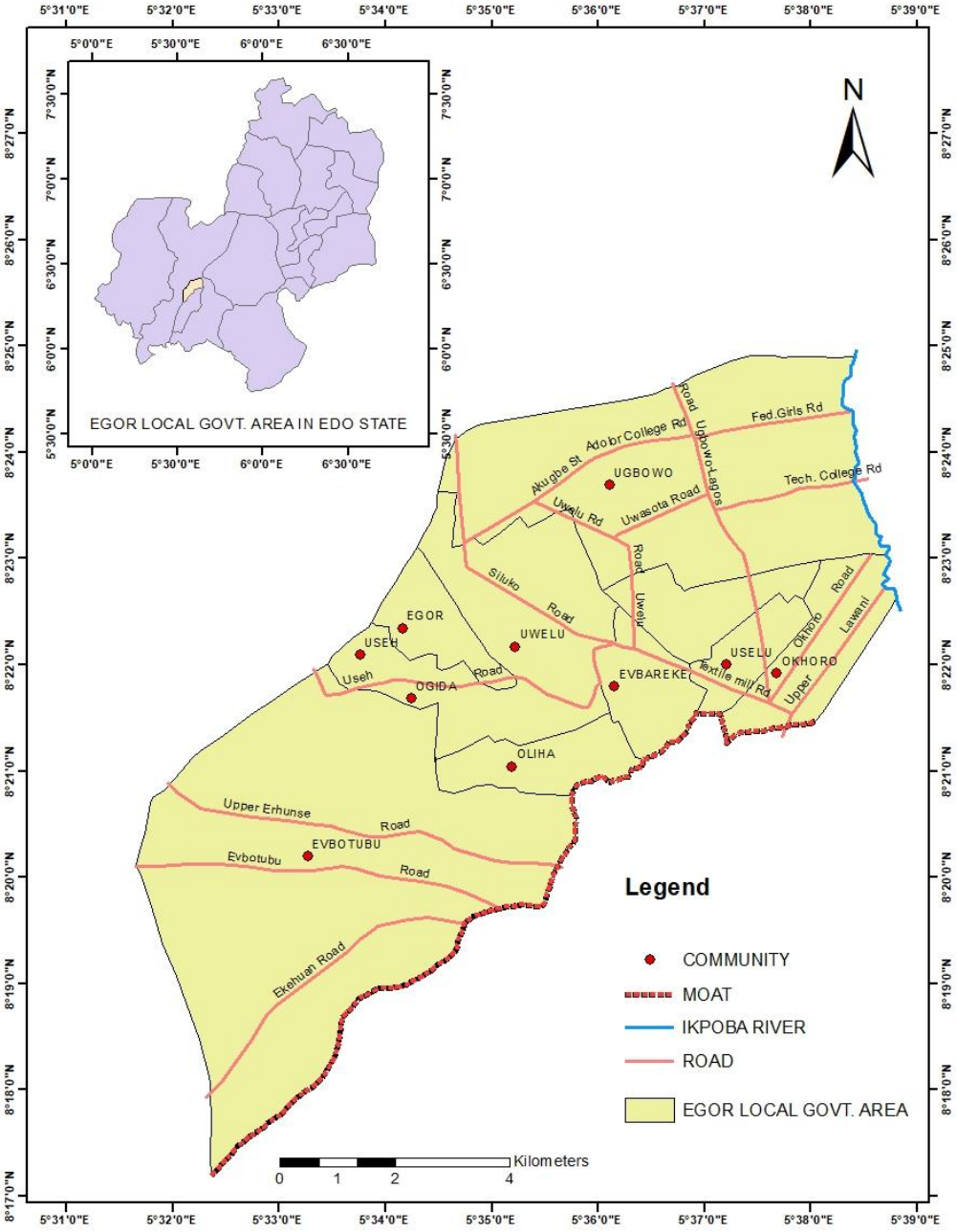

Figure 1: Map Of Egor Local Government Area.
Source: Ministry Of Lands And Survey Modified By The Researcher 2021.

CHAPTER TWO

LITERATURE REVIEW AND THEORITICAL FRAMEWORK

2.0 INTRODUCTION

While the previous chapter focuses exclusively on introducing and defining the basic terms involved in the research, this chapter examines the review of relevant literature and concepts as well as various theories that bothers on the study.

2.1 REVIEW OF THE LITERATURE

Although the movement of man from one place to another has a long history, the rate and volume of this movement has increased remarkably since the turn of the century. This is as a result of improved infrastructure, socio-economic development and technological innovation which has facilitated the movement

2.1.1 Development of Auto Mobile Mechanic Industry in Nigeria

The advent of automobile repair service industry in Nigeria can be traced as far back as 1920 in Lagos during the colonial era, but its growth began with the establishment of vehicle assembly plant (VAP) in 1959 which is now known as General Motors Limited, to assemble trucks from semi-knocked down components. Thereafter, a number of companies including Leventis, RTB Briscoland SCOA also invested in the automobile industry in Nigeria. During this period some uncoordinated efforts were made by the private sector using wood and flat sheet to build cob on truck chasis. The Federal government's direct investment in the automobile industry began in the year 1970,during the Second National Development plan (1969–

1974), when it promoted the establishment of the first two car assembly plants in Nigeria, namely Volkswagen of Nigeria (VWON) Lagos, and Peugeot automobile Nigeria (PAN) Limited, Kaduna. This was followed by the Third National Development Plan (1975 – 1980).

This include Anambra Motor Manufacturing Company(ANAMCO) Limited Enugu, Ley land Nigerian Limited, Ibadan, Steyr Nigerian Limited, Bauchi, and the National Truck Manufacturers (NTM) Limited Kano. These were responsible for the training of automobile repairers in Nigeria who in turn became experts in the servicing and maintenance of vehicles in Nigeria (Duchi2005).

2.1.2 Spatial Distribution of Automobile Mechanics

A spatial distribution is the arrangement of a phenomenon across the Earth's surface and a graphical display of such an arrangement is an important tool in geographical and environmental statistics. Spatial Distribution Pattern of Automobile Workshops in Egor are discovered to align linearly along road networks. The spatial distribution pattern of mechanic workshops is informed by two primary factors which are access and quest for customers. The quest of automobile artisans for access is driven by their objects which are automobiles. Meanwhile, the relationship between either the quantum of automobile mechanics activities or the size of the automobile workshop and the accessibility level of the automobile workshops has not been so established in the existing literature, but central to all workshops is access. On the other hand, quest for automobile customers is crucial in determining the nature of mechanic workshop location.

The mobile nature of motorists demands the swift response of mechanics because except from minor faults which can be paused till either the vehicle is driven to the routine mechanics; automobile faults are in most cases repaired by closest mechanics to the location of the fault. Since most of the faults take place on road, mechanics workshops are usually located along major roads to catch the next available customers, not minding whether or not the locations where they are will distort any existing land use plan or have negative impacts on the adjoining or nearby land uses.

In Egor local government area, automobile workshops are randomly located in the area. Hence, automobile workshops can spring up beside, behind or within any form or type of land use along major road to distort the existing land use plan (if any). This is observed to be a great challenge for maintaining order in the city. Each mechanic workshop in Egor local government is observed to be only about 500meters apart.

2.1.3 Skills Requirements Of Roadside Mechanics

Motor vehicles which were manually operated some centuries back are now electro-mechanically operated. Computers are common place in modern day automotive design; braking, steering, starting and suspensions system are few examples of items now technologically operated. Automotive technology has been evolving since the turn of the century. During the period from 1930 to 1970, the main body of automotive technology was mechanical they were relatively simple for any roadside mechanic to repair. By the early 1980's the introduction of information technology in automotive has triggered the most rapid technological advancement in the automotive industry. With the computers

available, automotive designers have developed numerous sensors and controls (Akinbinu, 2001). Now computers have even been used as components parts for brakes, steering, chassis systems and other parts of automobile. Technologies have recently been incorporated in all new automotive subsystems and have become standard implementation on many others. Such features as antilock braking system and airbag could only be achieved practically through the use of technology.

These features are rapidly becoming standard features in all new automotive owing to change in customer's taste for automotive and status symbols attached to car ownership. All these systems require maintenance and repairs. The competencies required to maintain automotive of the 1900's show little similarity with the competency required of the 2st century. Around 1970's and 1980's roadside mechanics used what is termed the 'try and error' to repair almost all automotive vehicles, but in the 21st more sophisticated technology has made it possible that a mechanic who refuse to upgrade it skills may not have enough customers to attend to in the 21st century.

Egor local government is a home of both local and sophisticated mechanic workshop. These shops are dispersed from each other with a reasonable distance between them. However, rapid development of automotive technology has presented some challenging problems for roadside mechanics in the country. The use of scan tools like On-Board Diagnostic, One, Two and Three (OBDI, OBDII, and OBDIII) are common place in the repair of automotive in the manufacturer's approved service centers today. The on-board diagnostic (OBD) is an automotive term referring to a vehicle's self-

diagnostic and reporting capability.OBD systems give the vehicle repairer access to the status of the various vehicle sub-systems and give the mechanic a clue as to where to look at when a problem occurs on the vehicle (Akinbinu, 2001). But for one to be able to use this tool the mechanic must be able to understand the principles behind its usage.

A skill gap analysis was conducted by NAC which collaborated with the Federal Ministry of Labor and Productivity and a German Technical Cooperation in Nigeria to ascertain the difference between available know how and the requirement of modern automobile maintenance in Nigeria, so as to identify the skill deficiencies of the Nigerian auto mechanics. Based on the result, NAC developed new mechatronics training curricula and study texts to improve the technical know-how to mechanics across the country in other for them to meet up with the new automobile technological trends.

2.1.4 Nature of Automobile Mechanic Workshop in Egor

Auto mobile mechanic can be categorized under the term service industry. Service industry connotes a wide range of activities which has various definitions by different authors. Duchi (2005) defined service industry as industry devoted to the repairs, servicing and maintenance of goods as distinct from manufacturer. Duchi (2005) cited Dore (1976) who writing on the informal sector, identifies service industry as “the roadside and empty lot mechanics who will weld on a burnville cocoa tin to the exhaust pipe of the civil services Mercedes, the leather worker making hand bags for tourist trade, the furniture makers, the men who convert empty cans from garages twice in a day and have them processed into serviceable lamp by sunset”.

Automobile repair service industry as earlier defined, carryout the repair service and maintenance of motor vehicles thus enhancing the road worthiness of all types of motor vehicles. In Egor local government, the automobile mechanics in the area is a service industry. The nature of operations of the automobile mechanic workshop can best be appreciated if we classify them.

2.1.5 Classification of Automobile Workshop in Egor

Classification of the automobile services in Egor local government can either be according to types of workshops or according to the hierarchy of vehicles repaired. Duchi (2005), Meekyan (1980), Ahmed (1983), Kaura (1985) and Ojibo (1990) in their works on automobile repairs workshops classified the automobile services industry according to the type of workshop and level of services provided. They identified the following three types of automobile mechanic workshop namely:

i. Modern/Standard Workshop

ii. Fuelling station Workshop

iii. Wayside/ Roadside (private) Workshop.

Modern/Standard Workshop: This refers to garages or organized motor repair service workshops that are characterized by advanced technical skills and equipment, higher servicing cost and formal servicing procedures resulting in delays. They in addition undertake repairs and services as well as sales of vehicles and spare parts on formal sites approved by authorities. Examples of these standard garages are SCOA motors, Leventis

Motors, UTC Motors, Mandilas. Many of which have closed down in most Nigerian towns giving rise to the dominance of the other two types.

Fuelling stations: This category of motor services workshops undertakes the sale of fuel and minor maintenance work such as change of oil and lubrication, wheel balancing and alignment etc. These have the tendency to locate linearly along major roads in the urban areas.

Roadside/ Wayside Workshop: These are usually sole proprietor operated workshop in urban areas and are characterized by poor aesthetic surrounding, indiscriminate disposal of waste such as vehicle scraps, used engine oil, closeness to roads, operates in the open air, under sheds of trees or in temporary sheds (Ijaiya and Umar, 2014). They require little space for establishment and locate linearly along major traffic routes. The "roadside" mechanic workshop can further be classified according to the type of vehicle repaired. These repairs include vulcanizing, battery charger, electrical repairs or rewire, car upholstery, motor cycle repairs and maintenance of all kinds of light kinds of cars, saloon car, medium cars, like minibuses, delivery van, land rover and heavy duty vehicles such as lorries, tippers, tractors and tankers. These types of auto repairs are broadly classified as light vehicle repair. This category engages in vulcanizing, battery charging, electrical repairs, car upholstery, motorcycle repairs, repairs and maintenance of light vehicles etc. this is the type that is mostly found in Egor local government area.

2.1.6 Nature Of Roads In Egor

One of the major challenges to the economic and social well-being of Nigeria in the past five years is the steady decline in the number of transport facilities nation-wide resulting to road transportation problem. Nigeria is presently on the average of an imminent crisis and a state of paralysis of transportation. This is particularly manifested in the problems experienced in mass transit in rural areas as well as in urban areas. Road are very important to people who travel from place to place along them on foot, on bicycles, by cars etc. Food and other goods come to people along roads, from the market in a nearby village, from the factories in towns and cities or from far away countries (Pitt and Clark, 2008).

In Egor LGA, the popular means of transportation is road, however, the nature of the roads in Egor can be said to be far from good. A lot of economic activities have been hindered due to bad road leading to shortage of vehicle, and hike in fares. These bad roads are sometimes flooded with water and people find it difficult to move from one place to another even along footpaths as a result of water that has accumulated all over the place. Transportation has become unbearable to the people within Egor local government area by and large,

It is imperative to note that the rapid growth of our nations, the problem of urbanization, the growth of industries and our commitment to rural development are factors that call for an effective implementation of the national transportation coordination policy. Bad road as one of environmental hazard has posses a serious danger

of risk to lives and properties of peoples in Egor environ. The rapid increase of the number of bad roads and its contributing factor to flooding had rendered agricultural and commercial activities even residential land use had been degraded or damaged in Egor Local Government Area. This has made transportation in Egor difficult for the people of the area, even buildings in the area is rendered useless e.g. (teachers house) until it was repaired by the Oshiomhole led administration in Edo State.

2.1.7 Effect Of Bad Roads On Registered Vehicles In Egor

The use of automotive vehicles on our roads plays a key role in road transportation system. In Nigeria where land transport is largely in use compared to water, air as well as other modes of transportation. A continuous use of vehicle results in general wear, tear and breakdowns and as the parts breakdown and wear out, so, must be maintained. However, in Egor local government area, the nature of the road to a large extent contribute to the damage the car suffers frequently. This forces the vehicle owner to also visit the mechanic workshop frequently for the car to be maintained. When something is maintained, the idea is to keep it in a good and functional state. (Omisakin, 1999).

It is important to state that bad roads in Egor does not only affect registered vehicles but also affects lives and property. Poorly-maintained roads in Egor cause half of the fatal auto accidents that happen each year. Bad roads in Egor cause accidents in a variety of ways, mostly due to the fact that they create an enormous hazard to drivers. In many instances, a driver may attempt to avoid a certain situation, like a pothole or

pooling water which could cause a serious accident. This road condition makes the vehicles owners to regularly visit the mechanic workshop in Egor for vehicles maintenance and end up spending huge amount of money for repairs. Vehicle maintenance refers to a practice where an automotive is serviced on a regular basis to prevent a major breakdown or the need for major repair. Examples of the type of auto services that may be sought for maintenance purposes include changing the oil, changing the spark plugs, and rotating the tires. It is believed that an automotive vehicle will last longer and operate better if a person adheres to the vehicle maintenance schedule (Oni, 1999).

2.2. THEORETICAL FRAMEWORK

A Theory can refer to a formal set of ideas that is intended to explain why something happens or exists. It is the principle on which a particular subject is based. Furthermore, it is an opinion or idea that is believed to be true but not yet proven. There are no established theories that explain why automobile mechanic workshop locate where they are, however there are theories that explain location of industries generally. These theories can also be applied to location of automobile mechanics workplaces since they are service industries. Models have been formulated in an attempt to explain the complexities affecting industrial location. The theories guiding this study include

2.2.1 Facility Location Models

This model was postulated by Mahmud and Indriasan in 2009. This concerns the provision of a service to satisfy aspatially dispersed demand (Mahmud and Indriasan,2009). The understanding is that since it is impossible to provide from a few centralized locations. Examples of facility location models are the P-median problem (PMP), location set covering problem (LSCP) and maximum covering location problem (MCLP). This model has an objective to minimize the total or average distance between facilities and demands assigned to them.

2.2.2 Weber's Theory Of Industrial Location

This theory was propounded by Alfred Weber in 1909. Alfred was a German Spatial economist who in 1909 derived a model to try to explain and predict the location of industry. Like Von Thunen before him and Walter Christaller later, Weber tried to find a sense of order from apparent chaos and made assumptions to simplify the real world in order to produce his model. His assumptions include that there was an isolated state with relief, a uniform transport system in all directions, a uniform climate, a uniform cultural political and economic system.

Most of the raw materials were not evenly distributed across the plain (This differs from Von Thunen). Those which were evenly distributed (water, clay) he called ubiquitous materials. As these did not have to be transported, firms using them could locate as near to the market as was possible. Those raw materials which were not evenly distributed he called localized materials. The size and location of markets were fixed.

Transport costs were a function of the mass (weight) of the raw material and the distance it has to be moved. This was expressed (+/km). Weber suggest that those who choose location for business do so to seek the lowest-cost location (LCL). Smith in 1947 added that some industrial choose location which will give the highest profit. These model tends to explain that the location of a business is fundamental in the profit making venture of that business.

2.2.3 William Alonso's Theory Of Land Rent

William Alonso formulated this theory in 1964 that borders location and land use. This theory was built upon the Thunen model to account for intra-urban variations inland use (housing, commercial and industrial). According to his theory, each land use type has its own rent gradient or bid curve. The curve sets the maximum amount of rent any land use type will yield for a specific location. Households, commercial establishments, and industries compete for locations according to each individual bid rent curve and their requirements for access to the unity centre. All households will attempt to occupy as much land as possible while staying within the accessibility requirements. Since land is cheaper in the fringe of the city, households with less needs for city center accessibility will locate near the fringe, these will usually be wealthy households.

Poor households require greater accessibility to the city centre, competing with commercial and industrial establishments. This will tend to create a segregation land use system because households will not pay commercial and industrial land prices for central location.

CHAPTER THREE

METHODOLOGY

3.0. INTRODUCTION

This chapter presents the main research design and methodology adopted in this study with a view to providing proper understanding of the research topic. The research methods and procedures are discussed as follows:

- Research Design
- Source of Data
- Research Population
- Sample and sampling Techniques
- Method of Data Analysis

3.1. RESEARCH AREA AND DESIGN

Research design is a plan, structure and strategy of investigation so conceived as to obtain answers to research questions or problems (Kumar 2011). Research design is a complete scheme or program of a research. It includes an outline of what the investigator will do from writing the hypotheses and their operational implications to the analysis of data. Omorogiuwa (2006) has offered the procedure for survey research to include

identifying the research objectives, definition of sample size and sampling method, construction of the instrument, collection of data and data analysis.

The research design for this study is the descriptive survey research design. The descriptive survey is a survey method where data is collected using questionnaire or interviews, and the sample selected after being analyzed is generalized to represent the entire population. The design is deemed appropriate because it will be used to collect accurate data from respondents' perception of the analysis of spatial distribution of automobile mechanic workshop in egor local government area, Edo State.

3.2. SOURCES OF DATA

The sources of data include both the primary and secondary sources of data. The secondary source of data consists of relevant information from journals, articles, magazines, research report from government agencies and parastatals and the internet.

Primary information will be collected from both direct interview and personal observations. The main primary information was obtained through the administration of questionnaires. The questionnaire consists of closed and open-ended questions. The close-ended questions provided check list from which respondents ticked appropriate answers while with the open-ended questions, the respondents supplied information with his or her own words This is essentially to complement the already available secondary data.

3.2.1. Questionnaire Design

The questionnaire was designed specifically to help address the issues raised in the objectives of the study. The first part of the questionnaire focused on the demographic background of respondents. Information on the gender, professional background and years of experience was included in the demography. The second part of the questionnaire focused on the spartial distribution of mechanic workshop in Egor. And the impact of the condition of Egor roads on registered vehicles. Also contained in the questionnaire are questions that explored respondents' knowledge and awareness on the issues raised in this study.

3.3. RESEARCH POPULATION

Egor local government has an area of 93 km^2 and a population of 339,899 at the 2006 census, this figure was projected to 482,000 by 2020. From this projected population, the sample size to be included in the study would be determined.To be eligible for the survey, participants needed to be residents in Egor local government area, and must be between the ages of 18 to above 65 years and must have lived in the communities for not less than 3 years. There are about 10 wards that makes up Egor local government, these include Evbotubu, Ogida, Oliha, Evbareke, Uwelu, Useh, Uselu, Okhoro, Egor, and Ugbowo. The respodents were drawn from these 10 wards.

3.4. SAMPLE AND SAMPLING TECHNIQUE.

The target population for this research project will be the automobile mechanics

spread across the different wards in the study area as well as the respective vehicle owners who patronize these automobile mechanics in their respective location. A total of ten (10) wards will be randomly selected. These wards are: Evbotubu, Ogida, Oliha, Evbareke, Uwelu, Useh, Uselu, Okhoro, Egor, and Ugbowo. An equal number of questionnaire from a total of two hundred (200) copies of questionnaire will be sampled across the various wards. Thus a total of twenty (20) questionnaires will be administered in each wards to the respective mechanics and their customers in the wards where their workshop are located. In this situation, the choice of target population to whom the questionnaire will be administered is based on purpose which the research title defined. This will be randomly selected.

3.6. METHOD OF DATA ANALYSIS

3.6.1 Descriptive Statistics

This will be used to analyze the data using tables, chart and graph. It will also help to understand on existing relationship among the categories of the data.

3.6.2 Non Inferential Statistical Technique

This will also be used to find the association between the level of patronage of car owners visit to mechanic workshop and the season of patronage. Thus, Spareman rank correlation which is a Non Inferential Statistical technique will be used to ascertain the relationship

between the variable dry and raining season level of patronage of car owners visit to mechanic workshop.

3.6.3 Spatial Analysis

The nearest neighbor analysis will also be used to investigate the distribution pattern of the mechanic workshop in the study area. This will enable one to know whether the distribution of the investigated phenomenon is random, dispersed or clustered, as well as to adduce meaning as to the possible factors that could have inform such distribution.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION OF RESULTS

4.0 INTRODUCTION.

This chapter deals with the presentation of results as well as the provision of detailed and accurate insight into the research through a detailed analysis of the primary data generated from questionnaire survey carried out in the study area and this will subsequently culminate in the discussion of results. A total of 200 questionnaires were shared to respondents. The data for this research was analyzed using the statistical package for social sciences (SPSS) version 24.

4.1 SOCIO-DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

This section deals with the analysis of the socio-demographic characteristics of respondents and this will be achieved with the aid of tables and charts. The varying socio-demographic characteristics are discussed below.

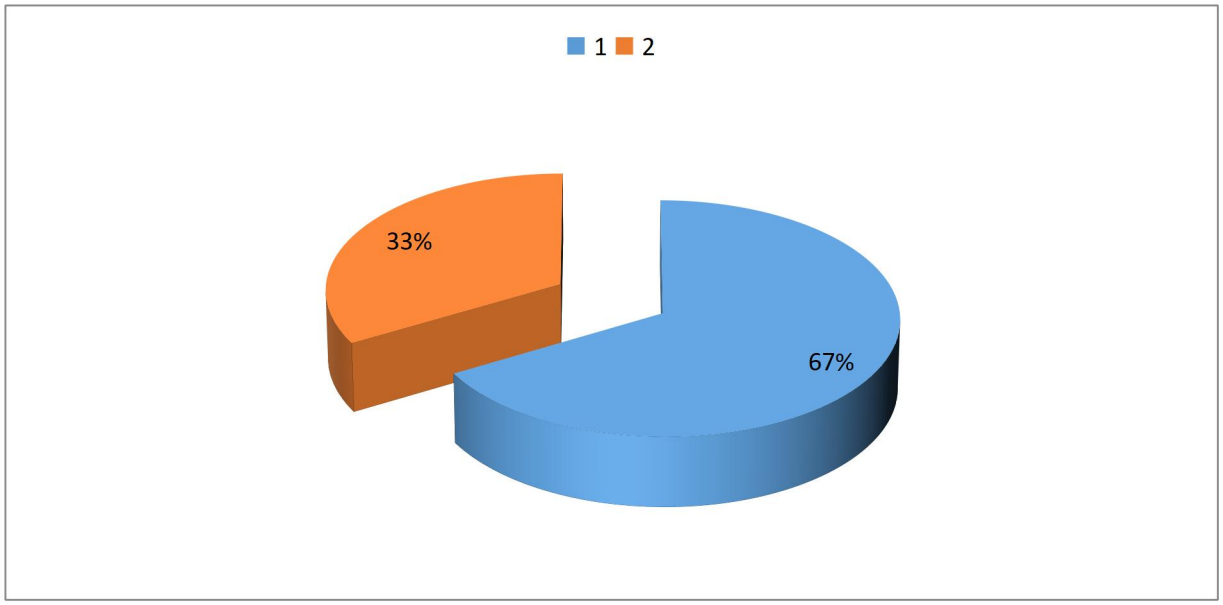

Figure 4.1:- Gender of Respondents

Source: Field Survey 2021

Figure 4.1 shows the gender distribution of the respondents in the sampled unit. A total respondents representing 67.0% are Male while 33.0% of the respondents are Females. This shows that the population of males are more than the females in the study.

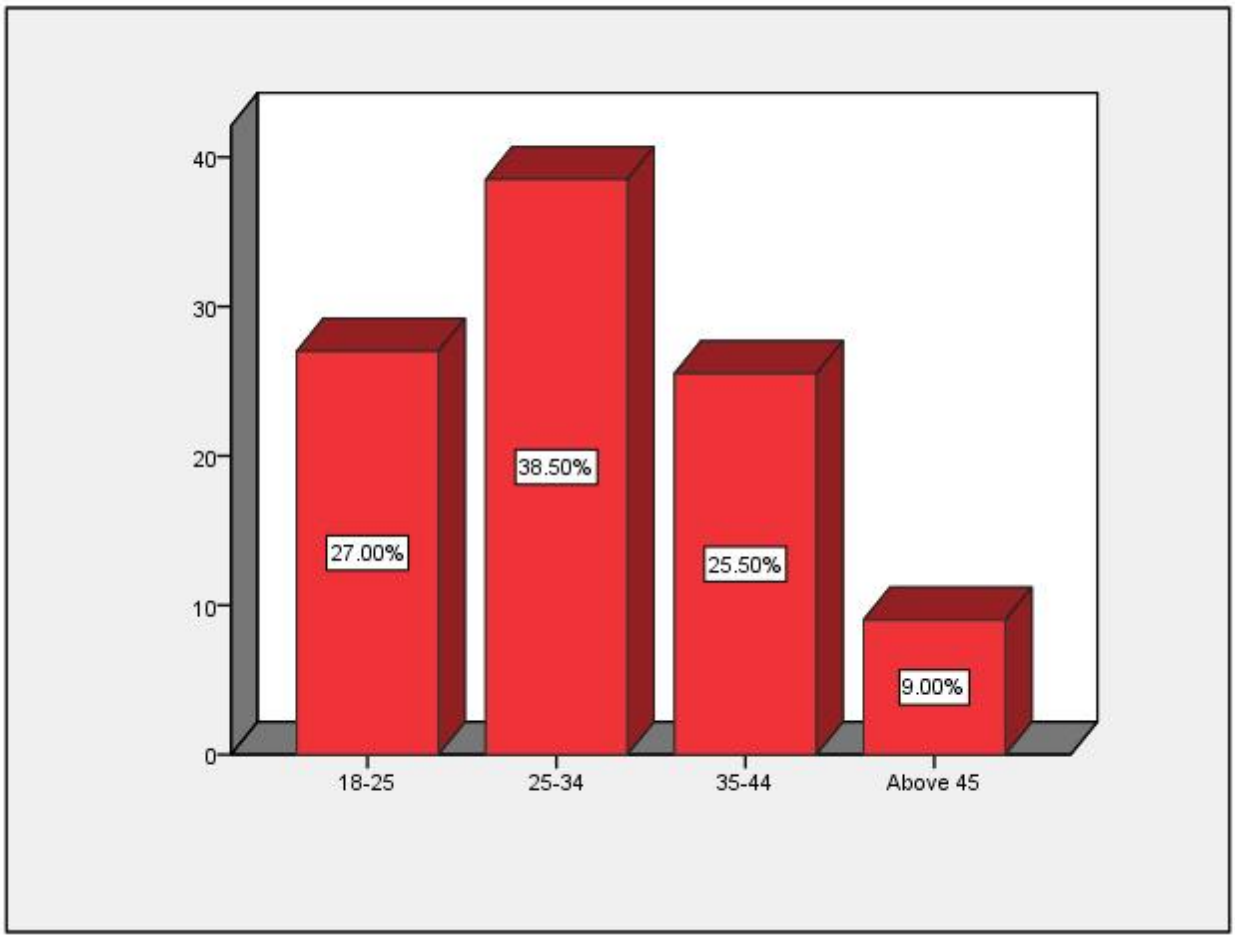

Figure 4.2: Ages Of Respondents

Source:- Field Survey, 2021

Figure 4.2. shows the age status of the respondents in this study, it is discovered from the survey that 54 of the respondents representing 27.0% are between age 18-25years, while 77 of the respondents representing 38.5% are between age 25-34years, 51 of the respondents representing 25.5% are between age 35-44years, and a further analysis

shows that 18 of the respondents representing 9.0% above 45years. This means that more respondents for this study are between the age of 25-34years.

Table 4.1:- Marital Status of Respondents

	Frequency	Percent
Married	83	41.5
Single	76	38.0
Separated	20	10.0
Divorced	16	8.0
Widowed	5	2.5
Total	**200**	**100.0**

Source:- Field Survey 2021

Table 4.1 shows the Marital status of the respondents in this study, it is discovered from the survey that 83 of the respondents representing 41.5% are Married, while 76 of the respondents representing 38.0% are Single, 20 of the respondents representing 10.0 % are Separated, 16 of the respondents representing 8.0% are Divorced and 5 of the respondent representing 2.5% are widowed. This means that more respondents for this study are married.

Table 4.2:- Educational Status of Respondent

	Frequency	Percent
Primary School	61	30.5

Secondary School	74	37.0
Tertiary School	42	21.0
Non Formal Education	23	11.5
Total	**200**	**100.0**

Source: Field Survey, 2021

Table 4.2. shows the educational status of the respondents in this study, it is discovered from the survey that 61 of the respondents representing 30.5% attended primary school, 74 of the respondents representing 37.0% attended are Secondary school, 42 of the respondents representing 21.0 % attended Tertiary, and a further analysis shows that 23 of the respondents representing 11.5% have no formal education. This means that more respondents for this study have primary school educational status.

4.2 PRESENTATION ACCORDING TO THE KEY RESEARCH QUESTIONS

This section presents the results of the respondents responses in respects to the key research questions on Spatial distribution of Automobile Mechanic Workshop and Road Condition .

4.2.0 DISTRIBUTION PATTERN OF AUTOMOBILE MECHANIC WORKSHOP

Table 4.3:- Estimated Distance of Automobile Mechanic Workshop to Residence

	Frequency	**Percent**
0-3 km	92	46.0

4-6 km	72	36.0
Above 6 km	36	18.0
Total	**200**	**100.0**

Source:- Field Survey, 2021

Table 4.3. shows the estimated distance from of the mechanic to the residence of the car owners. The responses revealed that 92 of the respondents representing 46.0% takes 0 – 3 km to their residence, 72 of the respondents representing 36.0% takes 4-6 km to their residence, while 65 of the respondents representing 37% takes above 6 km to their residence. This means that most of the respondents have the closest distance between the automobile mechanic workshop and their residence.

4.2.1 Proximity To Road

There are several factors that tend to influence the choice of location of mechanic workshops. Thus, in order to achieve objective 5 of the study, proximity analysis was carried out using the buffer tool within the mainframe of ArcGIS spatial analysis tool. A 50 meters buffering from the road was done in order to ascertain the proximity of the mechanic workshops from the roads as well as to possibly infer how far from the set back of 50 meters buffer zone the mechanic workshops are from the road (see figure 4.5). From observation, many of the mechanic workshops seem to cluster closely around the buffered zone of 100 and 200 meters. Therefore, one can possibly infer that the locations

of the mechanic workshops were greatly informed by the need to be closer to the road. Thus, for the obvious reason of accessibility.

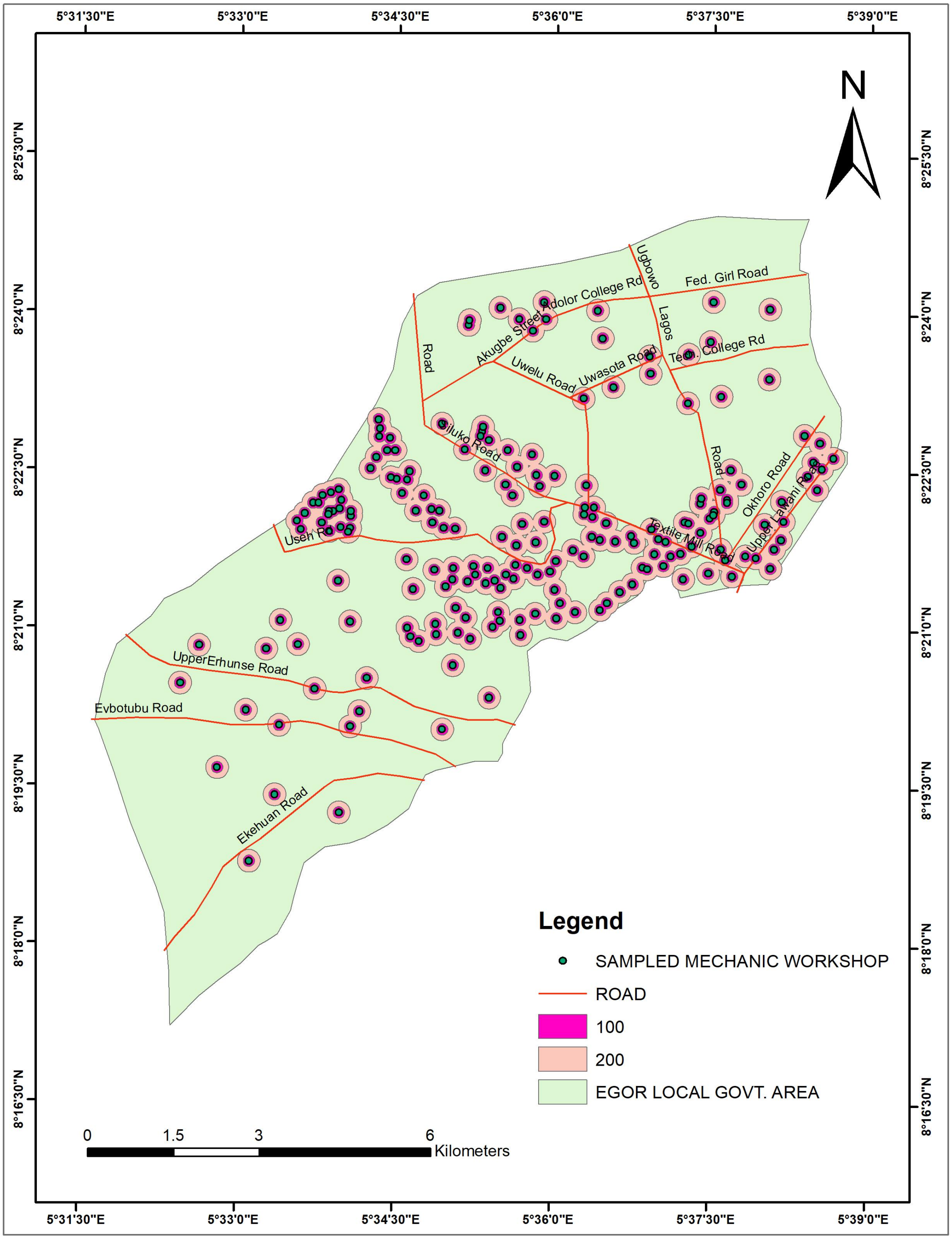
5°31'30"E
5°33'0"E
5°34'30"E
5°36'0"E
5°37'30"E
5°39'0"E
8°25'30"N
8°24'0"N
8°22'30"N
8°21'0"N
8°19'30"N
8°18'0"N
8°16'30"N
N
Akugbe Street
Adolor College Rd
Fed. Girl Road
Ugbowo
Lagos
Road
Tech. College Rd
Uwelu Road
Uwasota Road
Siluko Road
Textile Mill Road
Okhoro Road
Upper Lawani Road
Useh Rd
UpperErhunse Road
Evbotubu Road
Ekehuan Road
Legend
SAMPLED MECHANIC WORKSHOP
ROAD
100
200
EGOR LOCAL GOVT. AREA
0
1.5
3
6
Kilometers

Figure 4.3:- A Map Showing The Proximity Of Automobile Mechanic Workshop To The Road

Source:- ArcGIS Study Area Map

4.3.0 CONDITION OF ROAD IN THE STUDY AREA

4.3.1 Table 4.4:- Vehicle Problem In Relation To Bad Road Condition

	Frequency	Percent
Yes	165	82.5
No	35	17.5
Total	**200**	**100.0**

Source:- Field Survey, 2021

Table 4.4. shows the problem of vehicles brought to the automobile mechanics. 165 of the respondents representing 82.5% stated that the problem of vehicles brought to the automobile mechanics actually relates to the bad road condition. 35 of the respondents representing 17.5% stated that the problem of vehicles brought to the automobile mechanics do not relates to the bad road condition. Therefore the bad road condition have a great impact and is related to the vehicle problem.

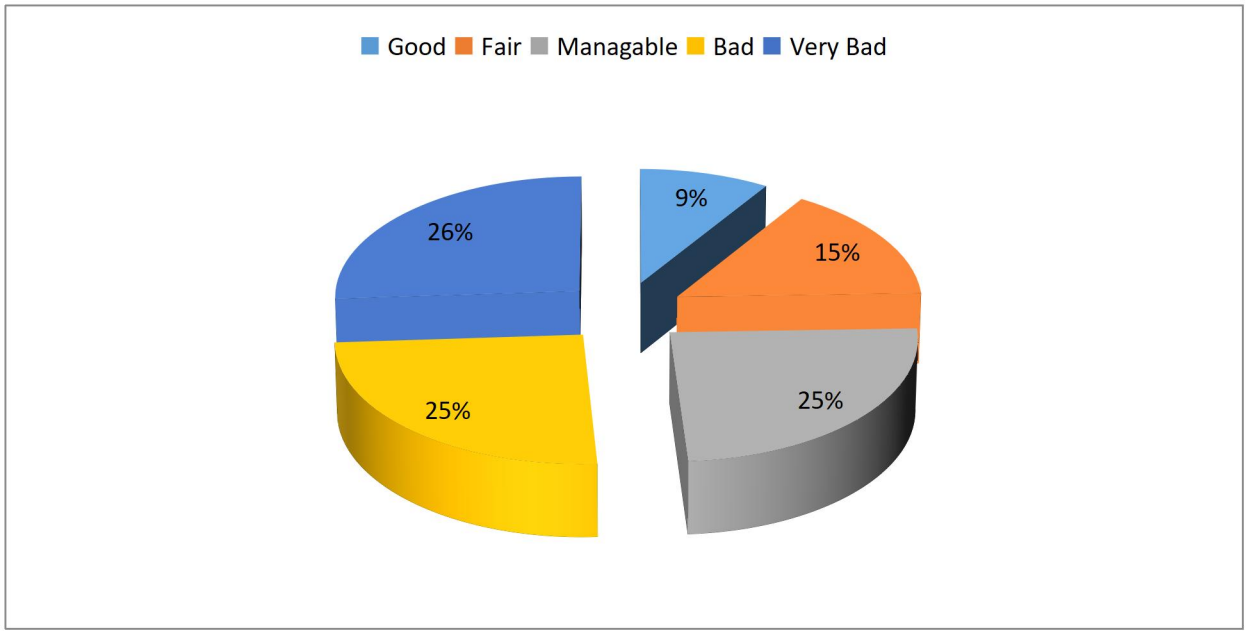

Figure 4.4:- Road Condition Rating by Automobile Mechanic

Source:- Field Survey, 2021

Figure 4.4. shows how the rating of the road condition by the automobile mechanic. 18 of the respondents representing 9.0% stated that the road condition is Good. 31 of the respondents representing 15.5% stated that the road condition is Fair, 49 of the respondents representing 24.5% stated that the road condition is Manageable, 50 of the respondents representing 25.0% stated that the road condition is Bad, 52 of the respondents representing 26.0% stated that the road condition is very bad. This means that more respondents stated that the condition of the road is very bad.

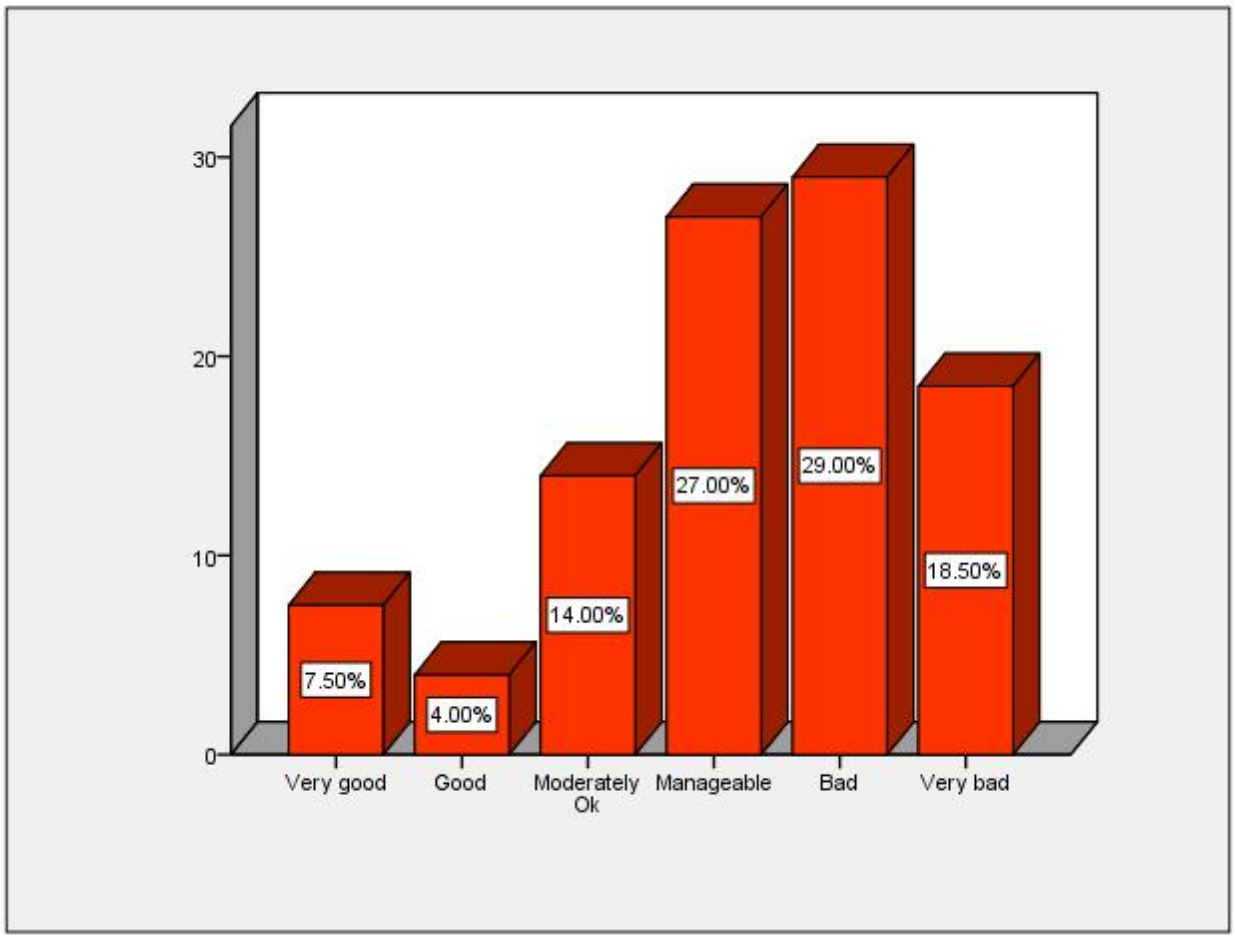

Figure 4.5:- Road Condition Rating By Car Owners

Source:- Field Survey, 2021

Figure 4.5 shows the responses about the condition of the road. The result shows that 15 of the respondents representing 7.5% said the condition of the road is very good, 8 of the respondents representing 4.0% said the condition of the road is good, 28 of the respondents representing 14.0% said the condition of the road was moderately ok, 54 of the respondents representing 27.0% said the condition of the road was manageable, 58 of

the respondents representing 29.0% said the condition of the road was bad, while 37 of the respondents representing 18.5% said the condition of the road was very bad. From this response we can conclude that the road condition of our study area is not in good shape.

Table 4.5:- Influence Of Road Conditions On The Number Of Mechanic Visit For Repairs

	Frequency	**Percent**
Yes	95	47.5
No	35	17.5
Somehow	70	35.0
Total	**200**	**100.0**

Source:- Field Survey, 2021

Table 4.5. shows whether the condition of the road influence the number of times the car owners visit the mechanic workshop, the response revealed that 95 of the respondents representing 47.5% said Yes that the condition of the road influence the number of times the car owners visit the mechanic workshop, 35 of the respondents representing 17.5% said No, that the condition of the road does not influence the number of times the car owners visit the mechanic workshop, 70 of the respondents representing 35.0% said Somehow, that the condition of the road somehow influence the number of times the car

owners visit the mechanic workshop. The concluding finding here is that the condition of the road influence the number of times the car owners visit the mechanic workshop.

Table 4.6:- Major Road Condition Problem On Vehicle

	Frequency	**Percent**
Traffic congestion	12	6.0
Flooding	67	33.5
Port holes	93	46.5
Untarred road condition	28	14.0
Total	**200**	**100.0**

Source:- Field Survey, 2021

Table 4.6. shows the major problem of the road, the response revealed that 12 of the respondents representing 6.0% stated that the major problem of the road is traffic congestion, 67 of the respondents representing 33.5% stated that the major problem of the road is flooding, 93 of the respondents representing 46.5% stated that the major problem of the road is Pot hole, 28 of the respondents representing 14.0% stated that the major problem of the road is the Untarred nature of the road. This responses reveal that the major issue of the road is pot hole.

Table 4.7:- Road Condition Preference Between Past and Present

	Frequency	Percent
Strongly agree	15	7.5
Agree	24	12.0
Moderately agree	70	35.0
Disagree	52	26.0
Strongly disagree	39	19.5
Total	**200**	**100.0**

Source:- Field Survey, 2021

Table 4.7 shows whether the condition of the road is better now than before, 15 of the respondents representing 7.5% strongly agree that the condition of the road is better now than before, 24 of the respondents representing 12.0% agree that the condition of the road is better now than before, 70 of the respondents representing 35.0 % Moderately Agree that the condition of the road is better now than before, 52 of the respondents representing 26.0% disagree that the condition of the road is better now than before, 39 of the respondents representing 19.5% strongly disagree that the condition of the road is better now than before.

Table 4.8:- Government Action About The Road Condition

	Frequency	Percent
Yes	53	26.5
No	147	73.5
Total	**200**	**100.0**

Source:- Field Survey, 2021

Table 4.8. shows how the government is responding to addressing the issues of the road condition, 53 of the respondents representing 26.5% stated Yes, that the government is responding to addressing the issues of the road condition, while 147 of the respondents representing 73.5% stated No, that the government is not responding to addressing the issues of the road condition.

4.4 LEVEL OF PATRONAGE BY VEHICLES OWNER TO MECHANIC WORKSHOP

Table 4.9:- Season Of High Patronage

	Frequency	Percent
Dry season	75	37.5
Raining season	125	62.5
Total	**200**	**100.0**

Source:- Field Survey, 2021

Table 4.9. shows what season automobile mechanics experience high patronage 125 of the respondents representing 62.5% stated that high patronage are experienced during the raining season, while 75 of the respondents representing 37.5% stated that high patronage are experienced during the dry season. This shows that a lot of automobile mechanics gets high patronage during the dry season.

Table 4.10:- Number Of Vehicles Repair During Dry Season Or Raining Season

		Raining Season	**Dry Season**
Car repair during raining season	Pearson Correlation	1	-.010
	Sig. (2-tailed)		.893
	N	**200**	**200**
Car repair during dry season	Pearson Correlation	-.010	1
	Sig. (2-tailed)	.893	
	N	**200**	**200**

Source:- Field Survey, 2021

The respondents, mechanics were also asked to indicate if the number of vehicles they repair during the dry season is commensurate with the number of vehicles they repair during the raining season. Thus, correlation a bivariate statistical technique was carried out to validate the postulated hypothesis. Table (4.9) showed that the computed

correlation (r) coefficient was 0.893. the analysis showed that there exist a very high positive relationship between the number of vehicles repaired in the dry and raining season. It can be inferred that change in season may not really determine the number of vehicles mechanics repair either during the dry or raining season.

Table 4.11:- What Part Of Vehicle Is Affected When Using The Road.

	Frequency	**Percent**
Tyre	37	18.5
Shock absorber	75	37.5
Exhaust pipe	53	26.5
Clutch	12	6.0
Plug	6	3.0
Engine	17	8.5
Total	**200**	**100.0**

Source:- Field Survey, 2021

Table 4.11. shows the parts of vehicle that is affected the most as a result of using bad road. The result shows that 37 of the respondents representing 18.5% said the Tyre is affected more as a result of the bad condition of the road, 75 of the respondents representing 37.5% said the Shock absorber is affected more as a result of the bad condition of the road, 53 of the respondents representing 26.5% said the Exhaust Pipe is

affected more as a result of the bad condition of the road,12 of the respondents representing 6.0% said the Clutch is affected more as a result of the bad condition of the road,6 of the respondents representing 3.0% said the Plug is affected more as a result of the bad condition of the road, 17 of the respondents representing 8.5% said the Engine is affected more as a result of the bad condition of the road. The conclusion from this response reveal that more respondents stated that the shock absorber is affected more than any other parts of the vehicle as a result of bad condition of the road.

Table 4.12:- Challenges Faced By Drivers While Using The Road

	Frequency	**Percent**
Flood	57	28.5
Traffic congestion	23	11.5
Pot Hole	72	36.0
Untarred nature of the road	31	15.5
Poor maintenance	17	8.5
Total	**200**	**100.0**

Source:- Field Survey, 2021

Table 4.12. shows the challenges drivers face when using the road. The result shows that 57 of the respondents representing 28.5% said the major challenge of the road is flood, 23 of the respondents representing 11.5% said the said the major challenge of the road was

traffic congestion, 72 of the respondents representing 36.0% said the major challenge of the road was Pot hole, 31 of the respondents representing 15.5% said the major challenge of the road was Untarred nature of the road, 17 of the respondents representing 8.5% said the major challenge of the road was Poor maintenance of the road. From this response we can conclude that the major challenge of the road is that of Pot Hole.

4.5 EFFECT OF SEASONAL CHANGE IN RELATION TO THE NUMBER OF TIMES VEHICLE OWNERS VISIT AUTOMOBILE MECHANIC.

Table 4.13:- Average Number Of Vehicle Repair During Raining And Dry Season

	Raining Season		**Dry Season**	
	Frequency Percent		**Frequency**	**Percent**
1-5	40	20.0	59	29.5
6-10	65	32.5	74	37.0
11-15	71	35.5	26	13.0
16-20	23	11.5	40	20.0
Above 20	1	0.5	1	0.5
Total	**200**	**100.0**	**200**	**100.0**

Source:- Field Survey, 2021

Table 4.13 shows the average number of vehicles that is brought for repair during raining season and dry season using cross tabulation. During raining season, an average of 40 respondent representing 20.0% for 1-5 Vehicles, 65 respondent representing 32.5% for 6-10 vehicles, 71 respondent representing 35.5% for 11-15 vehicles, 23 respondent representing 11.5% for 16-20 and 1 respondent representing 5.0% for 21 above. Therefore the average number of vehicles brought for repair during raining season is between 11-15 vehicles. During dry season, an average of 59 respondent representing 29.5% for 1-5 Vehicles, 74 respondent representing 37.0% for 6-10 vehicles, 26 respondent representing 13.0% for 11-15 vehicles, 40 respondent representing 20.0% for 16-20 and 1 respondent representing 5.0% for 21 above. Therefore the average number of vehicles brought for repair during dry season is between 6-10 vehicles.

Table 4.14:- Description Of Number Of Vehicle Repair During Raining And Dry Season

	Raining Season		**Dry Season**	
	Frequency Percent		**Frequency**	**Percent**
Very high	25	12.5	24	12.0
High	61	30.5	39	19.5
Moderate	87	43.5	57	28.5
Low	21	10.5	58	29.0

Very low	6	3.0	22	11.0
Total	**200**	**100.0**	**200**	**100.0**

Source:- Field Survey, 2021

Table 4.14. shows the description of vehicles repaired during raining season and dry season. During raining season, 25 of the respondents representing 12.5% stated it is very high, 61 of the respondent representing 30.5% said it is high, 87 respondent representing 43.5% stated it is moderate, 21 respondent representing 10.5% stated it is low, while 6 respondent representing 3.0% stated it is low. Hence the description of description of the number of vehicle repair during raining season is moderate. During dry season, 24 of the respondents representing 12.0% stated it is very high, 39 of the respondent representing 19.5% stated it is high, 57 respondent representing 28.5% stated it is moderate, 58 respondent representing 29.0% stated it is low, while 22 respondent representing 11.0% stated it is very low. Hence the description of the number of vehicle repair during dry season is low.

Table 4.15:- Reason For Automobile Mechanic Workshop Visit

	Frequency	**Percent**
Maintenance	60	30.0
Repair	140	70.0
Total	**200**	**100.0**

Source:- Field Survey, 2021

Table 4.15. Shows the reason for the frequent visit to the automobile mechanic workshop. The response reveal that 60 of the respondents representing 30.0% frequently visit the mechanic workshop for the purpose of car maintenance, while 140 of the respondents representing 70.0% frequently visit the mechanic workshop for the purpose of car repair. This implies that there is more car servicing than car maintenance in the automobile mechanic workshop of the study area.

4.6 TESTING OF HYPOTHESIS

The null hypothesis states that the spatial pattern under investigation is subject to random process was tested using Nearest Neigbour Algorithm within the frame work of ArcGIS 10.1. Nearest neighbor Analysis was used to validate the stated hypothesis 1, which states that the distribution pattern of the mechanic workshops in the study area is subject to random processes. Thus, the computed nearest neighbor ration is 1.137539, and since the value is greater than one, then the mechanics workshops in the study area is of random distribution pattern.This further implies that the null hypothesis will not be rejected rather accepted. As to whether the random distribution pattern is significant, table 4.28 showed the computed p-value to be 0.382839, and since the value is greater than 0.05 which showed the adopted confidence level, then the random distribution pattern could be said not to be significant. It is possible to deduce that the establishing of mechanic workshops in the study area does not follow a definite plan rather the mechanics built their

workshops based on personal judgment in view of location, availability and affordability they considered to be of economic advantage to them.

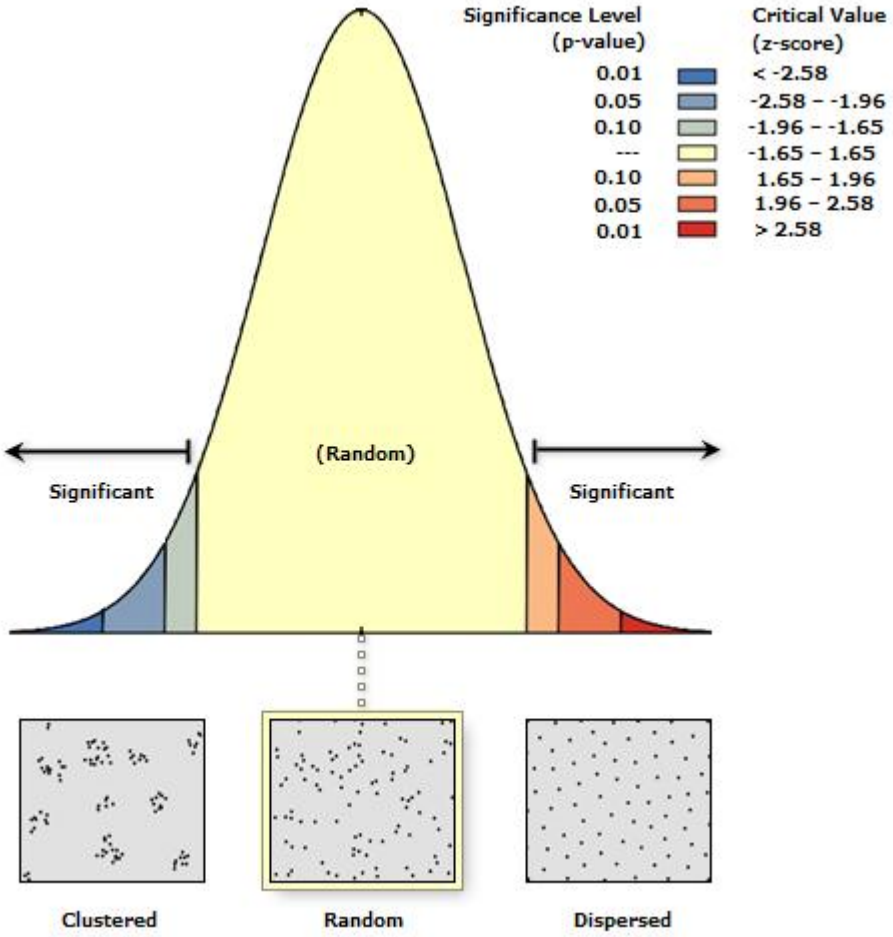

Figure 4.6:- Nearest Neighbor Analysis

Source:- ArcGIS 10.1

Table 4.16:- Computed Nearest Neighbour Ratio and Significant value

Observed Mean Distance:	1573.554603 Meters
Expected Mean Distance:	1383.296890 Meters
Nearest Neighbor Ratio:	1.137539
z-score:	0.872678
p-value:	0.382839

Source:- Field survey, 2021

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

This study has examined the analysis of spartial distribution of automobile mechanic workshop and road conditions in Egor local government area of Edo state. It therefore presents a summary of the major findings of the study. The chapter further offers a summary on the data collected, analysis of data, discussions of the findings on each research question and the logical interpretation emanating from the findings. Recommendations were made to address the issues that were raised in the research.

5.2 SUMMARY OF THE STUDY

Several summary can be drawn from the study. It was revealed in the study that the condition of the roads in Egor local government have a lot of effect on the automobile mechanic workshop and also on the car owners in the area. Analysis from the field shows that more of the respondents were males, and most of these respondents come from the age group between 25-34years. Majority of the respondents are married. The study also revealed that most of respondents have primary level education. Furthermore, most of the respondent have operated their mechanic workshop in the area for 4 to 6 years which makes them qualified as respondents for the study.

The Study found out that easy access to the road is the main factor that influence the decision of an automobile mechanic in citing his/her mechanic workshop. It was also discovered that most of the mechanics agreed that they have many customers patronizing their workshop most especially during raining season. This goes to show that the frequent work undertaking by the mechanics is directly connected to the nature of the road. Most of the respondent agreed that seasons have a way of influence the nature of the mechanic job, this is true as most of the respondents stated that they usually have more jobs during raining season than dry season.

The study also found out that most of the mechanics attend to four customers in a day. This greatly show that there is great prospect for the mechanic business in Egor local government and it can be tied to the nature of the road as well as the season. Most of the respondents also agreed that the problem of vehicles brought to them relate to bad road condition. The mechanics who are experts in repairing of vehicles noted that the condition of the road was very bad. On the other hand, the vehicle owners stated that their choice of choosing who will attend to their vehicle is greatly dependent on the expertise of the mechanic above every other factors.

5.3 CONCLUSION OF THE STUDY

In view of the above summary, it is evident that that the road in Egor local government is in a very bad state and this has brought more jobs for the automobile mechanic particularly in the raining season. At the same time this has been a big problem

for vehicle owners who ply the road as they visit the mechanic workshop frequently to fix their cars. The sad thing is that the government is not really doing anything in helping the situation. It was discovered from the analysis of the project that the major challenge with the road in Egor is the challenge of Pot holes. The road is characterized by so many pot holes that usually lead to the damaging of cars especially the tyres of those cars. The road continue to deteriorate as it was found that the road is not any way better now than was it was before, and the government is not doing any reasonable thing about it.

5.4 IMPLICATION OF FINDINGS

Due to the bad condition of the road in Egor local government, the standard of living particular in the area of transportation will continue to increase. The huge money spent on repairs of vehicles as a result of the bad road will make the cost of living high in the area. Though the bad road continues to bring job and patronage for the automobile mechanics on one hand, it continue to create problem for the vehicle owners plying the road on the other hand.

5.5 RECOMMENDATIONS

Based on the research findings, based on the research findings, the following recommendations are made:

1. Government should move swiftly in attending to the issues of bad roads in Egor Local government.

2. Automobile mechanics also contribute to economic growth of the country so, they should be giving every opportunity to undergo a series of training to upgrade their technical knowledge in the use of road.

REFERENCES

Akinbinu B. (2001) Informal small enterprises clusters, a case study of auto mechanic villages in Ibadan. NISER monograph series No. 5. Burmingham, S. and Stankevich, N. *Why Road Maintenance is Important and How to getit Done.* World Bank Transport Note No.TRN-4, 2005.

Central office of Statistics "Household Survey", Ministry of Economic Planning and Budget, Ikeja, Lagos, 2006.

Duchi P (2005) Planning for auto repair service industry in Zaria urban area, Kaduna State. An unpublished burp dissertation. Department of urban and regional planning. A.B.U. Zaria.

Economic and Social Research Council (ESRC) "Cities competiveness and Cohesion", 1996.

Ekanem, S. A. "A Philosophy of Education for Technological Development in Nigeria". Unpublished Doctoral (PhD) Dissertation, University of Calabar, 2005.

Ijaiya G.T. and Umar C.A. (2014) the Informal and Formal sector Inter – linkagesand the incidence of poverty in Nigeria: A case study of Ilorin metropolis. African development, Vol. XXIX, No.3 pp 84 – 102.

Nwako, G.I. (2005) The Urban Informal Sector In Nigeria: Toward Economic Development, Environmental Health and Social Harmony. Global Urban Development Magazine. Volume 1, Issue 1.

Omisakin, I.S. (1999) Factors Influencing Success or Failure of Enterprises in the Informal Sector. The case of Ibadan City. NISER monograph. Series No. 9

Oni B. (1999) Employment prospects of informal sector vocational trainees in South Western Nigeria, the case of Auto – Technicians, NISER Monograph series No 26.

Pitt R, and Clark SE (2008). *Integrated Storm-Water Management for Watershed Sustainability* J. 134(5): 548-555, September/October2008.

Potter KW (2004). Managing stormwater at the source: Transactions of the Wisconsin, Acad. Sci. Art Lett. 90: 67-73.

Zacks, J. M., and Tversky, B. (2001). Event Structure. *Psychological Bulletin,* 127, 3-21.

Zhang, Q. (2004). *Modeling Structure and Patterns in Road Network Generalization.* Paper Presented at ICA Workshop on Generalization and Multiple Representation, held in Leicester, GIS Centre Lund University, Sweden, p.20-21.

Zhang, Q. (2004). *Road Network Generalization-based on Connection Analysis*, SDH2004

APPENDIX 1

COORDINATE OF THE AUTOMOBILE MECHANIC WORKSHOP

S/N	X-AXIS	Y-AXIS	NAME OF WORKSHOP	COMMUNITY
1	127370.359	925719.197	Festus Automobile Mechanic Workshop	USELU
2	127498.928	925890.623	Harisson Automobile Mechanic Workshop	USELU
3	127670.354	925933.479	Festus Automobile Mechanic Workshop	USELU
4	127863.207	926062.048	Ambrose Automobile Mechanic Workshop	USELU

5	127413.215	926147.761	Igbeke Automobile Mechanic Workshop	USELU
6	127284.646	926190.618	Seyi Automobile Mechanic Workshop	USELU
7	127162.294	926363.884	Egunne Automobile Mechanic Workshop	USELU
8	128551.36	927395.761	Rashidi Automobile Mechanic Workshop	USELU
9	127744.379	926482.947	Ugwen Automobile Mechanic Workshop	USELU
10	127810.525	926464.718	Edumeri Automobile Mechanic Workshop	USELU
11	128180.942	926549.093	Ogene Automobile Mechanic Workshop	USELU
12	128260.318	926668.156	Osondu Automobile Mechanic Workshop	USELU
13	128022.192	926813.677	Akunje Automobile Mechanic Workshop	USELU
14	128035.421	926906.281	Ekene Automobile Mechanic Workshop	USELU

15	128022.192	926297.738	Okon Automobile Mechanic Workshop	USELU
16	128247.088	926615.239	Praise Automobile Mechanic Workshop	USELU
17	128485.214	926879.823	Emonefe Automobile Mechanic Workshop	USELU
18	128366.151	927051.802	Igbosa Automobile Mechanic Workshop	USELU
19	128485.214	926826.906	Valentine Automobile Mechanic Workshop	USELU
20	128736.568	927144.407	Akin Automobile Mechanic Workshop	USELU
21	124900.102	926456.489	Romanus Automobile Mechanic Workshop	UWELU
22	125138.228	926138.988	Eniola Automobile Mechanic Workshop	UWELU
23	125283.749	926496.176	Ajas Automobile Mechanic Workshop	UWELU
24	125204.374	927117.948	Ojos Automobile Mechanic Workshop	UWELU

25	125468.958	927303.157	Christian Automobile Mechanic Workshop	UWELU
26	125151.457	927316.386	Wisdom Automobile Mechanic Workshop	UWELU
27	124728.123	926959.198	Onos Automobile Mechanic Workshop	UWELU
28	124609.061	927144.407	Prosper Automobile Mechanic Workshop	UWELU
29	124807.498	927461.907	Akumbe Automobile Mechanic Workshop	UWELU
30	125072.082	927673.574	Polinus Automobile Mechanic Workshop	UWELU
31	124251.872	927395.761	Eniola Automobile Mechanic Workshop	UWELU
32	124648.748	927752.949	Achim Automobile Mechanic Workshop	UWELU
33	124318.018	927924.929	Gbos Gbos Automobile Mechanic Workshop	UWELU
34	123894.684	927766.179	Kosisochi Automobile Mechanic Workshop	UWELU

35	124198.955	928083.679	Somtochukwu Automobile Mechanic Workshop	UWELU
36	124212.184	928163.054	Emeka Automobile Mechanic Workshop	UWELU
37	124172.497	928004.304	Justus Automobile Mechanic Workshop	UWELU
38	123497.808	928215.971	Uyene Automobile Mechanic Workshop	UWELU
39	124794.269	926086.071	Glorious Automobile Mechanic Workshop	UWELU
40	124542.914	926231.592	Adugu Automobile Mechanic Workshop	UWELU
41	121262.074	923572.524	Christopher Automobile Mechanic Workshop	EVBOTUBU
42	120971.032	924353.047	Egunze Automobile Mechanic Workshop	EVBOTUBU
43	122174.889	923757.733	John Automobile Mechanic Workshop	EVBOTUBU
44	122042.597	923175.649	Obinna Automobile Mechanic Workshop	EVBOTUBU

45	121883.846	922911.065	Aduni Automobile Mechanic Workshop	EVBOTUBU
46	120058.218	923202.107	Obiong Automobile Mechanic Workshop	EVBOTUBU
47	120640.302	922937.523	Peter Automobile Mechanic Workshop	EVBOTUBU
48	118907.278	923678.358	Precious Automobile Mechanic Workshop	EVBOTUBU
49	119555.508	922196.688	Adunze Automobile Mechanic Workshop	EVBOTUBU
50	120560.927	921720.437	Salutu Automobile Mechanic Workshop	EVBOTUBU
51	120111.135	920556.268	Gamdi Automobile Mechanic Workshop	EVBOTUBU
52	121685.409	921402.937	Afe Automobile Mechanic Workshop	EVBOTUBU
53	123497.808	922858.148	Cosmos Automobile Mechanic Workshop	EVBOTUBU
54	124318.018	923413.774	Joseph Automobile Mechanic Workshop	EVBOTUBU
55	123683.017	923982.629	Runtinz Automobile Mechanic	EVBOTUBU

			Workshop	
56	121883.846	924749.923	Greg Automobile Mechanic Workshop	EVBOTUBU
57	121672.179	925464.299	Faithful Automobile Mechanic Workshop	EVBOTUBU
58	120666.761	924776.381	Amazing Automobile Mechanic Workshop	EVBOTUBU
59	119238.008	924339.818	Akpan Automobile Mechanic Workshop	EVBOTUBU
60	120415.406	924273.672	Kasali Automobile Mechanic Workshop	EVBOTUBU
61	122889.265	924644.089	Winner Automobile Mechanic Workshop	OLIHA
62	122942.182	924485.339	Ebuka Automobile Mechanic Workshop	OLIHA
63	123087.703	924405.964	Osato Automobile Mechanic Workshop	OLIHA
64	123391.974	924525.026	Igbemudia Automobile Mechanic Workshop	OLIHA
65	123378.745	924710.235	Osagie Automobile Mechanic	OLIHA

			Workshop	
66	123775.621	924551.485	Idemudia Automobile Mechanic Workshop	OLIHA
67	123987.288	924445.651	Etinosa Automobile Mechanic Workshop	OLIHA
68	123907.913	924816.069	Akunda Automobile Mechanic Workshop	OLIHA
69	124384.164	924657.318	Osukpa Automobile Mechanic Workshop	OLIHA
70	124476.768	924908.673	Akuli Automobile Mechanic Workshop	OLIHA
71	125058.853	124577.943	Grenda Automobile Mechanic Workshop	OLIHA
72	125495.416	924802.839	Azudu Automobile Mechanic Workshop	OLIHA
73	125561.562	925067.423	Obudu Automobile Mechanic Workshop	OLIHA
74	125468.958	925305.549	Festus Automobile Mechanic Workshop	OLIHA
75	125826.146	924908.673	Frank Automobile Mechanic	OLIHA

			Workshop	
76	123735.933	924988.048	Fortune Automobile Mechanic Workshop	OLIHA
77	124503.227	924763.152	Akinchin Automobile Mechanic Workshop	OLIHA
78	125124.999	924882.215	Frederick Automobile Mechanic Workshop	OLIHA
79	124860.415	924776.381	Justin Automobile Mechanic Workshop	OLIHA
80	124873.644	924511.797	Thomas Automobile Mechanic Work	OLIHA
81	126262.709	924948.361	Okunya Automobile Mechanic Workshop	EVBAREKE
82	126381.772	925067.423	Johnbosco Automobile Mechanic Workshop	EVBAREKE
83	126606.668	925265.8611	Aduke Automobile Mechanic Workshop	EVBAREKE
84	126831.565	925398.153	Akidi Automobile Mechanic Workshop	EVBAREKE
85	127003.544	925689.195	Silando Automobile Mechanic Workshop	EVBAREKE

86	127082.919	925662.737	God's Will Automobile Mechanic Workshop	EVBAREKE
87	127215.211	925927.321	Charles Automobile Mechanic Workshop	EVBAREKE
88	126858.023	926125.759	Clifossa Automobile Mechanic Workshop	EVBAREKE
89	126527.293	926152.217	Amunda Automobile Mechanic Workshop	EVBAREKE
90	126262.709	926178.676	Amedu Automobile Mechanic Workshop	EVBAREKE
91	125971.667	925887.633	Benson Automobile Mechanic Workshop	EVBAREKE
92	125786.458	925993.467	Ajasco Automobile Mechanic Workshop	EVBAREKE
93	126117.188	926231.592	Caleb Automobile Mechanic Workshop	EVBAREKE
94	126368.543	926469.718	Akaba Automobile Mechanic Workshop	EVBAREKE
95	126130.417	926575.551	Omorodion Automobile Mechanic Workshop	EVBAREKE

96	125984.896	926628.468	Joseph Automobile Mechanic Workshop	EVBAREKE
97	126156.876	926747.531	Clement Automobile Mechanic Workshop	EVBAREKE
98	125998.125	926747.531	Alisson Automobile Mechanic Workshop	EVBAREKE
99	126805.106	926244.821	Double G. Automobile Mechanic Workshop	EVBAREKE
100	126024.584	927131.177	Blaze Automobile Mechanic Workshop	EVBAREKE
101	120957.472	926518.997	Gideon Automobile Mechanic Workshop	USEH
102	121023.618	926370.168	Micheal Automobile Mechanic Workshop	USEH
103	121089.764	926651.288	Lucky Automobile Mechanic Workshop	USEH
104	121238.593	926833.19	Aigbe Automobile Mechanic Workshop	USEH
105	121337.811	926833.726	Murphy Automobile Mechanic Workshop	USEH

106	121403.957	926965.482	Edohen Automobile Mechanic Workshop	USEH
107	121552.786	927015.091	Lekan Automobile Mechanic Workshop	USEH
108	121685.078	927064.701	Oghesa Automobile Mechanic Workshop	USEH
109	121734.687	926882.799	Asowota Automobile Mechanic Workshop	USEH
110	121585.859	926684.361	Pius Automobile Mechanic Workshop	USEH
111	121387.421	926485.924	Blessed Automobile Mechanic Workshop	USEH
112	121519.713	926684.361	Usoh Automobile Mechanic Workshop	USEH
113	121701.614	926733.971	Irabor Automobile Mechanic Workshop	USEH
114	121900.052	926601.679	Izua Automobile Mechanic Workshop	USEH
115	121883.516	926386.705	Itua Automobile Mechanic Workshop	USEH
116	121519.713	926337.632	Glory To God Automobile Mechanic	USEH

			Workshop	
117	121503.176	926634.752	Osakpolor Automobile Mechanic Workshop	USEH
118	121718.151	926403.241	Martins Automobile Mechanic Workshop	USEH
119	121900.052	926684.361	Edobor Automobile Mechanic Workshop	USEH
120	121850.443	926320.559	Ekhator Automobile Mechanic Workshop	USEH
121	125973.752	928654.741	Ovie Automobile Mechanic Workshop	UGBOWO
122	126493.437	928855.91	Osamudiamen Automobile Mechanic Workshop	UGBOWO
123	127147.234	929090.606	Osayamen Automobile Mechanic Workshop	UGBOWO
124	127801.032	928570.921	Jacob Automobile Mechanic Workshop	UGBOWO
125	128387.773	928688.269	Judas Automobile Mechanic Workshop	UGBOWO
126	129225.975	928990.022	Elijah Automobile Mechanic	UGBOWO

			Workshop	
127	129242.739	930213.796	Clifossa Automobile Mechanic Workshop	UGBOWO
128	128253.661	930347.909	Voke Automobile Mechanic Workshop	UGBOWO
129	128203.368	929643.819	Silondo Automobile Mechanic Workshop	UGBOWO
130	127817.796	929425.887	Charlie Automobile Mechanic Workshop	UGBOWO
131	127130.47	929392.359	Comfort Automobile Mechanic Workshop	UGBOWO
132	126309.033	929710.875	Divine Grace Automobile Mechanic Work	UGBOWO
133	126225.213	930197.032	Agboro Automobile Mechanic Workshop	UGBOWO
134	125319.955	930046.156	Ojos Automobile Mechanic Workshop	UGBOWO
135	125085.258	929844.988	Ekaro Automobile Mechanic Workshop	UGBOWO
136	125286.427	930347.909	Sidoku Automobile Mechanic	UGBOWO

			Workshop	
137	124850.562	930046.156	Gaburu Automobile Mechanic Workshop	UGBOWO
138	123962.068	929945.572	Casontina Automobile Mechanic Workshop	UGBOWO
139	124515.281	930247.324	Biodun Automobile Mechanic Workshop	UGBOWO
140	123978.832	930029.392	Kudri Automobile Mechanic Workshop	UGBOWO
141	125487.595	925804.856	Cosmos Automobile Mechanic Workshop	OGIDAH
142	125387.011	925620.451	Akidi Automobile Mechanic Workshop	OGIDAH
143	125169.078	925570.159	Caleb Automobile Mechanic Workshop	OGIDAH
144	124984.674	925687.507	Adanze Automobile Mechanic Workshop	OGIDAH
145	124783.506	925737.799	Kasali Automobile Mechanic Workshop	OGIDAH
146	124749.978	925503.103	Clinton Automobile Mechanic	OGIDAH

			Workshop	
147	124515.281	925335.463	Okon Automobile Mechanic Workshop	OGIDAH
148	124263.821	925419.283	Adamu Automobile Mechanic Workshop	OGIDAH
149	124615.865	925570.159	Kofi Automobile Mechanic Workshop	OGIDAH
150	124414.697	925469.575	Gabiru Automobile Mechanic Workshop	OGIDAH
151	124297.349	925687.507	Sidoku Automobile Mechanic Workshop	OGIDAH
152	124079.416	925570.159	Agboro Automobile Mechanic Workshop	OGIDAH
153	124045.888	925721.035	Ekaro Automobile Mechanic Workshop	OGIDAH
154	123945.304	925452.811	Ephraim Automobile Mechanic Workshop	OGIDAH
155	123693.843	925687.507	Awo Automobile Mechanic Workshop	OGIDAH
156	123677.079	925486.339	J. Charles Automobile Mechanic	OGIDAH

			Workshop	
157	123559.731	925368.991	Sir Willy Automobile Mechanic Workshop	OGIDAH
158	123358.563	925653.979	Gladinus Automobile Mechanic Workshop	OGIDAH
159	122989.754	925318.699	Sir P. Automobile Mechanic Workshop	OGIDAH
160	122872.406	925838.384	Sir Wise Automobile Mechanic Workshop	OGIDAH
161	127717.212	925486.339	Wisdom Automobile Mechanic Workshop	OKHORO
162	128153.076	925586.923	Pastor P. Automobile Mechanic Workshop	OKHORO
163	128572.177	925536.631	Kizzy Boy Automobile Mechanic Workshop	OKHORO
164	128454.829	925821.62	Laycoon Automobile Mechanic Workshop	OKHORO
165	128371.009	926006.024	Sir Brighto Automobile Mechanic Workshop	OKHORO
166	128991.278	925855.148	Oga D Automobile Mechanic	OKHORO

			Workshop	
167	129242.739	925670.743	Kingsley Automobile Mechanic Workshop	OKHORO
168	129427.143	926173.664	Dikachi Automobile Mechanic Workshop	OKHORO
169	128806.874	925888.676	Kalistus Automobile Mechanic Workshop	OKHORO
170	129309.795	926006.024	God Is Mighty Automobile Mechanic Workshop	OKHORO
171	129477.435	926492.181	Amazing Grace Automobile Mechanic Workshop	OKHORO
172	129142.154	926441.889	Sir Eugene Automobile Mechanic Workshop	OKHORO
173	129443.907	926844.226	Grateful God Automobile Mechanic Workshop	OKHORO
174	130064.176	927045.394	Marvellous And Sons Automobile Mechanic Workshop	OKHORO
175	129896.536	927280.091	Augustin Automobile Mechanic Workshop	OKHORO
176	130147.996	927414.203	Emmanuel Automobile Mechanic	OKHORO

			Workshop	
177	130114.468	927866.832	Shekinah Automobile Mechanic Workshop	OKHORO
178	129846.244	928000.944	Kings Automobile Mechanic Workshop	OKHORO
179	130349.165	927598.607	De Best Automobile Mechanic Workshop	OKHORO
180	129997.12	927531.551	Golden Age Automobile Mechanic Workshop	OKHORO
181	123722.704	926377.113	Prosper Automobile Mechanic Workshop	EGOR
182	123524.266	926390.343	Favour Of God Automobile Mechanic Workshop	EGOR
183	123325.828	926482.947	Arise And Shine Automobile Mechanic Workshop	EGOR
184	123444.891	926694.614	Amazing Automobile Mechanic Workshop	EGOR
185	123312.599	926721.072	Greg Automobile Mechanic Work	EGOR
186	123034.786	926694.614	Clara And Bee Automobile Mechanic Workshop	EGOR

187	123180.307	926959.198	Destiny Boy Automobile Mechanic Workshop	EGOR
188	122796.661	926998.885	Judasson Automobile Mechanic Workshop	EGOR
189	122889.265	927237.011	Samson Automobile Mechanic Workshop	EGOR
190	122704.056	927250.24	Gifted Hands Automobile Mechanic Workshop	EGOR
191	122598.223	927276.699	Available God Automobile Mechanic Workshop	EGOR
192	122928.953	927382.532	Johnson Automobile Mechanic Workshop	EGOR
193	122532.077	927752.949	Alinko Automobile Mechanic Workshop	EGOR
194	122241.035	927435.449	Oga Hammed Automobile Mechanic Workshop	EGOR
195	122346.868	927633.887	Chukwudi Automobile Mechanic Workshop	EGOR
196	122677.598	927752.949	Abundant Grace Automobile Mechanic Workshop	EGOR

197	122584.994	927964.617	G Special Automobile Mechanic Workshop	EGOR
198	122399.785	927991.075	Ayomide Automobile Mechanic Workshop	EGOR
199	122413.014	928136.596	Christian Automobile Mechanic Workshop	EGOR
200	122386.556	928295.346	Williams Automobile Mechanic Workshop	EGOR

DEPARTMENT OF GEOGRAPHY AND REGIONAL PLANNING

UNIVERSITY OF BENIN

BENIN CITY, NIGERIA.

QUESTIONAIRE ON THE SPATIAL DISTRIBUTION OF AUTOMOBILE MECHANIC WORKSHOP, AND ROAD CONDITION IN EGOR LOCAL GOVERNMENT AREA OF EDO STATE

Dear Sir/Ma,

I am an undergraduate of the above named institution carrying out research work on **Spatial Distribution Of Automobile Mechanic Workshop, And Road Condition In Egor Local Government Area Of Edo State** As part of fulfillment of the requirement for the award of B.Sc. Questions are strictly for research purposes and will be treated with utmost confidentiality.

SECTION A: SOCIAL DEMOGRAPHIC CHARACTERISTICS OF RESPONDENT

1) Name of the mechanic workshop _____
2) Location of the mechanic workshop _____
3) Coordinate of the mechanic workshop _____
4) Sex of the respondent (a) Male { } (b) Female { }.
5) Age of respondent (a) 18-25yrs { } (b) 25-34yrs { } (c) 35-44yrs { } (d) Above 45 { }.
6) Marital status (a) Married { } (b) Single{ } (c) Separated { } (d) Divorced { } (e) Widowed { }.
7) Level of Education (a) Primary school { } (b) Secondary school { } (c) Tertiary { } (d) No formal education { }.

SECTION B: MECHANIC

8) How long have you being operating in this place? _____

9) What influence the choice of your workshop? (a) Cost of land/Rent { } (b) Demand (Closeness to customers) { } (c) Nearness to my residence { } (d) Access to the road

10) Do you have much customers patronizing you? (a) Yes { } (b) No { }.

11) If yes, how many customers do you attend to in a day (a) one { } (b) two { } (c) three { } (d) four { } (e) Others specify _____.

12) Does season and conditions of road affect your level of patronage (a) Yes { } (b) No { }.

13) At what point in time do you experience high patronage (a) Dry season { } (b) Raining season { }.

14) What is the average number of vehicle that come to you possibly during raining season for repair (a) 1-5 {} (b) 6-10 { } (c) 11-15 { } (d) 16-20 { } (e) 21 above.

15) How would you describe the above number of vehicle you repair during the raining season. (a) Very high { } (b) High { } (c) Moderate { } (d) Low { } (e) Very low { }

16) What is the average number of vehicles you repair during dry season (a) 1-5 { } (b) 6-10 { } (c) 11-15 { } (d) 16-20 { } (e) 20 above.

17) How would you assess the number of vehicles you repair during dry season. (a) Very high { } (b) High { } (c) Moderate { } (d) Low { } (e) Very low { }.

18) The problem of vehicles brought to you, does it relate to bad road condition? (a) Yes { } (b) No { }.

19) As a mechanic how would you rate the road condition (a)Good { } (b)Fair { } (c)Manageable { } (d)Bad { } (e)Very bad { }.

SECTION C: CAR OWNERS

20) How often do you visit your mechanic? (a) Once in a month { } (b) Twice in a month { } (c) Three times in a month { } (d) Four times in a month { }.

21) What is the estimated distance of the mechanic to your residence? _____

22) What influence your choice of the mechanic? (a) Proximity { } (b) Expertise { } (c) Low charge { } (d) Hospitable { } (e) Easy to access { }.

23) If you visit mechanic workshop often, what in your view is responsible for your frequent visit? _____

24) What part of the vehicle is affected when using bad road (a) Tyre { } (b) Shock absorber { } (c) Exhaust pipe { } (d) Others specify _____

25) As a car owner how would you rate the condition of the road (a) Very good { } (b) Good { } (c) Moderately ok { } (d) Manageable { } (e) Bad { } (f) Very bad { } (e) Worse { }.

26) What major challenges do you think drivers are faced with in using the road?

(a) Flood { } (b) Traffic congestion (c) Pot hole { } (d) Untarred nature of the road

{ } (e) Poor maintenance

27) Does the condition of the road influence the number of times you visit your mechanic

for repairs (a)Yes { } (b)No { } (c)Somehow { }.

28) Which of these major problems of road condition affect vehicles most

(a)Traffic congestion { } (b)Flooding { } (c)Port holes { }

(d) Untarred road condition.

29) The condition of the road is better now than before (a)Strongly agree { }

(b)Agree { } (c)Moderately Agree { } (d)Disagree { } (e)Strongly disagree { }.

30) Based on your own assessment is the government doing anything about the road.

(a) Yes { } (b)No { }.