Urban Poverty Analysis Using GIS (Geographical Information System): A Case Study of Alimosho Local Government Area, Lagos-Nigeria

By Damilola Olaoluwa Oladokun

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Dissertation

To obtain the degree of Doctor of Philosophy in Geotechnical Engineering at Selinus University of Sciences and Literature on the authority of the President Dr. Salvatore Fava, following the decision of the Board of Examiners.

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Declaration

The dissertation titled ''URBAN POVERTY ANALYSIS USING GEOGRAPHICAL INFORMATION SYSTEM (GIS): A CASE STUDY OF ALIMOSHO LOCAL GOVERNMENT AREA, LAGOS-NIGERIA'' which is submitted for the award of Doctor of Philosophy in Geotechnical Engineering at Selinus University of Sciences and Literature is my original work. Material borrowed from the sources and used in the dissertation has been duly acknowledged and referenced. ''I do hereby attest that I am the sole author of the Ph.D. dissertation and that the contents are only the result of the readings and research I have done''.

Date: 12 May 2021

Student's Signature: *Damilola Sadeku*

Student ID: No. **UNISE1301IT**

Dedication

This project is dedicated to the glory of God Almighty, the giver of strength and the sustenance of it, through his word (Jesus Christ) and by His Spirit (Holy Ghost).

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My profound appreciation is given to the Almighty God Who is the giver of life and the sustenance afterward. I would like to express my special gratitude to Dr. Salvatore Fava and the entire staff of Selinus University of Sciences and Literature for their support and encouragement in the course of carrying out my research at this university. I will like to thank the entire management and staff of Sealmatics Consultants Limited for their unalloyed support and encouragement. As well as the entire staff of the Faculty of Science, Department of Geography, and Faculty of Engineering Department of Surveying and Geoinformatics, University of Lagos, Lagos-Nigeria. Special acknowledgments go to Dr. M. J. Fasona, Dr. E. Epuh, and Dr. H. Masaku for their support and encouragement.

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Oladokun D. O. 2021

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Abstract

The main objective of this work is to measure poverty incidence at the household level by applying various poverty indicators. GIS (Geographical Information System) technique was used to develop poverty maps for the study area. The study area is in the Alimosho Local Government Area of Lagos, Nigeria which has six Local Council Development Areas (LCDAs). The data used were disaggregated to the LCDAs in the study area that contributes largely to planning efforts as highlight geographic variations in poverty levels between various parts of the study area and displays different dimensions of poverty. This, in turn, represents a step towards poverty alleviation in the study area.

In an attempt to underscore the importance of GIS in analyzing poverty in the Alimosho Local Government Area of Lagos State, Nigeria, this study aims to explore the capabilities of GIS in analyzing urban poverty. The objectives of the study include and are not limited to identifying various poverty indicators in the study area, mapping poverty incidence in the study area as well as assessing and measuring poverty incidence in the study area at the household level by applying various indicators of poverty measurement.

Different tables, maps, and charts were produced showing the spatial distribution of poverty level and where poverty is at the peak in the study area. From the results, it was shown that poverty is more concentrated in Ayobo-Ipaja LCDA than in other parts of the study area. This constituting over 17.1% of the poverty indicator used. This will help the policy and decision-makers to know how to plan in alleviating poverty in the study area and also serve as a prototype measure that can be applied to other urban centers' poverty alleviation programs.

This thesis gives room for the incorporation of other indicators to enhance further study.

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Chapter One

1.0 Introduction

1.1 Background of the study area

In Nigeria, the problem of poverty has for a long time been a cause for concern to the government. Initial attention focused on rural development as well as town and country planning as a practical means of dealing with the problem. Thus, the second and fourth national development plans contain both direct and indirect allusions to, as well as objectives of, policies and programs aimed at minimizing the causes of poverty. These various causes of poverty, which include low productivity, market imperfections, structural shifts in the economy, inadequate commitment to program implementation, political instability, etc., are complex and the consequences often reinforce the causes, further impoverishing the people (Obi, 2007).

In a recent survey, Obi (2007) noted that Nigeria's festering poverty profile was described as "widespread and severe". The report of comparative analysis of welfare ranked Nigeria below Kenya, Ghana, and Zambia and expressed concern over the dwindling purchasing power of the people and the increasing income inequality in Nigeria, which have made life unbearable for the citizenry. Nigeria is enormously endowed with human, agricultural, petroleum, natural gas, and massive untapped solid mineral resources. Unfortunately, Nigeria is grouped as one of the poorest countries at the threshold of the 21st century, when ironically she was ranked among the richest 50 in the early 1970s (Obadan, 2004).

The most pathetic feature of Nigerian society today is that a majority of its members are living in a state of destitution while the remaining relatively insignificant minority, are living in affluence. These skewed economic relations do not reflect the geographic spread of resource endowment; rather it is a product of classical greed, injustice, and selfishness, which is beyond any economic principle. Though it is true that where one comes from can be a strong determinant of one's economic status because of different opportunities and constraints but what is happening in our society today differed too much from this. However, poverty has both income and non-income dimensions usually intertwined. The poor are those who are unable to obtain an adequate income, find a stable job, own property and maintain healthy conditions. They also lack an adequate level of education and cannot satisfy their basic health needs (Sancho, 1996). Thus, the poor are often illiterate, in poor health, and have a short life span (World Bank, 1995). They have no (or limited) access to necessities of life such as food, clothing, decent shelter, are unable to meet social and economic obligations, lack skills and gainful employment, have few, if any economic assets, and sometimes lack self-esteem (Olayemi, 1995). Very often, the poor cannot escape from their situation by themselves. This characteristic is what causes the social conditions of extreme poverty to persist and to be transmitted from one generation to the next. Frequently, those most affected by extreme poverty are young children, pregnant mothers, the elders, the inhabitant of rural areas and marginal urban zones, and those groups of people who have not been integrated into the society, especially, certain ethnic groups of people who find themselves segregated in their societies. Among the groups most affected by extreme poverty throughout the world are those who are most vulnerable and lack resources, along with those who cannot organize themselves nor exercise the right to protect their situation (Sancho, 1996). The poor in most developing countries are to be found among four identifiable economic groups the rural

landless, the small farmers, the urban underemployed, unemployed, and the unemployable. Generally, the poor are disproportionately located in rural areas and slums in urban areas.

The urban poor in sub-Saharan Africa especially the West Africa region experienced a difficult time. The episode of the international adjustment program harmed the urban poor group the most, despite the government's intention to protect the incomes of the urban groups especially the elites. Even if the very wealthy groups have benefited from adjustment programs, the majority of the urban population was hit badly by the policy-induced recession. The incidence of urban poverty increased in the region for both the public and private sectors.

Poverty has a spatial dimension. It concentrates within a given locality, varies from place to place, and relates to local geographic factors (Minot et al. 2006; Okwiet al. 2007). The decision-makers need information and tools to identify areas that lack development and where the poor are living (Henninger and Snel 2002). GIS is a potential tool to analyze and integrate physical, social, and environmental factors according to their geographical locations. The application of GIS in tackling poverty with the spatial representation and analysis of indicators of human well-being and poverty as well as providing poverty maps have proven useful for the research on poverty and its determinants. Poverty incidence can be visually represented in maps. Mapping poverty simply means a spatial representation of the various indicators of poverty within a region. Producing a poverty map is of great importance as it highlights geographic variations between various regions and displays different dimensions of poverty, which in turn can contribute largely to understanding poverty and its determinants. Accordingly, poverty maps can be used to identify those areas that suffer from higher levels of poverty and consequently require some sort of immediate intervention. In this context, it was argued that the geographical indicators of poverty may improve the efficiency of targeting poverty if large differences in standards of livings are observed across localities (Astrup, C. and Sebastien, 2003).

GIS is considered a very supportive technique that can be used in assessing the poverty incidence and developing the poverty map. This is, mainly due to the high capabilities of GIS techniques in displaying various dimensions of poverty and highlighting the spatial variations in poverty levels.

Given the above, it is therefore important to examine the conditions under which the urban poor live to provide information, which will help the city and state administrators develop more positive policies and actions towards the poor. It will also aid in knowing the living standard of the people and where they live in.

1.2 Problem statement

Poverty is one of the most pressing problems of humanity for the last century. At the turn of the millennium, no less than the World Bank estimated that about 1.2 billion people worldwide or one out of every five people on earth are struggling to survive on less than US$1 per day, while twice as many, 2.8 billion people on less than US$ 2 (UNDP-HDR: 2003). The world's poorest people many of whom live in developing areas of Africa, Asia, Latin America, and Eastern Europe struggle daily for food, shelter, and other necessities (World Fact Book, 2002). It is however not surprising that poverty and inequality in Nigeria have been widespread in the last two decades. Despite being the largest exporter of crude oil in Africa, Nigeria remains one of the poorest countries in the world with income per capita less than US$500. One of every five Nigerian children dies before his or her fifth birthday, while one of every three is malnourished. Only 64 percent of school-age boys and 57 percent of girls attend primary school (World Bank, 2007). At the fifty-six session of the United Nations General Assembly on 6 September 2001, tagged "Road map towards the implementation of the United Nations Millennium Declaration" which contains an integrated and comprehensive overview of the current situation in the world, potential strategies for

actions that are designed to meet the goals and commitment were made by 147 heads of State and Government, and 189 Member States in total, who adopted the Millennium Declaration in which they all recognize poverty eradication as the first on the agenda (United Nation, 2000). Poverty in Nigeria is largely more of a rural phenomenon. The incidence of poverty as well as its depth and severity is higher in the rural areas than in the urban areas but this is not to say poor people are not living in the urban area. More than half of rural households are absolutely poor while the proportion is much less in the urban areas. The high incidence of poverty in the rural areas is due to their dependence on low productivity agriculture, lack of access to opportunities, and poor social and economic infrastructure (National Bureau of Statistics, 2007).

Finding ways to reduce poverty indeed is a daunting challenge for local, national, and international decision-makers. One of the important challenges is the spatial heterogeneous characteristics of poverty in most countries (Hennigner and Snel, 2002). Poor people tend to be clustered in specific places (Hennigner and Snel, 2002). Geography plays a significant role because it has a strong impact on the living standards of people living in the community especially in developing countries (Bigman and Fofack, 2000). Significant geographic variation in the incidence rates of poverty may be due to a variety of reasons including differences in agro-climatic conditions and geographic characteristics, particularly access to main urban centers and markets, presence of natural resources such as water for irrigation, and other non-physical conditions and facets of public policy (Bigman and Fofack, 2000; Ravallion and Wodon, 1997). In this regard, according to a distinguished human geographer in the United States, "poverty is an inherently a spatial problem (Glasmeir, 2002). Therefore, poverty analysis should adopt a spatial approach because poverty has a spatial dimension in distribution.

However, much of the focus of studies on the geography of poverty over the past few decades relates to "people poverty" the characteristics of individuals or households, and the geography of income or income proxy measures (Powell et al., 2001). "Most of the key poverty text focused largely on the social components of poverty through analyses of headline national statistics, with relatively little attention given to its spatial characteristics" (Milbourne, 2004). Despite the spatial emphasis on poverty initiated by Charles Booth as early as the 19th century (cited in Vaughan *et al*., 2005), there has been a lack of prominence on the spatial aspect of poverty as dealt with by numerous studies.

In recent years, however, there is increasing recognition of the role of geography in understanding and analyzing poverty. The development of geographic information systems (GIS) together with advances in remote sensing have leaped to incorporate spatial data and satellite imageries suitable for poverty analysis (Deichman, 1999; Bigman and Fofack., 2000; Hyman et al., 2005). GIS is useful in highlighting geographic variations of poverty and simultaneously displaying different dimensions and understanding its determinants at a disaggregated levels. This would in turn allow visual comparisons of its multidimensional characteristics and provide an avenue for analyzing spatial patterns and their determinants. Such a technique is known as poverty mapping – the spatial representation and analysis of indicators of human well-being (Davis, 2003). In other words, poverty mapping is becoming a new trend today, which is made possible with GIS and remote sensing.

Despite recent advancements in poverty mapping brought about by GIS and remote sensing, little has been done to study the spatial aspects of poverty in developing countries, particularly in Nigeria. More often than not, poverty analysis in Nigeria resides within the economic and policy realm which does not consider so much on its spatial dimension. Although there were a few poverty mapping initiatives over the past few years (Domingo,

2003), If indeed, geography affects the state of poverty in every location, geographical factors should therefore be incorporated as variables in understanding and analyzing poverty condition in the country.

Given the current agenda espoused in the Millennium Development Goals (MDGs) of the United Nations aiming to eradicate extreme poverty and hunger by the year 2010 and the capability of GIS to incorporate spatial variables in poverty analysis, it is extremely important, timely, and relevant to explore the geographic aspects of poverty condition in Nigeria to improve the targeting of government's poverty alleviation programs.

1.3 Aim and objectives

In an attempt to underscore the importance of GIS in analyzing poverty in the Alimosho Local Government Area of Lagos State, Nigeria. This study aims to explore the capabilities of GIS in analyzing urban poverty. The objectives of the study include:

- To identify various poverty indicators in the study area
- To map poverty incidence in the study area
- To assess and measure poverty incidence in the study area at the household level by applying various indicators of poverty measurement.

1.4 The study area

This study examines the poverty level in the Alimosho Local Government Area of metropolitan Lagos city in Nigeria. The study area is sub-divided into six Local Council Development Areas ($LCDA_S$) Mosan- Okuola, Egbe- Idimu, Igando- Ikotun, Ayobo- Ipaja, Oke Odo, and Akowonjo Egbeda. The study area occupies about 180.744 square kilometers of Lagos's total landmass. It lies between latitude $6^0 36' 38''$ N and longitude $3^0 17' 45''$ E. Alimosho is bordered in the north by Ifako Ijaiye, north-east Agege, Ikeja, Oshodi/Isolo, to the south by Amuwo Odofin, Ojo and the west by Ogun State. The study area is the most

populous Local Government Area in the Lagos State with a population of 1,277,714 million people according to the 2006 National Population Census and 2,047,026 million people base on the Lagos State census count 2006. The annual growth rates are 7.52% and 10.95% respectively. The majority of the people living in this area were Aworis and Egbados. The main occupation of these settlers is peasant farming. The study area was chosen because it is the most populated Local Government Area in Lagos State.

In general, Lagos's climate is relatively hot and humid with an average temperature of 27°C. The climate in the study area is that of the humid tropics, largely controlled by prevailing winds and nearness to the Atlantic Ocean. The two dominant air masses are the dry wind from the Sahara and the wet from the Atlantic Ocean. Marginal alterations air masses impacts are experienced due to the landform characteristics, especially from the dominant ocean currents and generally flat to undulating landform.

The study area annual rainfall is about 2160 mm with a minimum of between 25-27 mm during the "dry" months of December and January; the annual rainy days range within 100-125mm. The climate of the study area is influenced by tropical and continental air masses, which are associated respectively with the northeast and moisture-laden monsoon southwest winds. The movement of both air masses results in two weather seasons – the wet season (April to November) and the dry season (December to March). Relative Humidity in the study area averages 80 percent at night and between 60 to 75 percent during the day. Generally, the drier months (December to February) indicate low humidity between 55-65 percent and goes as high as 85 percent in the peak of the wet season.

Available information indicates that January through April is likely to be the warmest months with predicted temperatures ranging from 25 - 32.5°C. The coolest temperatures are expected in May to October with temperatures within 20 - 25°C. The study area cuts across two regimes of wet and dry seasons, which like other parts of Lagos State, are influenced by two

major wind systems. These are the humid tropical continental air mass from the Sahara regions, and the sub-equatorial maritime, which blows from the Atlantic Ocean. The latter has much influence on the project area because of the proximity. The subequatorial maritime air mass is more active in the entire country during March and October. The prevailing wind direction is southwest with speeds ranging from 2.5 - 4.5 meters/second. The Wind Speed is relatively low, usually less than 2 meters/second (m/s) under normal settings, and rises to 5m/s during major coastal storms (Fig. 1.4 map of the study area).

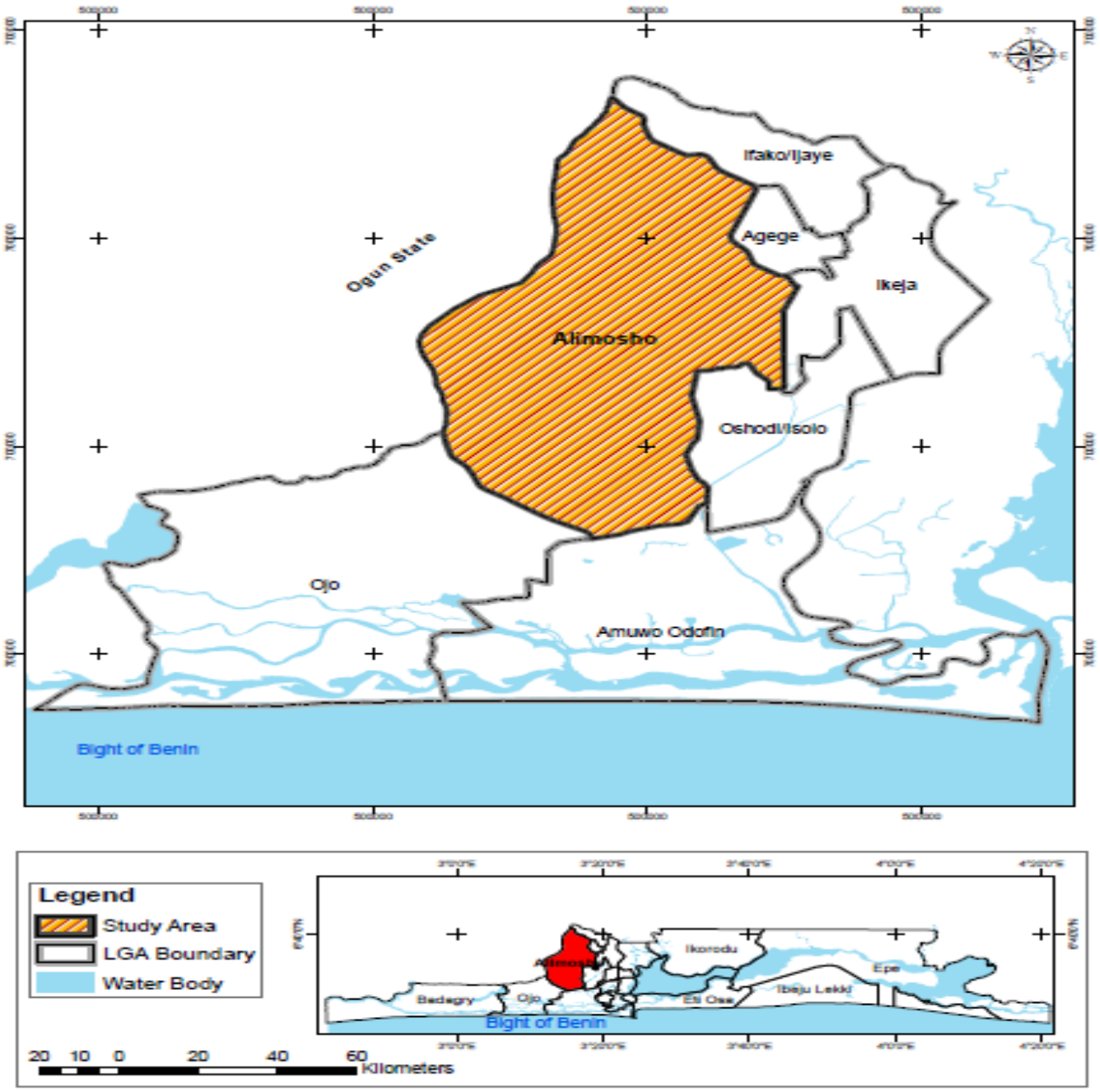

Fig 1.4 Study area map

1.5 Significance of the study

Urban poverty has been given a low priority in terms of the research and development agenda of the Nigerian government. For over two decades, these have been dominated by rural development and rural poverty. The recent renewed interest in urban issues has been due to the widespread idea that urbanization is speeding up. At the end of the year, 2000

about half the world's population live in the urban area, in 1975 this was only 28%. In 1970, developing countries' level of urbanization was 25%. In 1994, it has increased to 37% and it is projected to be 57% in 2025 (U.N.O., 2001).

In Nigeria, the number of rural poor declined from 26.4 million in 1985 to 22.8 million in 1992. In urban towns and cities, it rose from 9.7 million to 11.9 million in 1985 – 1992. The depth of poverty declined from 19% to 16% in rural areas, while it increased in urban areas from 9% to 12%. In 1985 – 1992, total extreme poverty in Nigeria increased from 10.1 million people to 13.9 million with a nearly three-fold increase in the urban extreme poor from 1.5 million to 4.3 million people (World Bank, 1995). Moreover, the depth and severity of extreme poverty increased more than seven-fold in urban Nigeria compared with a two-fold increase in rural areas. From the above shreds of evidence, the problem of urban poverty in Nigeria is becoming more serious and alarming as compared to rural poverty. The problem has been due to recent high population growth rates and rural-urban migration, which has made the quality of life in urban center slums worse and urban services overstretched. Various methods/policies for ameliorating the poverty situations have been carried out but without having the masses in mind or without spatial analyzing the causes and the regions that are mostly affected.

This research is very timely and significant in the light of very plenty of resources of the Nigerian government concerning its program measures and strategy to combat poverty in the country. Results of the study could provide valuable information to academia, policy planners, and key decision-makers both at the national, state, and local government level on the spatial patterns and determinants of poverty to effectively respond and provide the kind of assistance that poor communities need. The incorporation of geographic factors that may affect the prevailing poverty conditions in the study area can significantly enrich poverty

analysis and can influence the formulation of responsive policies that are necessary to combat its persistence through the use of geographical information systems.

1.6 Scope of the study area

This study attempts to examine the poverty level in the Alimosho area of metropolitan Lagos. Alimosho being one of the metropolitan Lagos areas was chosen because it is essentially an urban area and one of the densely populated areas in Lagos, Nigeria. Such a place is a natural abode of the poor and the unskilled. More so, being a major commercial, administrative and industrial center in Lagos metropolis, it is also the natural abode of the rich and affluent. Hence, a study of this nature reveals the nature of urban poverty in Nigeria.

The scope of this study is to map out poverty incidence in the Alimosho Local Government Area of Lagos State. The study areas constitute six (6) LCDAs. The conventional method of the questionnaire was used to get the socio-economic information of the household heads. The information was processed and spatially linked with ArcGIS to produce poverty incidence maps for the study. Multivariate regression analyses were used to determine those under household heads under poverty and those that were not.

Chapter Two

2.0 Literature review

2.1 Concept and nature of poverty

Poverty defies objective definition because of its multi-dimensional nature. There is yet no universally accepted definition of poverty. There is always difficulty in deciding where to draw the line between the poor and the "non-poor". Aluko (1975) refers to poverty as a lack of command over basic consumption needs, which mean, in other words, that there is an inadequate level of consumption giving rise to insufficient food, clothing, and/or shelter, and the lack of certain capacities, such as being able to participate with dignity in society.

Poverty has been defined as the inability to attain a minimum standard of living (World Bank The Report,

1990). The report constructed two indices based on a minimum level of consumption to show the practical aspect of the concept. While the first index was a country-specific poverty line, the second was global, allowing cross-country comparisons (Walton, 1990). The United Nations has introduced the use of such other indices as life expectancy, infant mortality rate, primary school enrolment ratio, and the number of persons per physician.

Poverty has also been conceptualized in both the "relative" and "absolute" sense. This is generally based on whether relative or absolute standards are adopted in the determination of the minimum income required to meet basic life's necessities. The relative conceptualization of poverty is largely income-based or ultimately so. Accordingly, poverty depicts a situation in which a given material means of sustenance within a given society is hardly enough for subsistence in that society (Townsend, 1962).

What is most important to deduce from these different definitions is that poverty must be conceived, defined, and measured in absolute quantitative ways that are relevant and valid for analysis and policy-making in that given time and space.

In Nigeria, the prevalence of both relative and absolute poverty is duly recognized and even mentioned in various National Developments Plans (1975, 1980). Concern for poverty scourge received a further boost during the 1975 Annual Conference of the Nigerian

Economic Society (NES) and the 1997 Annual Conference of the same NES. The 1975 NES conference was devoted entirely to sensitizing the nation to the poverty menace view that poverty existed when incomes or disposable resources were inadequate to support a minimum standard of decent living. Some of the components of living were specified in the individual papers and more importantly, urban poverty was well enlightened. While the 1997 Annual Conference was devoted to the impact of the Structural Adjustment Programme (SAP) on poverty in Nigeria and different methods of alleviating poverty in Nigeria. It was agreed that the majority of those who are poor are not producers themselves. This group of people forms part of the dependent population because they have no direct earnings of the type typically evaluated in distribution studies. And partly there is no guarantee that an increased income would be spent on essential services. Therefore, it was agreed upon that improvement in basic needs such as medical, housing, education; regular access to nutritional food, and so on remains the best option.

Dudley (1975) sees poverty largely in the light of the need for personal growth in Nigeria. According to him, the basic needs, which any society should provide for its members should include such things as food, clothing, shelter, education, health, work, and mobility. Dudley provided some basic indicators of the state basic services especially concerning the poor in Nigeria. Most of the discussion was at a national aggregate level. Other than showing the general adverse situation in the rural and urban areas, inequality, potable water supply, he also refers to issues of nutrition, for instance, it was stated that 30 percent of the households in Oyo State are malnourished. He also stated that in Lagos State more than 72 percent of the households live in one-room houses. He also highlighted that access to health services may vary from two-third of the population in the South to one-third in the North.

Under the principle of basic needs, Steward (1985) did a comprehensive study on Nigeria's poverty. She alludes to the fact there is substantial under-reporting in basic indicators

especially in child mortality, diseases, and morbidity. She also states that there is positive urban bias in government expenditure for basic services significantly inadequate income to meet basic food needs let alone basic services.

The issue of conceptualizing poverty within a basic needs framework, specifying these needs and settling minimum levels for them within the Nigerian context, has been the focus of studies by Ogwumike (1987, 1991) and Ogwumike and Odubogun (1989). These studies generally defined poverty as a household's inability to provide sufficient income to satisfy its need for food, shelter, education, clothing, and transportation. Minimum standards for food are based on nutritional requirements in terms of calories and protein consumption habits and customs are also allowed for in the selection of the food items to give the required national stock. Shelter and education, the number of people per room, and the number of children attending school (and the level of schooling) respectively are adopted as the minimum standard. However, the problem of defining minimum standards for clothing and transportation has persisted.

2.2 Poverty mapping approaches

"The importance of poverty reduction to the world development agenda has motivated greater interest in the geographic dimensions of poverty" (Hyman *et al.*, 2005). The passage of the Millennium Development Goals sparked initiatives in the international arena to conduct poverty mapping exercises with several developing countries to support the fight against poverty. The challenge of many of these poverty studies is the lack of data at a geographically disaggregated level. To solve this problem, experts from the World Bank and the center within the Consultative Group on International Agricultural Research (CGIAR) devised a robust statistical econometric methodology to estimate poverty in small areas (Bigman and Fofack, 2000). This is commonly known as the small area estimation technique. This method relies heavily on census data which captures the total population of every

individual and survey data containing household income and expenditure of a selected sample from the population. By combining these two datasets using an estimation parameter, poverty levels up to the lowest possible geographical subdivision, such as a town, village, or community could be estimated. The results of the estimated poverty levels could then be presented in various thematic maps using geographical information systems tools. This method has been employed by various poverty mapping studies conducted in developing countries such as Ecuador (Hentschel *et al.*, 1998), Madagascar (Mistiaen, 2002), rural India (Bigman and Srinivasan, 2002), Vietnam (Minot *et al.*, 2003; Minot and Baulch, 2005), Cambodia (Fujii, 2004), Morocco (Lanjouw, 2004), among others.

While small area estimation methodology employed sophisticated econometric models to map poverty at disaggregated levels, the Basic Needs approach utilized social-based measures or indicators. The approach involves the selection of a certain number of variables that are non-monetary to capture household well-being. This includes measures on nutrition, energy, sanitation and water, health, and education. The strength of social indicators is that they provide many useful capability measures (Henninger, 1998). For example, anthropometric measurements such as child nutritional status i.e., low height and weight for age and low birth weight, could very well indicate the degree of development of a region and could be used as a general proxy for constraints to human welfare of the poorest people (UN, 1992). In addition to social indicators, demographic-based measures are also being employed as an indicator to map poverty. These include gender, the age structure of households, and household size.

Lastly, the third approach to mapping poverty tried to seek the structural causes of poverty. Geographic factors could be one of the structural hindrances. This would include poor access to markets, infrastructure, transportation, resource endowment, limited access to land, environmental hazards, etc. The significance of poverty-environment mapping is to

highlight spatial correlations and disparities in identifying the underlying causes and drivers of poverty. A growing number of studies notably in poverty and vulnerability mapping e.g., disasters, food security, health, crime, etc., also tried to underscore this approach. Moreover, some research initiatives sought to understand poverty and hunger with a focus on mountain environments (Huddleston *et al.*, 2003) while others tried to establish the link between poverty and biodiversity loss (Snel, 2004), and ecosystem and human well-being (WRI, 2007).

In this regard, the use of geographical information systems has become indispensable. For many studies, GIS has been used for the production of poverty maps as a result of small area estimation. But more than that, GIS allows the simultaneous display of different dimensions of poverty and/or its determinants. The generated maps encourage visual comparison and make it easy to look from spatial trends, clusters, or other patterns. But more than a mapping tool, GIS could be used to generate spatial variables that might influence the poverty condition of communities. For instance, GIS could be utilized to extract information on agro-climatic suitability i.e., average rainfall, soil quality information, etc. GIS could also measure accessibility and proximity such as access to markets and service facilities which may also affect the level of poverty. The spatial representation of poverty could therefore complement regression analysis to help us understand the influence of these determinants (Petrucci *et al.*, 2003).

2.3 Poverty measurement in Nigeria

Given that poverty has been correctly conceptualized, traditional approaches to measurement usually start with the specification of the poverty line and the value of basic needs considered adequate for meeting minimum levels of decent living in the affected

society. Poverty can be measured using the headcount ratio which is based on the ratio or percentage of the number of individuals or households whose income is not equal to the poverty line to the total number of individuals or households (Bardhan, 1973; Ahluwalia 1976; Ginneken 1980).

A major work on Nigeria using the core basic needs approach is that of Ogwumike (1987, 1991). His work examined the utility of poverty measure that takes into account the basic needs of life-based on Nigerian scene. Using data from a sample survey of households he conducted in Borno, Imo, and the Oyo States between October 1984 and January 1985, he derived minimum levels for such basic needs item as food (759.5-kilo cal/week and 2533.3 gm/week protein), shelter (N4.66 a month per person), education (2.09/month/per person) in Nigeria; derived a poverty line of N 47.44 per person per month for Nigeria based on food and non-food needs. The food component constitutes about 80 percent of total expenditure and calculated the extent of poverty (those with income less than the poverty line N47.44) to be 57.14 percent of the sampled households. He then concludes that a greater proportion of the population may continue to be deprived of their needs unless radical poverty eradication programs are instituted in Nigeria.

In 1989 the World Bank study constructed poverty lines based on 1978 income data, which amounted to N65 per family in the urban area and N35 per family in the rural area. The poverty line assumed in the case of urban household N50 for food and rest for housing, clothing, etc., and set the rural prices to be 40 percent below urban level. According to these lines, it was estimated that 34 percent were poor in the urban area (instead of 15 percent in 1974), while 40 percent were under the poverty line in the rural area. Drawing results based on unprocessed 1985/85 Federal Office of Statistics data, the World Bank in 1989 conducted a research study on poverty lines in Nigeria. The poverty lines were set at N150 for urban and N110 for rural areas using 20 percent of urban households and 17.2 percent of rural

households to fall below the poverty line or food insecure, resulting in around 18 percent of all households nationally being poor. Oni and Anthonio (1974) also conducted a household survey in Ibadan between 1970 and 1971. Essentially the study was conducted to increase their understanding of food consumption patterns in an urban area (Ibadan) of Nigeria and to present concrete solutions to food and poverty problems in large urban areas. The survey covered three areas, University of Ibadan senior staff quarters, Abadina community, and Ojaogbo to represent the high, middle, and low-income areas respectively. The households covering less than N60 per month were classified as low-income households; those earning at least N60 but less than N200 per month were classified as middle-income earning households while those earning N200 and above per month were classified as high-income households. From the analysis carried out, it was found that about 62 percent of the aggregate was expended on food. The percentage dropped to about 39 percent for the middle-income groups and further declined to about 16 percent for the high-income group. They also found that the high-income group saved about 11 percent of their disposable income, while the low-income group saved only 6 percent. The study also disclosed that the proportion of income that was spent on non-food items increased with income. In concluding the analysis, it was found that other factors such as size, age, occupation, and other demographic characteristics affect or inference poverty.

Echebiri (1997) carried out a study on the structure of rural income inequality and poverty in South-eastern Nigeria. In his study, household data were collected from sixteen villages in Abia, Anambra, Enugu, and the Imo States for November 1984 and December 1985. A total of one hundred and fifty-five (155) households were surveyed. Households were categorized into the bottom, medium, and top income groups to capture differences in income levels. The analyses showed that a household's income is best estimated using monthly expenditure and repeated cost-route visit techniques. Income was generally low in

study areas and the distribution was not particularly skewed. Four poverty line criteria were used to estimate the incidence of poverty: Minimum Calorie requirement, food share of total expenditure, N395.41 per capita per month at 1995 prices (World Bank 1995), and N1500 per capita per annum at 1996/97 prices. The analysis of rural socio-economic profiles shows striking locational variations among bottom, medium, and top income groups. The variation was discovered to relate intimately with Agroecology (a major occupation) and urban inference as key correlates of household income. Food dominates household expenditure comprising about 69 percent, 65 percent, and 54 percent for the bottom, medium, and top income groups respectively.

Also, Van de Walle (1990) carried a study on poverty alleviation in Nigeria; she suggested that the satisfaction of basic needs directly alleviates some of the most severe consequences of poverty. She contended that healthy, well-nourished, and educated individuals have a higher standard of living than sick, hungry, and ignorant ones. This is because the former are more productive and better able to respond to new opportunities. She, therefore, suggested investment in human capital and involvement of the poor in the growth process.

Likewise, World Bank (1995) carried out a study on Nigeria. The study identified poverty in rural communities as related to poor physical facilities, food insecurity, obsolete agricultural practices, poor nutritional values, little access to savings and credit, general inability to educate children due to high cost, inadequate diet, and homes without amenities such as latrines, bathrooms and kitchens, irregular water supply and electricity as well as the inability to clothe oneself.

In another wider but controversial study by the World Bank carried out in 1996 on poverty in Nigeria, they assessed the poverty trend in Nigeria between 1985 and 1992 using

two-thirds of mean household expenditure as the poverty line. The main findings of the study were first, poverty was more pronounced in rural than urban areas. Second, the southern part of the country had less poverty than either the central or northern part of the country, finally, poverty in Nigeria declined between 1985 and 1992 from 36 million out of a 1995 population of 84 million to 34.7 million out of 1992 population of 102 million. The study shows that the mean per capita household expenditure (in 1985 prices) rose from N592.81 in 1985/86 to N792.6 in 1992/93. Consequently, the estimated moderate and extreme poverty lines stood at N395.41 and N197.71 respectively. Moderate poverty was reported to have fallen from 31 percent in 1985/86 to 20.5 percent in 1992/93, while extreme poverty rose marginally from 12 percent in 1985/86 to 13.6 percent in 1992/93. It was shown that incidence and depth of poverty fell nationally between the two periods, poverty severity rose during the period. Also, the incidence rose in some states such as Kano, Rivers, and Sokoto. The severity also rose in states like Borno, Benue, Cross Rivers, Kano, Kwara, rural Lagos, Plateau, and Rivers. The incidence of poverty for all poor in 1992 was 36.4 percent for rural Nigeria and 30.4 percent for urban Nigeria, which indicates that poverty is not seen in the rural but also co-existed in urban cities/areas of Nigeria. From the foregoing studies, therefore, it can be seen that poverty has long been in existence in Nigeria. The incidence, depth, and severity of poverty have been increasing over the years. More so, over the years, it has been shown that poverty is not limited only to the rural areas of Nigeria but the existence of poverty in urban areas has been on the increase.

2.4 National Poverty Alleviation Programs in Nigeria

At independence in 1960 and for the best part of the 1960s, poverty eradication efforts in Nigeria centered on education, which was seen as the key to the economic, technological, and intellectual development of the nation. ’Show the light, and the people will find the way’, was

then the slogan of Nigeria's First President, the late Nnamdi Azikiwe. Therefore education programs were implemented alongside agricultural extension services, which encouraged increased food production.

Successive governments, however, have tried to address some of these issues through the enunciation of poverty-related programs. Whether these programs have succeeded in either alleviating poverty or not is a moot point. Suffice it to say, however, that the first of such programs called, Operation Feed the Nation (OFN) was enunciated in 1979 by Gen. Olusegun Obasanjo administration. The program had the specific focus of increasing food production on the premise that the availability of cheap food will mean a higher nutrition level and invariably lead to national growth and development. OFN lasted until Shehu Shagari's government took over in 1979. Shagari (1979-1983) shared almost the same poverty reduction idea with his predecessor. He came up with his pet project named the Green Revolution, which also emphasized food production. It must be stated though that lack of continuity and shift in approach trailed poverty alleviation programs since the ouster of Shagari from power in 1983. Each subsequent military administration came with a different idea or no idea at all. Poverty reduction programs became more 'regime specific' because there was hardly any continuity with those initiated by previous governments.

The military regime of Gen. Muhammad Buhari (1983-1985) did not have a specific poverty alleviation program as it focused on fighting indiscipline and corruption. This initiative better known as War Against Indiscipline (WAI), sought to inculcate a military-style regiment of discipline such as queuing for public services, observing road signs, memorizing the national anthem, and generally sprucing up the national psyche on the distinctions of right and wrong, handling of public property, etc. Some analysts argue that the fight against indiscipline and corruption was equal to a poverty alleviation program in the sense that the two were partly the reason why many Nigerians are poor.

Gen. Ibrahim Babangida (1985-1993) is known to be one Head of State that introduced a series of poverty alleviation programs. These include the Peoples Bank, which sought to provide loans to prospective entrepreneurs on soft terms and without stringent requirements of collaterals. It also regulated the Peoples' Bank as sources of cheap funds for communities and their members.

Another program was the Directorate of Food Roads and Rural Infrastructure (DFFRI) which sought to open up rural areas via the construction of feeder roads and provision of basic amenities that would turn them into production centers for the national economy. The DFFRI was on offer as the most comprehensive program on the nation's war against poverty. Considering the truism that rural populations in Nigeria are significantly poorer than their urban counterparts, this program targeted this core group.

Another program that tried to head off the scourge of poverty by targeting the agricultural sector was the Nigerian Agricultural Land development Authority (NALDA). The Authority was intended to reduce the prevalence of subsistence agriculture in the country and its place infuse large-scale commercial farming by assisting farmers with inputs and developing land for them to the point of planting, at subsidized rates.

While all these programs collapsed at one point or the other, nonetheless, at least one of these programs enunciated by the Babangida regime – the National Directorate of employment (NDE) – has had years staying power up to date. By its mandate, NDE was to design and implement programs to combat mass unemployment and articulate policies aimed at developing work programs with labour-intensive potentials. From its programs and its staying power, this was a scheme that could be adjudged as the most successful of Babangida's poverty alleviation policies. Babangida saw unemployment as one of the key issues challenging the agenda of government since it posed a potential danger to the socio-political and economic system of the nation.

The regime of Late Gen. Sani Abacha (1993 – 1998) was known as the midwife of the Family Economic Advancement Programme (FEAP) in Nigeria's quest for a way out of debilitating poverty, as this was the period that marked Nigeria's relapse into the global bracket of 25 poorest nations. Significantly, FEAP existed for about two years (1998 – 2000) during which it received funding to the tune of N7 billion (46.7 million USD) out of which about N3.3 billion (22 million USD) was disbursed as loans to about 21,000 cooperative societies nationwide that were production oriented. Such projects targeted for assistance included poultry production, garri making, soap making, and animal husbandry.

As a rider to all poverty alleviation programs enunciated over the years in the country, it must be recalled that spouses of Heads of State also joined in the fray with novel programs that not only elevated the status of these First ladies but also focused on issues of poverty, using State funds. Most noticeable were the Better Life for Rural Women heralded by Mrs. Mariam Babangida and Mrs. Mariam Sani Abacha's Family Support Programme (FSP). These programs also tried to introduce a gender element into anti-poverty programs, acting on the assumption that women needed special treatment in the light of their immense contributions to the national economy, both as small-scale entrepreneurs and home keepers. Nonetheless, most of these poverty alleviation programs suffered the same fate as a recent government assessment showed. It found that they all failed due largely to the fact that:

- They were mostly not designed to alleviate poverty
- They lacked a clearly defined policy framework with proper guidelines for poverty alleviation
- They suffered from polity instability, political interference, policy, and macro-economic dislocations
- They also lacked continuity Poverty Alleviation

Starting a New? There is the need to start a new program that will take into consideration the shortcomings of earlier poverty alleviation programs. The new program, National Poverty Alleviation Programme (NAPEP) was introduced by the administration of General Olusegun Obasanjo in1999.

2.5 National Poverty Alleviation Program – A new program

Taking cognizance of this, the present civilian transition administration which had at inception in May 1999 set out poverty as one of its areas of focus, approved the blueprint for the establishment of the National Poverty Eradication Programme (NAPEP) a central coordination point for all anti-poverty efforts from the local government level to the national level by which schemes would be executed with the sole purpose of eradicating absolute poverty. Such schemes already identified include:

- Youth Empowerment Scheme (YES),
- Rural Infrastructures Development Scheme (RIDS),
- Social Welfare Services Scheme (SOWESS) and
- Auto Rickshaw - Case Study

Direct and indirect involvement of government in the provision of transportation has well established the world over (Raji, 2009; Raji & Otun, 2008). The global economic recession and the fall out of the Structural Adjustment Programme (SAP) between 1987 and 1993 in Nigeria greatly affect the purchasing power of the government and the populace to replace the existing public transport fleet of buses and taxis (Adeniji, 1982; Oyesiku, 2001; Oyesiku & Odufuwa, 2002).

To meet the transport needs of people, a motorcycle popularly called (‘okada’ or ‘zemidjan’) which is commonly used as means of intercity transport in the riverine areas of the country surfaced as a commercial transport system in most urban areas of the country. And this has

come to stay in most West- African states. With the externalities of motorcycles such as road traffic accidents, robberies, and so on. There is also the need to complement existing public transport and as well create jobs for people of Lagos, about 500 unit auto-rickshaw tricycles was brought in March 1998 to Lagos state and these were called 'Keke Marwa' named after the then military governor of Lagos state Colonel Buba Marwa who initiated the use of tricycle as a means of transportation in the Lagos metropolis (Owoyele, 2009).

One way to empower people is by creating employment that can give them income. Using Keke NAPEP for commercial transportation is one of the poverty alleviation strategies that the Federal Government employed through the National Poverty Eradication Programme in creating employment for the unemployed. The study, therefore, focuses on Keke NAPEP operators' activities, with the view to explore the significance of the scheme in alleviating beneficiaries' socio-economic challenges.

Chapter Three

3.0 Methodology

The data used for this study were of primary origin. The data were collected through a general household survey and by the administration of a structured questionnaire. The survey covered Alimosho with its LCDAs like Agbado-Oke Odo, Akowonjo-Egbeda, Ayobo-Ipaja, Egbe-Idimu, Igando-Ikotun, and Mosan-Okunola. The sample households in all the areas covered were selected by stratified random sampling technique and this was achieved by dividing the population into stratum or sub-population, the household sample was drawn randomly to allow for a degree of representativeness.

Information was sought from the sample households on both quantifiable and non-quantifiable factors affecting income and household education patterns. Those factors include household monthly income, source of income, household size, expenditure in various consumers' items, occupation, employment, and other households' non-food expenditure. The consumer items that were considered were food, accommodation, transport, household goods, and health services. The food items considered include bread and tea, pap and bean cake, rice, and *garri*.

A questionnaire was given to each respondent when literate and the procedures for completing the questionnaire were explained to them. The illiterate respondents were interviewed directly using the personal interview method to avoid incomplete information.

On the whole, a total of one hundred and forty (250) copies of the questionnaire were printed, out of which one hundred (180) were collected for the analysis due to lack of cooperation from some respondents and incomplete information from some others.

3.1 Sources of data

The conventional paper questionnaire technique was adopted. This technique enabled the interviewer to record all the responses inside the designed questionnaire which gave room for use of a questionnaire to one household. Each questionnaire represents a household's information. Shapefile of Alimosho LGA with LCDAs was collected from the Office of the Survey General of the Lagos State. While other materials used were sourced via the internet.

Data type	**Date acquired**	**Identification**	**Scale**	**Sources**
Questionnaire	2014	Alimosho		**Field source**
Alimosho Boundary shapefile	2008	Alimosho		Office of the Survey General of the Lagos State.

Table 3.1 Data sources and their characteristics

3.2 Data processing

The essence of sampling in any statistical inquiry is to scientifically select a representative fractional part of the population of interest to generalize the outcome of such inquiry to the entire population. In this wise, the various social and economic strata that exist in the society, as defined by basic demographic variables are given utmost consideration in the design of the sample. It is premised on the above criteria, that a total sample size of 250 households was drawn using a two-stage stratified sampling technique that cuts across the entire six Local Government/Council Development Areas in the study area.

3.3 Distribution of sample disaggregated

The stratification comprised of the Local Council Development Areas, with each of the questionnaires was distributed within the LCDA to capture the responses of each household head. The data were coded in Statistical Package for Social Sciences (SPSS) software. Data collected were crosstab to link household head responses with their LCDAs. The statistical technique of correlation matrix and multivariate regression analysis was adopted to determine the poverty level of the household heads. The household variables were correlated and multivariate regression analyses were carried out to ascertain the household heads under poverty. It is, however, imperative to mention that the number of households selected from each LCDAs was proportional to each other. The Stratified Multi-stage Sampling procedure ensures that the sample eventually taken was representative of the study population in line with the geographical spread and the household social and economic strata.

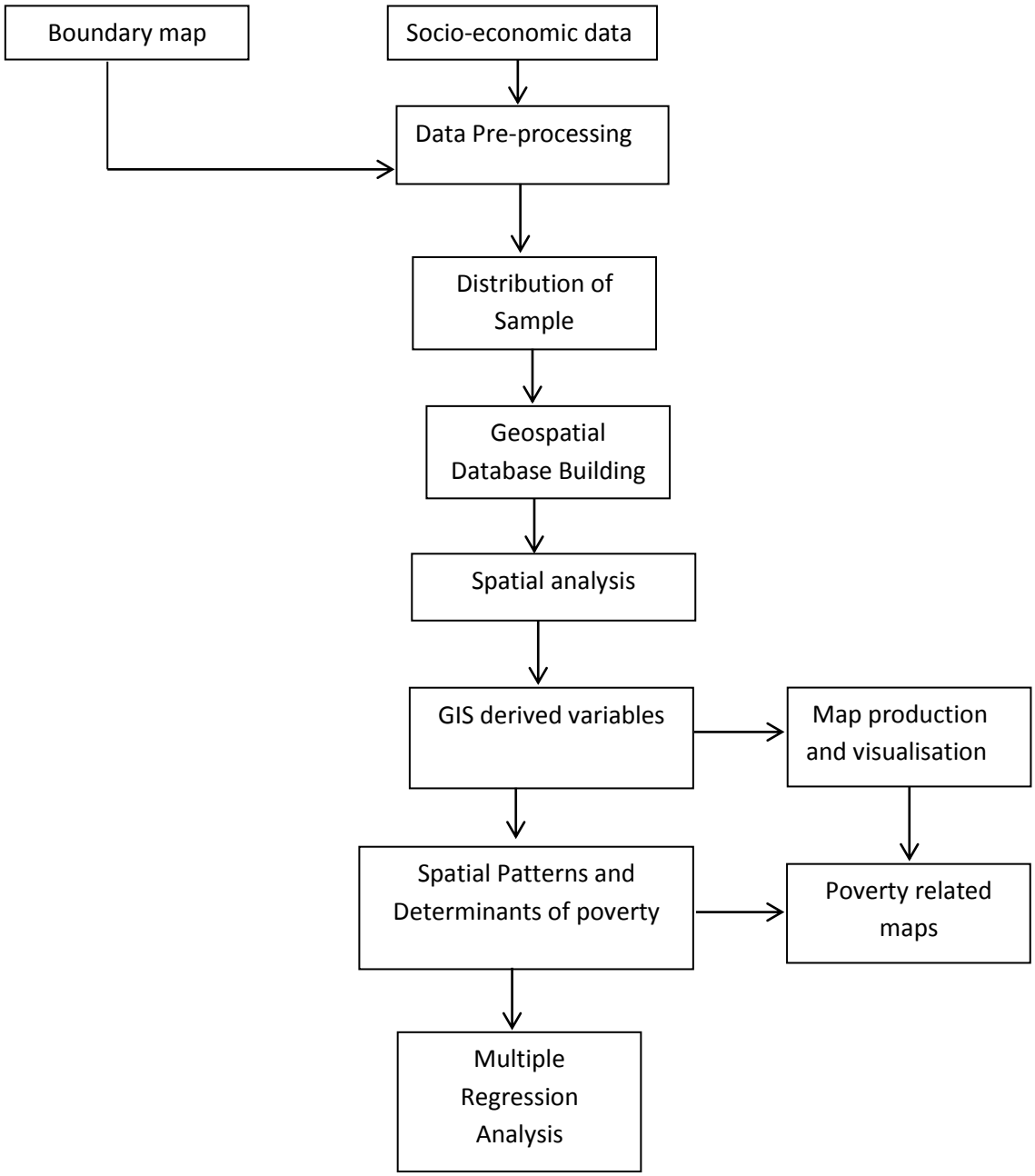

Figure 3.0: Flow chart for research methodology

3.4 Geospatial database build-up

The frequency table from SPSS was exported to Excel for final formatting for easy access with ArcGIS. The boundary shapefile of the LCDAs were spatially joined with excel to build a database for this study. The administrative boundary shapefile of the study area was used as the basic spatial data to incorporate the socio-economic of the feature dataset. A unique identifier was given to every LCDA in the study to establish a spatial link between the shapefile and the socio-economic data. Subsequently, all of these data were spatially joined with the administrative boundary layer using ArcGIS 10.0.

3.5 Spatial analysis

Using the capability of ArcGIS 10.0, the study employed socio-economic data to generate spatial analysis that was disaggregated at the LCDAs level. Specifically, the results of the GIS-derived variables were later associated with socio-economic to explore the spatial determinants affecting poverty in the study area. The method of how each of the spatial variables was derived is explained in detail in the next subsection.

The results of the calculation were linked to the boundary shapefile as this formed the spatial data used for the analysis. Different maps were produced using each of the indicators as this shows the spatial distribution of poverty in the study area. There were concentrations in areas where poverty is on the high side. The maps were analyzed as related to their poverty level. A comprehensive map was produced to show the spatial distribution of the poverty incidence in the study area which forms the final results for poverty incidence in the study area.

After performing a series of spatial analyses for the different spatial variables to derive auxiliary data that would be comparable with poverty incidence in every study area, a multivariate regression analysis was performed with the non-spatial datasets. Multivariate regression was adopted because it can test all of the possible factors that affect a single phenomenon (poverty). meals skipped, the major source of water, when the building was built, residence status of the household heads, main problems and causes faced as a result of

living in the community, how long does it take to get water, means communication, how long to the nearest health facility, reason living community, household size, monthly income, food combination, major health concern, how often use the health facility, years living in the community, health services have access to, water treatment, means transportation, education attainment, the material used in the building, general condition dwelling, story building represents the independent variables against occupation which is the dependent variable. The existence of collinearity was for every variable using bivariate correlation matrix analysis to ensure that they are independent with one another to avoid redundancy. The nature of each variable in the regression model is presented below. Most of the variables are expressed in percentage. Results of the regression were related with one and another to elucidate the possible reasons explaining the spatial variation in poverty. The full regression model can be mathematically expressed as follows:

$Y = \beta0 + \beta1X1 + \beta2\ X2 + \beta3X3 + \beta4 + X4 + \beta5\ X5 + \beta6\ X6 + \beta7\ X7 + \beta8\ X8 + \beta9X9 + \beta10X10 + \beta11X11 + \beta12X12 + \beta13X13 + \ldots\ldots\beta22X22 + \varepsilon$

Where: Y = Poverty

β1 to β10 = coefficients

X1= Age distribution

X2= Gender

X3= marital status

X4= income

X5= education

X6= household size

X7when building was built

X8= sufficient drinking water

X9= toilet facility used

X10= health facility used

X11 = general condition of the household

X12 = food combination

X13 = meal skipped

X14 = means of communication

X15= means of transportation etc

ε = Error

Chapter Four

4.0 Data analysis and results

This chapter presents the practical results of poverty incidence as applied to the study area. Socio-economic attributes are presented, specifically, the age structure and educational attainment characteristics, occupation, gender, transportation, employment, monthly earning on employment, average expenditure, average income per month, and the household size. These were considered important when estimating local poverty incidence, the dependent variable in this study. Thereafter, this chapter presents each variable and its correlation with poverty. In the same vein, data analysis was carried out using the SPSS software package. Frequency tables were generated in SPSS and later transferred to EXCEL for easy manipulation.

Maps and charts were prepared to enhance the discussion. Subsequently, the latter part of this chapter presents an integrated analysis of the results generated from the multiple regression analysis.

4.1 Age distribution of household heads

The study revealed that the majority of the household heads sampled were between the ages 41-55 years old.

LCDA	16-25	26-40	41-55	56-70	Greater 70 years	Total	%
Agbado-Oke-Odo	3	6	16	3	0	28	16
Akowonjo-Egbeda	1	3	20	7	0	31	17
Ayobo-Ipaja	1	3	22	3	0	29	16
Egbe-Idimu	2	1	26	2	0	31	17
Igando-Ikotun	1	6	19	5	0	31	17
Mosan-Okunola	0	2	20	5	1	28	16

Table 4.1 Age distribution of household heads

Table 4.1 above shows that majority of the respondents fell between the ages 41-55. Fig. 4.1 shows that this age distribution was found in all the LCDAs in the study. Follow this, Agbado-Oke-Odo, Ayobo-Ipaja, and Mosan-Okunola constituted 16% respectively of the household heads age distribution. While Akowonjo, Egbe-Idimu, and Igando-Ikotun accounted for 17% of the total household heads. Within the household heads range, ages above 70 and 16-25 were found to be the least of all the household heads; these ages constitute of both old and single whose were Lagos State University students. Age greater than 70 years means that there are fewer old people in the study area.

Chart 4.1 revealed that only Mosan- Okunola has the household heads age distribution above 70 years. This means that the age distribution at this level is independent and could not provide for it daily needs. Ages 26-40 and 56-70 are also the productive stages of the household heads like age 41-55. Therefore, the majority of the respondents are middle-aged people. This distribution has two implications on poverty. While the distributions still rank all the respondents on the average at their economically active age, it also shows that they are still at the child-bearing age. In the first reason cited, the ability of the family to go about their daily activities to earn income with which they cater for their family basic needs is enhanced. Thus, these can result in a poverty reduction. Alternatively, the fact that most are still child-bearing age leaves much to be desired. This is because, the larger the family size, the more thinly spread is the family's income on basic needs. Thus, leading to poverty aggravation. The above postulations are however subject to the respondent's level of education and lifestyle as well as religious affiliation. Fig 4.1 and chart 4.1 show the variation in household head age distribution. LCDA with the same colour has the same percentage of household heads age distribution.

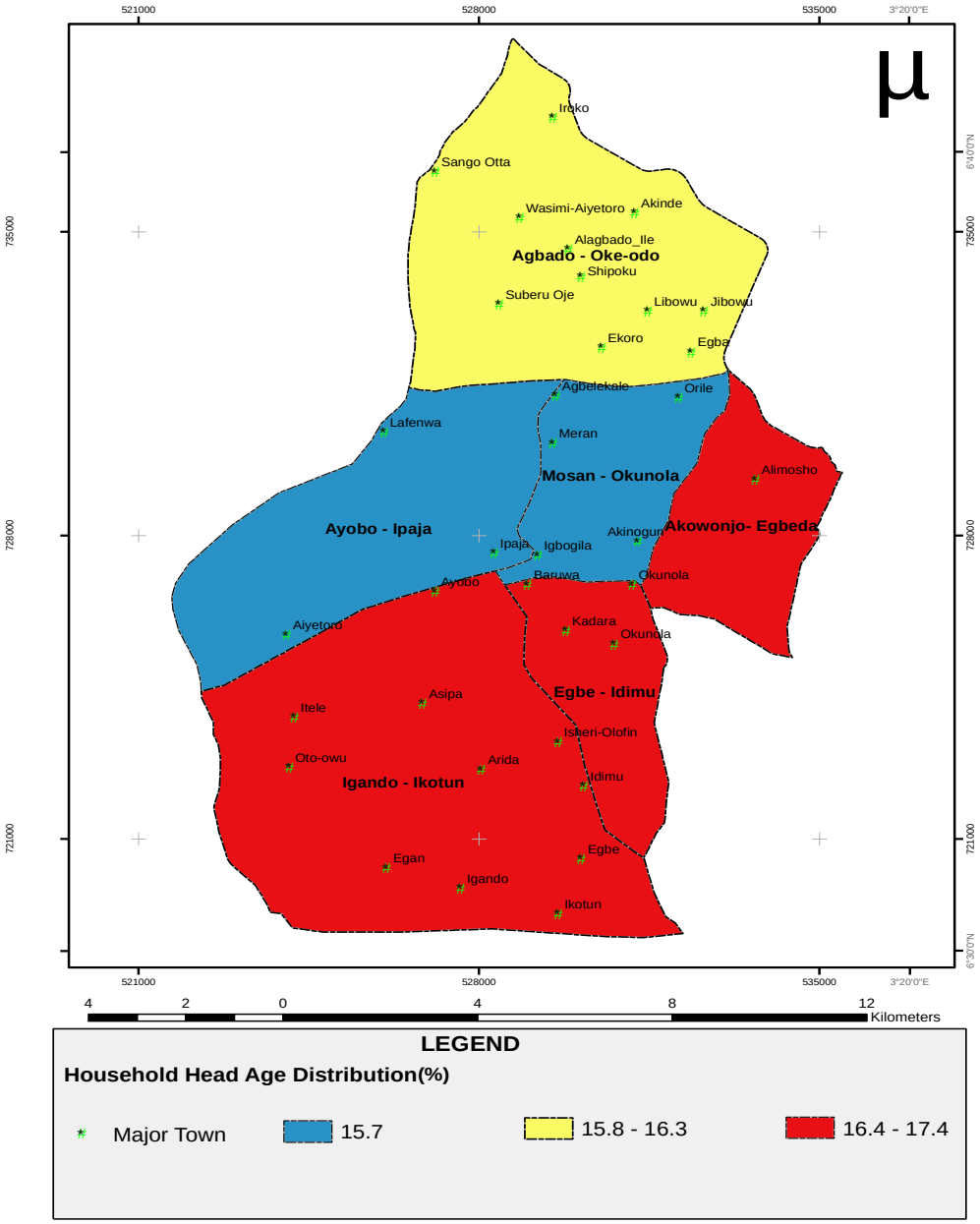

Fig 4.1 Household heads age distribution map

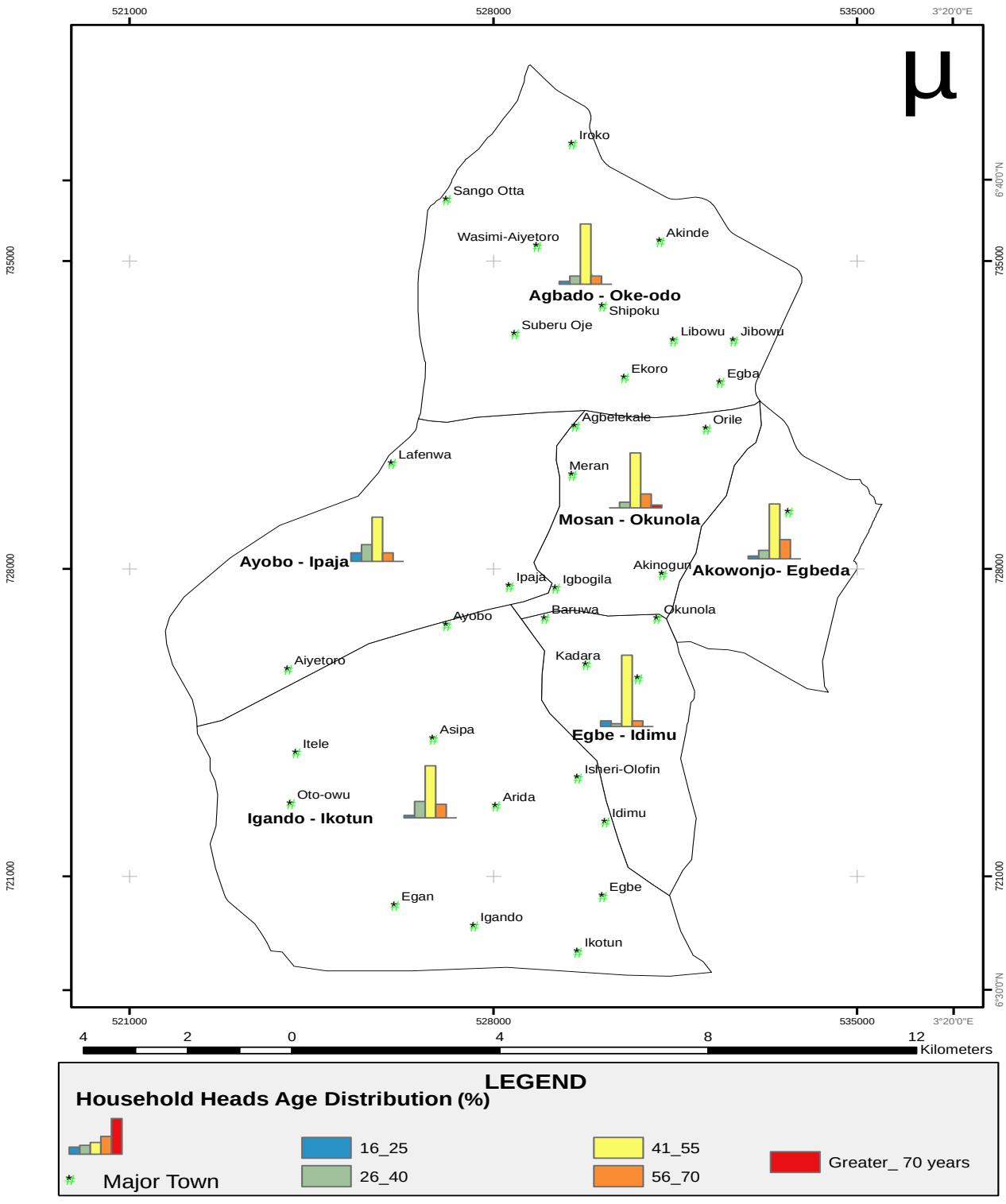

Chart 4.1 Household heads age distribution

4.2 Household heads gender

LCDA	Male	Female	Total	%
Agbado-Oke-Odo	23	6	29	16
Akowonjo-Egbeda	31	1	32	18
Ayobo-Ipaja	23	6	29	16
Egbe-Idimu	30	2	31	17
Igando-Ikotun	25	6	31	17
Mosan-Okunola	23	5	28	15

Table 4.2 Household heads gender

From table 4.2 above, Agbado-Oke-Odo, Ayobo-Ipaja accounted for 16% of the household heads' gender each, Egbe-Idimu and Igando-Ikotun have 17% respectively, Mosan-Okunola has 15% while Akowonjo-Egbeda has 18% of the total household heads gender. This means that Akowonjo-Egbeda has the highest household heads gender. The headship of a household, at present, is been determined by functional responsibilities as regards the provision of accommodation, feeding, and other sources of livelihood to other members of the family. It is interesting to note that, the age-long traditional settings of male-headship still operated in the study area. The survey result shows that 74.5 % of the household heads were males while 25.5% of them were females.

However, a close gap was revealed along with the composition of household heads as regards gender balance. The implication of this is that more males are prone to poverty, unlike females.

Fig 4.2 and chart 4.2 represent the poverty map of household heads' gender. Areas like Agbado-Oke-Odo, Ayobo-Ipaja, Egbe-Idimu, and Igando-Ikotun have the same colour because of the same percentage acquired while Mosan-Okunola and Akowonjo-Egbeda

revealed different percentage. From chart 4.2, Akowonjo-Egbeda has the least female gender and highest male gender. The implication of this is that more males are prone to poverty than females.

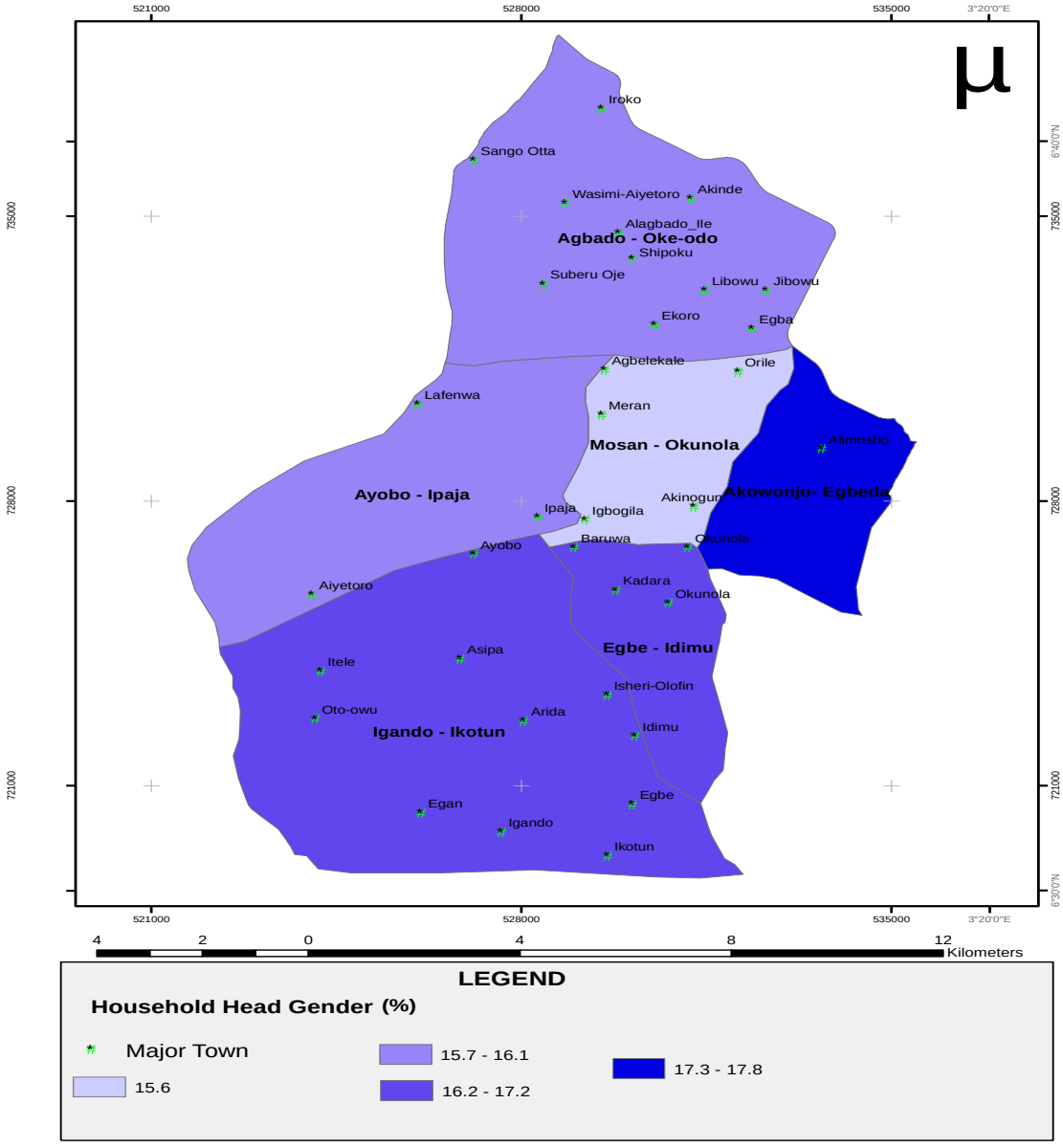

Fig. 4.2 Household heads gender

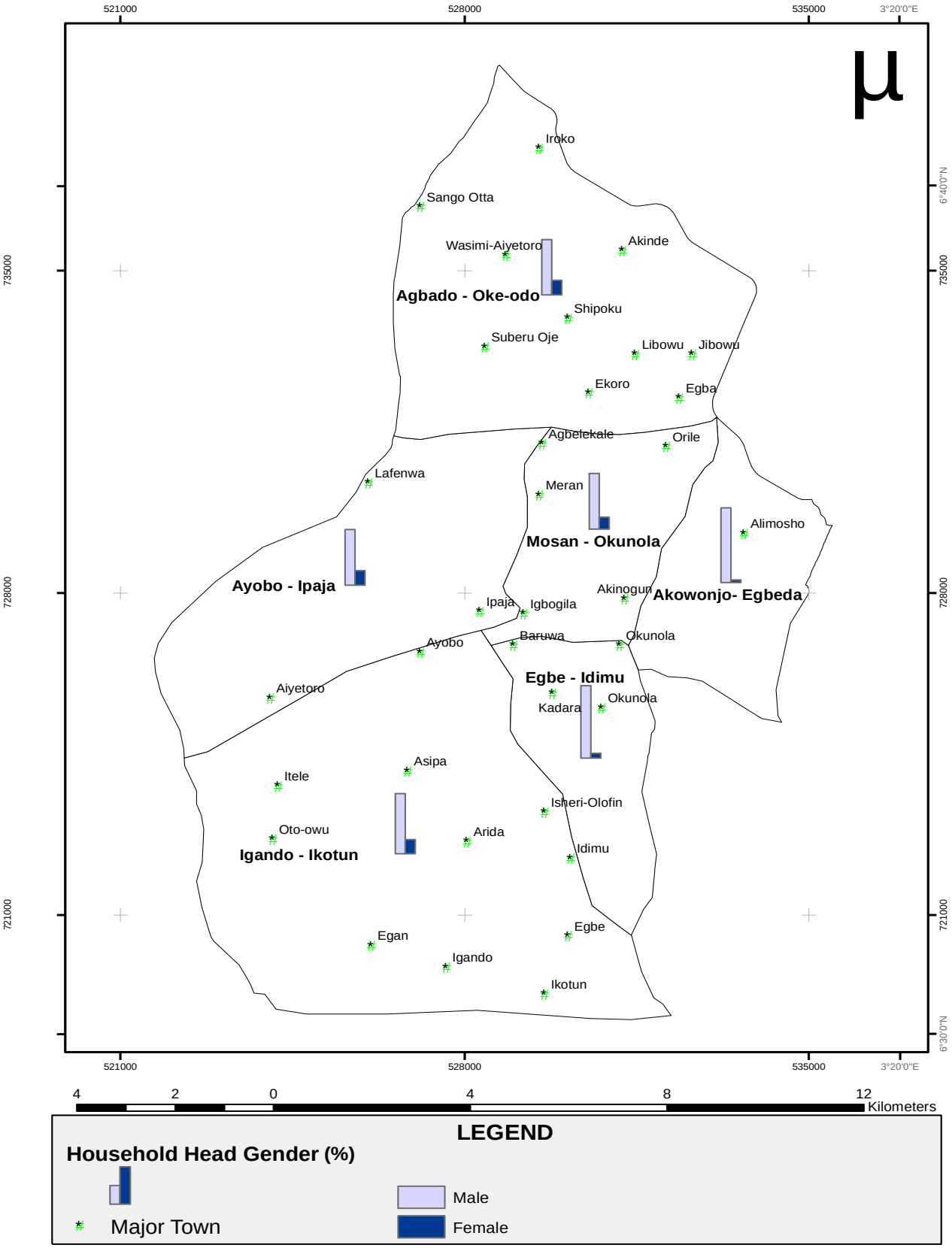

Chart 4.2 Household heads gender

4.3 Ethnic group of household heads

The result below reveals the household heads' ethnic group. From the result, Agba-Oke-Odo, Mosan-Okunola, and Ayobo-Ipaja account for 16% each, Egbe-Idimu and Igando-Ikotun have 17% respectively while Akowonjo-Egbeda constitutes 18%. About 70% of the inhabitants are Yoruba speakers, this could be because the study area is located within a Yoruba speaking state, Igbos constitute 20%, Hausa has 9% while other accounts for 1% of the household heads. Others are inhabitants that speak other dialects like Tiv, Igala, etc. The reason for this is that the study area constitutes enabling environment for different businesses which attracted different inhabitants to the study area as well as the low house rent. Fig 4.3 shows the variation in the ethnic group of the household heads. Other dialects were not found in Ayobo-Ipaja, Mosan-Okunola, and Akowonjo-Egbeda referring to chart 4.3. The implication of this is that business could be booming in the area but dependent on the education level of the inhabitants.

LCDA	Hausa	Yoruba	Igbo	Other	Total	%
Agbado-Oke-Odo	2	20	7	0	29	16
Akowonjo-Egbeda	2	22	8	0	32	18
Ayobo-Ipaja	2	22	4	1	29	16
Egbe-Idimu	5	20	5	1	31	17
Igando-Ikotun	3	17	9	1	30	17
Mosan-Okunola	3	18	7	0	28	16

Table 4.3 Household head ethnic group

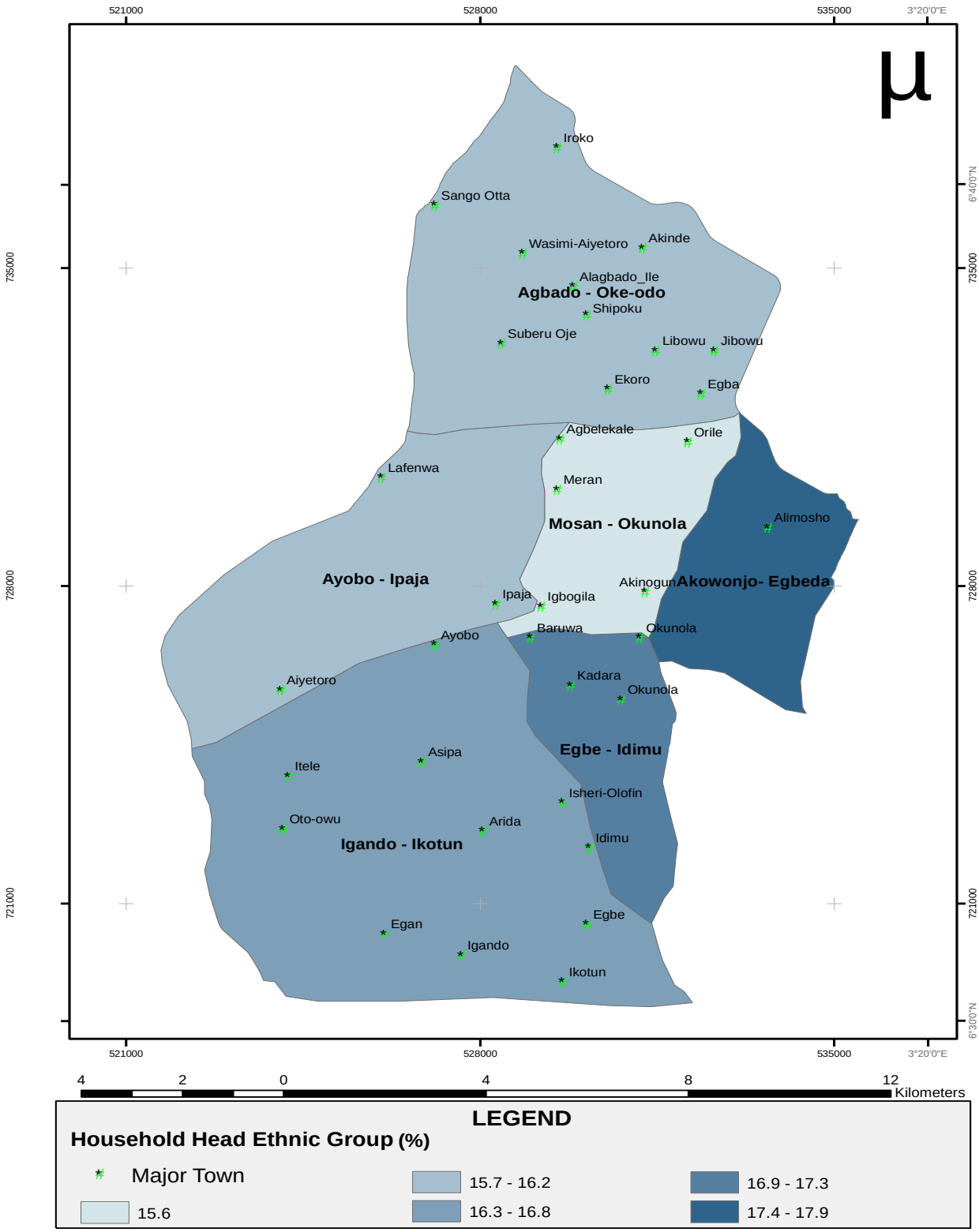

Fig 4.3 Household heads the ethnic group

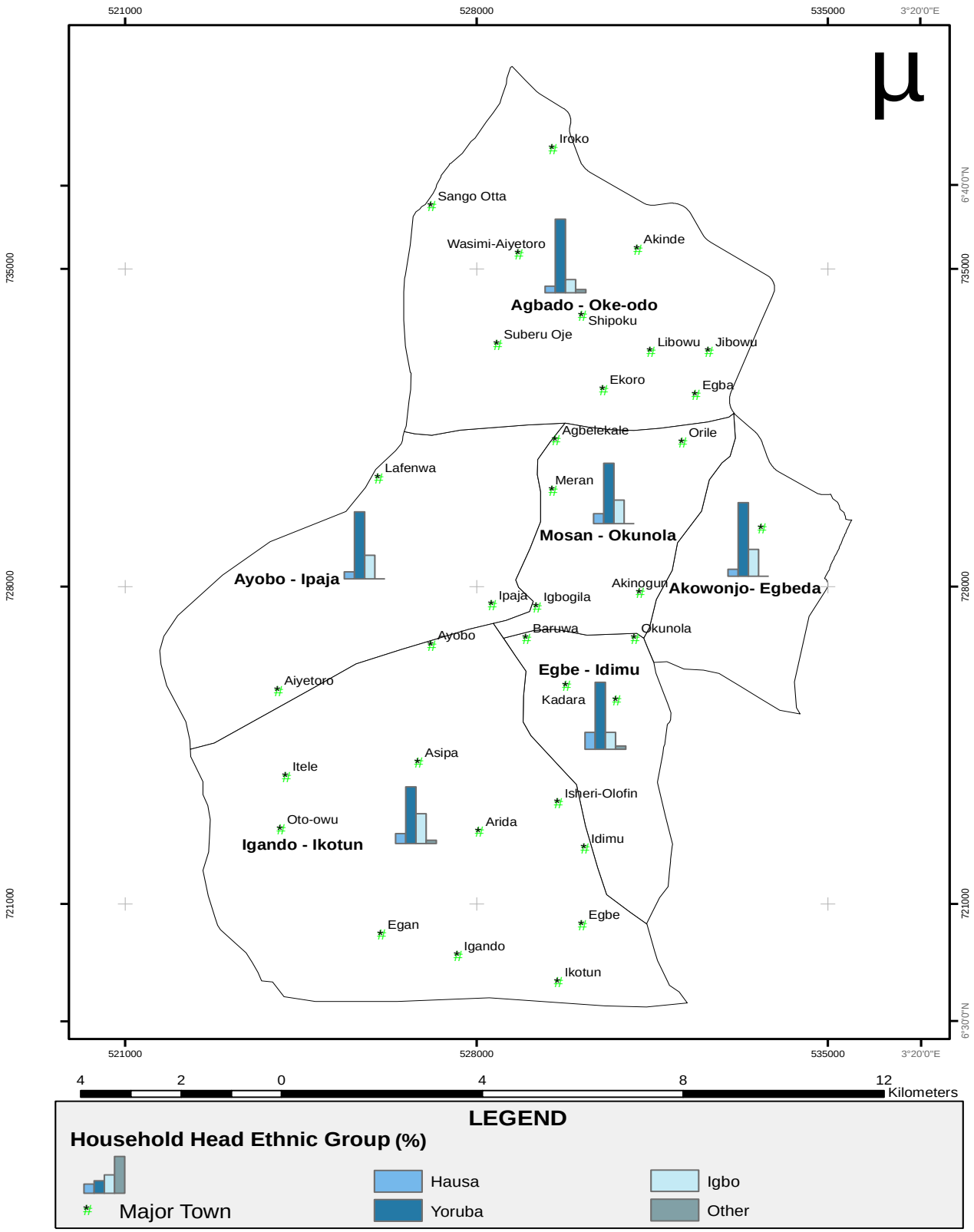

Chart 4.3 Household head ethnic group

4.4 Marital status of household head

From the below, it is shown that Agbado-Oke-Odo, Ayobo-Ipaja, and Mosan-Okunola have 16% each, Igando-Ikotun and Egbe-Idimu accounted for 17% respectively. Akowonjo has 18% of the household marital status. 72% of household heads are married, 11% single, and 10% separated/divorce while widow/widower accounted for 6%. However, the percentage of married men far exceeded that of women. A greater percentage of women were either divorced or widowed.

This will affect their level of living as the burden of catering for themselves and children (as often the case in most Nigerian families) is shifted completely to the women. The percentage of single-headed households is 11% but more males are single than females. Chart 4.4 shows that there is no widow/widower in Ayobo-Ipaja. Fig 4.4 represents the poverty incidence of the household heads marital status.

LCDA	Single	Married	Separated/Divorced	Widow/widower	Total	%
Agbado-Oke-Odo	5	20	4	0	29	16
Akowonjo-Egbeda	3	27	1	1	32	18
Ayobo-Ipaja	3	21	2	3	29	16
Egbe-Idimu	2	24	4	1	31	17
Igando-Ikotun	4	20	4	2	30	17
Mosan-Okunola	4	18	4	2	28	16

Fig. 4.4: Household heads marital status

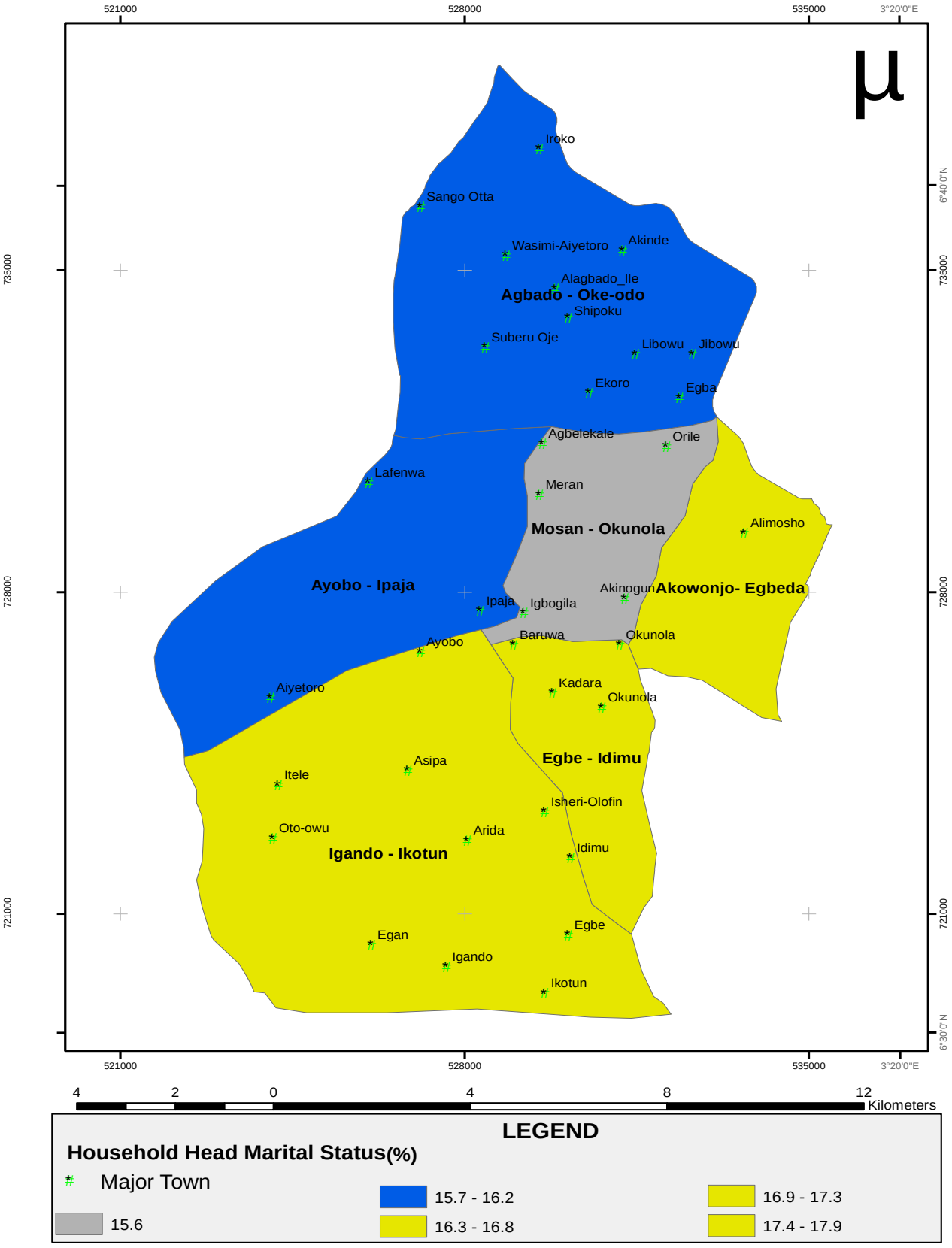

Fig 4.4 Household heads marital status

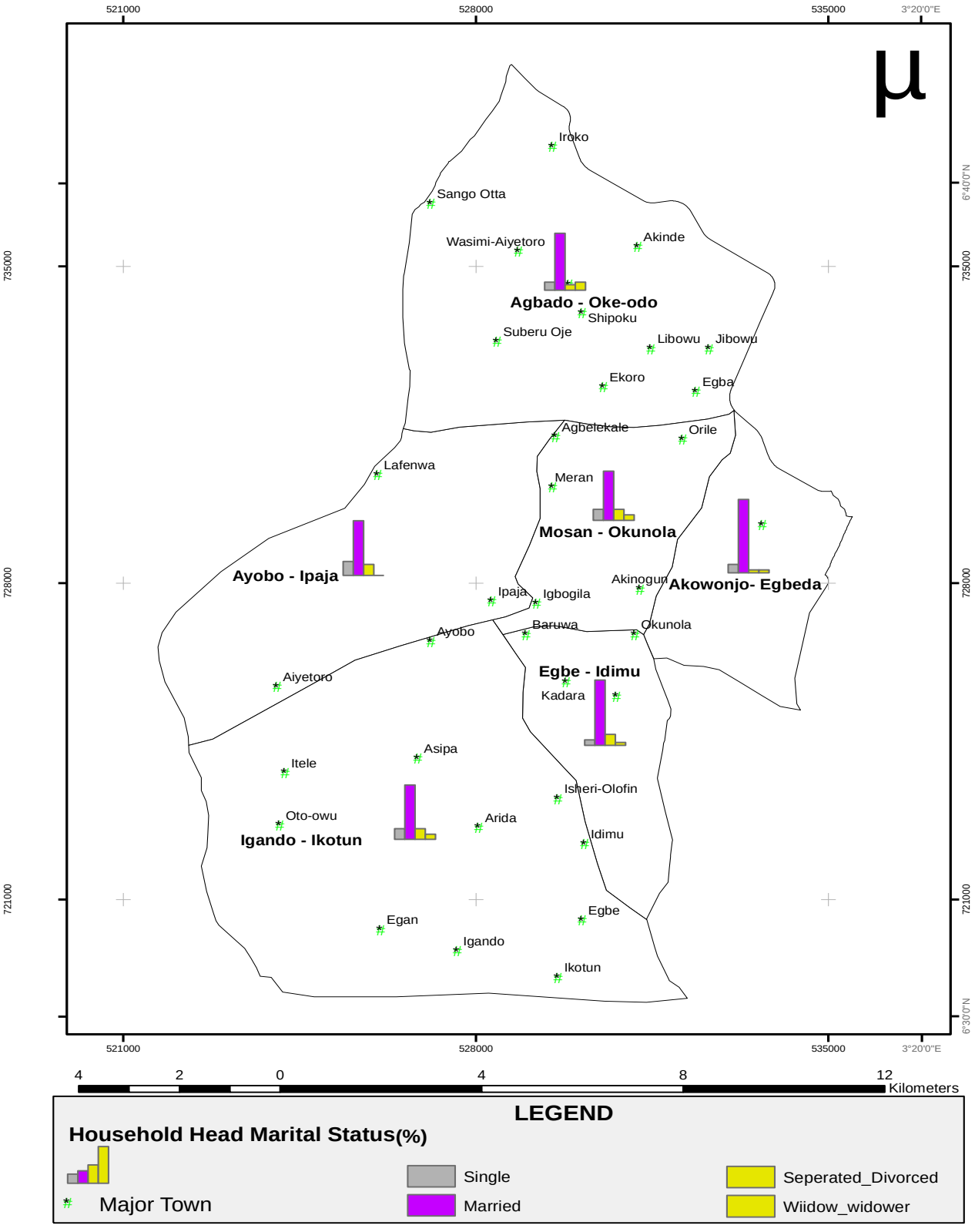

Chart 4.4 Household heads marital status

4.5 Occupational distribution of the household member

Though majorities of the household members are educated, 66% of the household heads were engaged in trading/business while 3% were unemployed with males accounting for a higher

LCDA	Artisan	Farmer	Fishing	Trading Business	Civil Servant	Professional	Student	Unemployed	Total	%
Agbado-Oke-Odo	3	0	0	17	3	2	3	1	29	16
Akowonjo-Egbeda	1	0	0	22	6	0	1	2	32	18
Ayobo-Ipaja	3	0	0	20	3	1	1	1	29	16
Egbe-Idimu	1	0	1	21	4	2	2	0	31	17
Igando-Ikotun	2	0	0	21	7	0	0	1	31	17
Mosan-Okunola	3	1	0	18	4	0	1	1	28	16

Fig. 4.5: Occupational distribution of the household members

percentage majority which is pensioners. It is interesting to note that 15% of the household heads were civil servants, 7% were artisan, and students 4%, professionals have 2%, Farmers and fishermen constituted 0.5% respectively. The effect of this is that more male respondents might be in poverty since being employed confers income-earning opportunities for someone.

The high percentage of trading/business was due to the inability of the government to provide good and adequate jobs for the qualified masses and also from the fact that the high percentage of trading/business must have been due to the educational status of the

respondents. For instance, about 55% of the respondents have educational qualifications below tertiary education. This qualification, by Nigerian standard, is not enough to be employed under the government. Agbado-Oke-Odo, Ayobo-Ipaja, and Mosan-Okunola have 16% each, Igando-Ikotun and Egbe-Idimu accounted for 17% respectively. Akowonjo has 18% of the household heads occupation. Although the unemployed has 3%, this does not mean that poverty is at its minimal within the study area. 66% of the household heads are self-employed; this is due to their level of education which makes most of the household heads leave $1per day. Fig 4.5 and chart 4.5 are the poverty incidence map and chart.

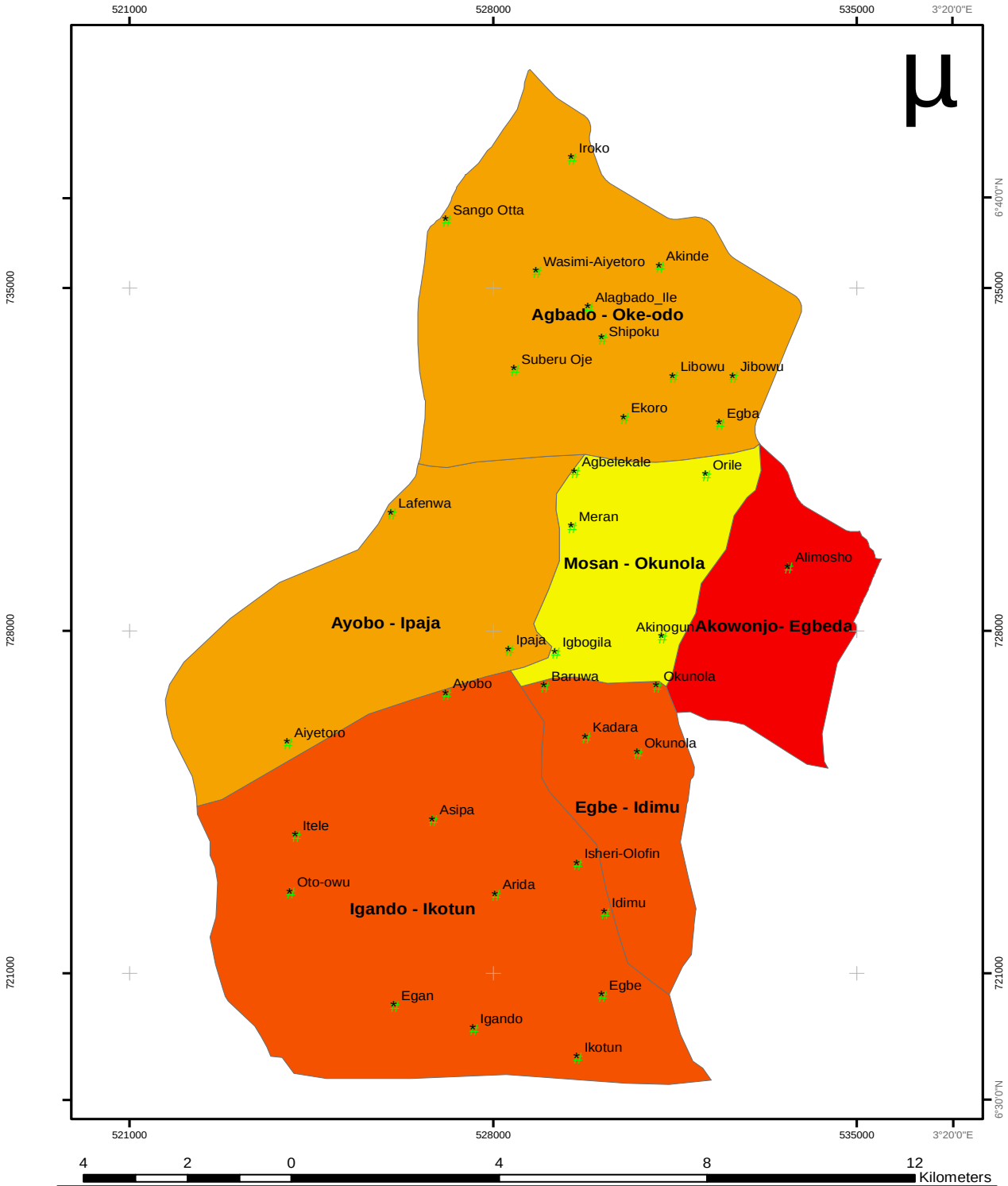

Fig 4.5 Household heads occupation

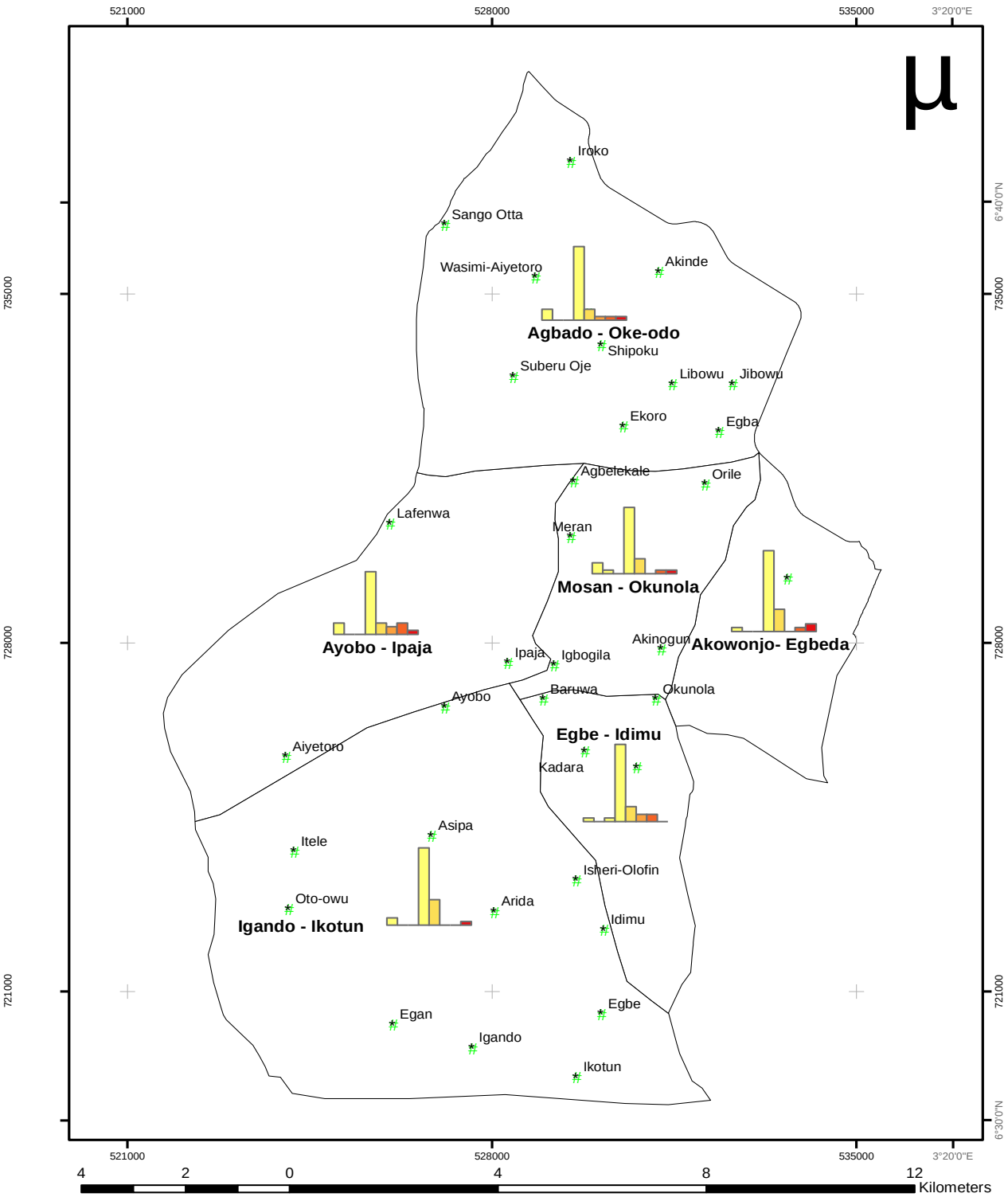

Fig 4.5 Occupation of household heads

4.6 Monthly income of household heads

The income of a household is a function of the number of persons working in the household and sometimes the level of educational attainment. Income is a determinant of household expenditure since it serves as the budget constraint to the amount that can be spent within a period, there is also bound to be a correlation between income and poverty level of a household, all other things being equal.

LCDA	Less than 10,0001	10,001_25,000	50,001_100,000	100,001_250,000	250,001_500,000	Greater_500,000	Total	%
Agbado-Oke-Odo	0	17	6	3	1	1	28	16
Akowonjo-Egbeda	0	11	16	1	2	0	30	17
Ayobo-Ipaja	2	13	8	6	0	0	29	17
Egbe-Idimu	1	17	9	4	0	0	31	18
Igando-Ikotun	2	9	14	3	2	0	30	17
Mosan-Okunola	4	9	9	4	1	0	27	15

Table 4.6 Monthly income of household heads

The average monthly income of the majority of household heads is put at 43% for households that make between 10,000-25, 000. These are households that make less than N2100 per, 35% of the sampled household heads make between N50, 000 -N100, 000, 12% make between 100,000-250,000, 3% make between 250,000-500,000, 5% of the household heads

make less than 10,000 per month while 0.5% of the sampled household heads make above 500,000. Professionals and civil servant who had risen to the peak of their careers and does other businesses with their jobs fall into this category.

What the above means is that there is inequality in the household heads income to the high level of educational attainment. This practically reveals the poverty level of the household heads. Mosan-Okunola has 15%, Agbado-Oke-Odo has 16%, Akowonjo-Egbeda, Ayobo-Ipaja, and Igando-Ikotun constitute 17% respectively while Egbe-Idimu has 18% of the household heads monthly income. Areas with a low poverty index were the areas were indicated by the map as poor areas, and areas with a high poverty index were indicated as upper-class areas respectively. Chart 4.6 shows that only Ayobo-Ipaja monthly income above 500,000. Fig 4.6 is the poverty incidence map.

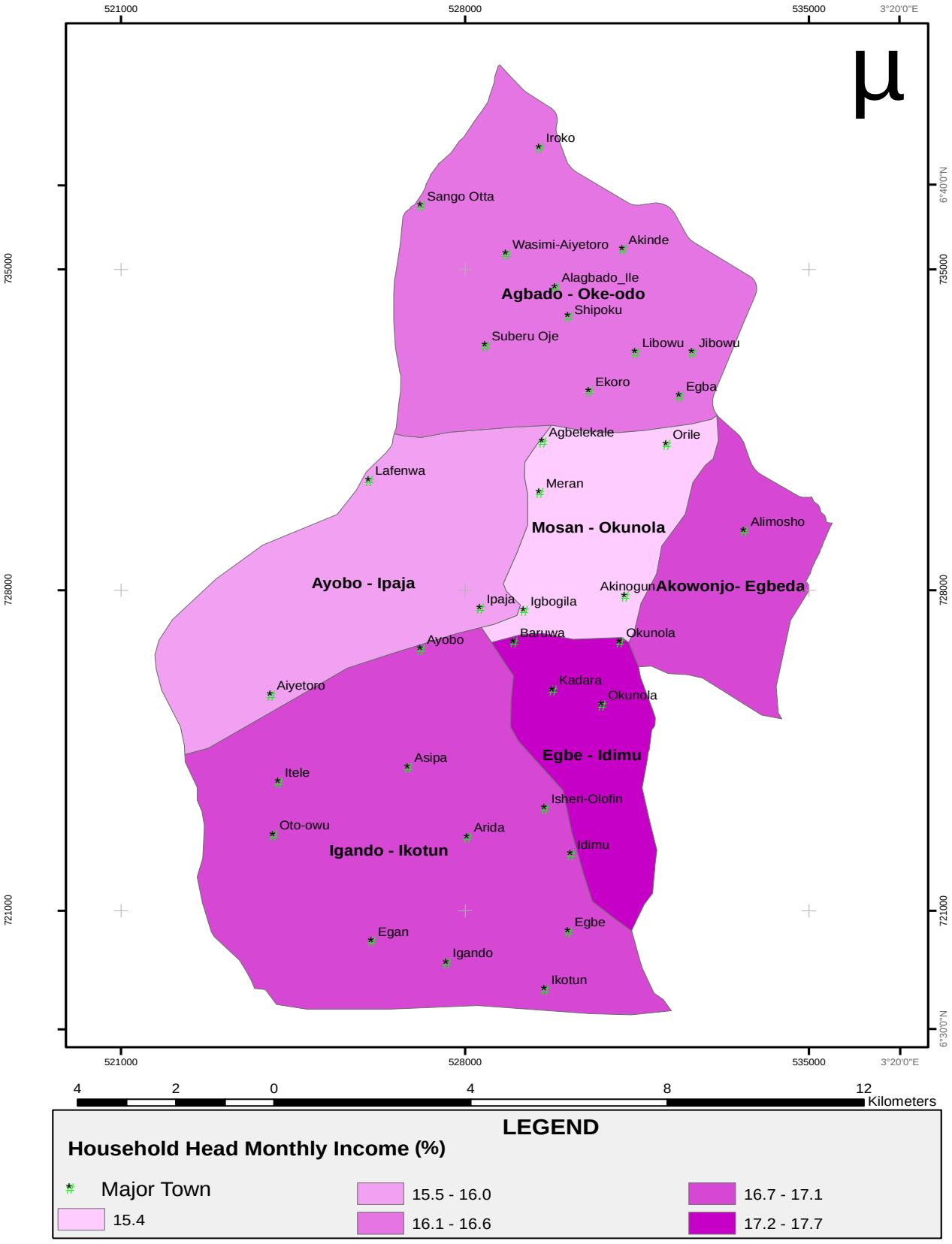

Fig 4.6 Household heads monthly income

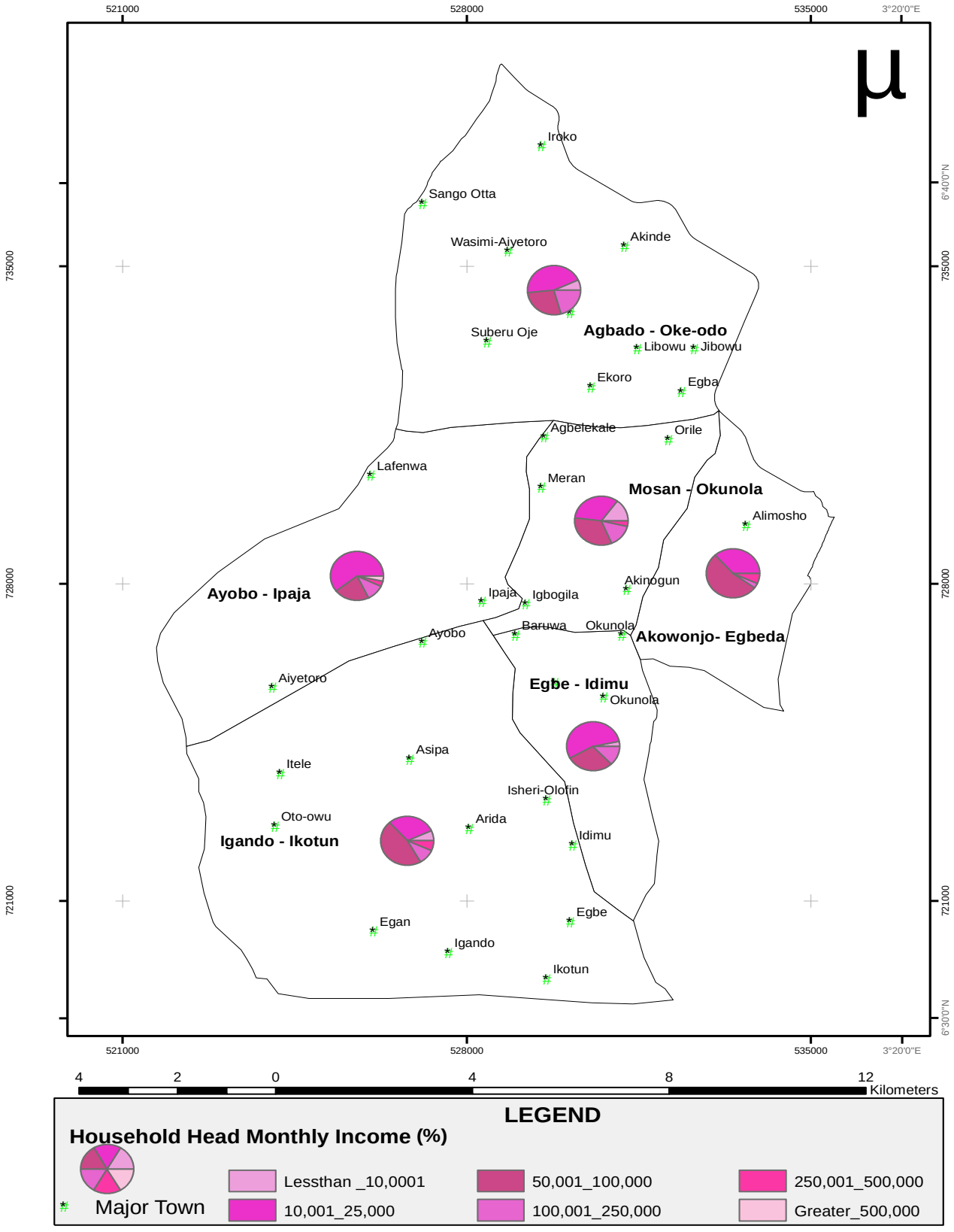

Chart 4.6 Household heads monthly income

4.7 Household heads monthly expenditure

The frequency distribution of expenditure is meant to show in more detail the pattern of household per capital expenditure in the study area. Also, expenditure frequency distribution could be aimed at describing the skewness of the distribution of expenditure and more importantly, the shape (type of skewness) of the household heads expenditure distribution.

LCDA	500-1000	1001-2001	2001-3000	>3000	%
Agbado_Oke_Odo	6	14	15	65	16
Akowonjo_Egbeda	3	17	15	65	16
Ayobo_Ipaja	0	26	5	69	17
Egbe_Idimu	4	11	11	74	17
Igando_Ikotun	9	9	19	63	16
Mosan _Okunola	3	10	9	78	17

Table 4.7 Household heads monthly expenditure

The average monthly expenditure of the majority of the households is put at 73% (i.e those households that spend above N3, 000) while 6%, 11%, and 10% of households spend between N500-N1000, N1001-N2, 000 and N2, 001-N3, 000 respectively. What the above means is that 27% of the household heads spend less than N3, 000 per month which is about N100 per day which is less than a dollar per day.

Mosan-Okunola has 3% of households that spend between N500-N1, 000 per month which is above the State indicator of 6% for this range of monthly expenditure. Ayobo-Ipaja has no household heads with monthly expenditure in this category. Ayobo-Ipaja has 26% of household heads that spend between N1001-N2000 per month which is above the State indicator of 11% for this range of monthly expenditure. Igando-Ikotun has 19% of households that spend between N2, 001-N3, 000 per month which is above the State indicator of 10% for this range of monthly expenditure.

As shown in Fig 4.7 and chart 4.7, Mosan-Okunola, Egbe-Idimu, and Ayobo-Ipaja accounted for 17% which makes the area the highest average monthly expenditure. This could be because of the educational attainment of the people that live in the area. Poverty is at the peak at Mosan-Okunola, Egbe-Idimu, and Ayobo-Ipaja compare to Akowonjo-Egbeda, Agbado -Oke- Odo, and Igando-Ikotun. Fig 4.7 and chart 4.7 show the poverty distribution map and chart for the study area. Chart 4.7 shows that the household heads spend more than 500-1000 per month.

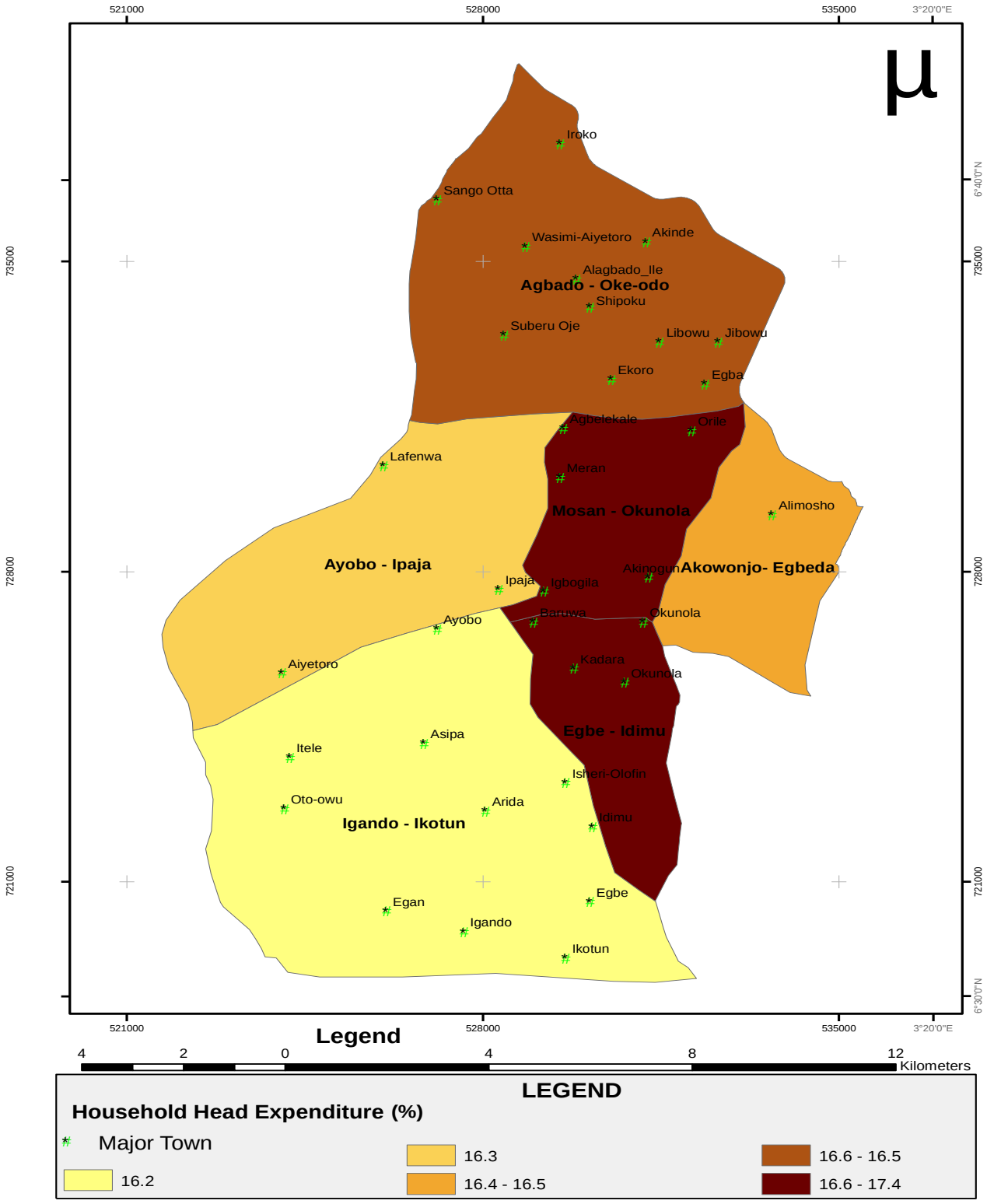

Fig 4.7 Household heads expenditure

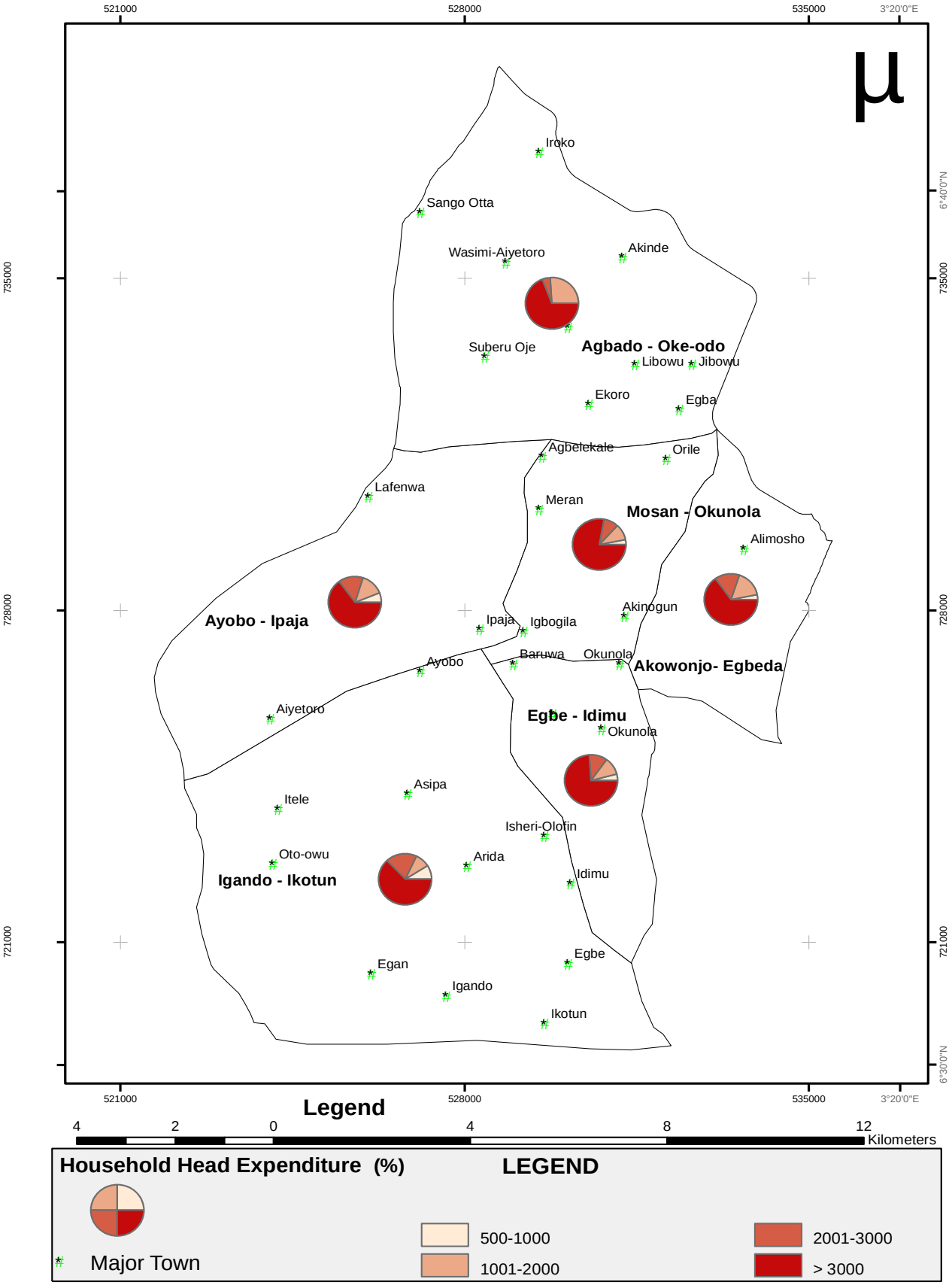

Chart 4.7 Household heads expenditure

4.8 Household head educational attainment

LCDA	Primary	Secondary	Post-Secondary/Technical	HND_BSc	Postgraduate	Other	Total	%
Agbado-Oke-Odo	1	17	5	3	3	0	29	17
Akowonjo-Egbeda	0	18	5	6	3	0	32	18
Ayobo-Ipaja	1	13	6	6	1	0	27	16
Egbe-Idimu	1	17	4	6	1	1	30	17
Igando-Ikotun	0	8	7	10	4	0	30	17
Mosan-Okunola	2	10	6	5	1	0	25	14

Table 4.8 Household head educational attainment

The level of education of the household heads revealed that most of them are educated. Fig. 4.8 reveals that Mosan-Okunola has 14%, Ayobo-Ipaja 16%, While Agbado-Oke Odo and Igando-Ikotun and Egbe-Idimu obtained 15.5% respectively. Akowonjo-Egbeda has 18%. The primary school has 3%, secondary school has 48%, Post-secondary /technical accounted for 19%, HND/BSC holders acquired 21%, and postgraduate obtained 8% while other which is Arabic studies acquired 0.6% of the household heads. The result shows that Akonwonjo-Egbeda has the highest level of educated household heads. The education level varies among the education variables and does not mean that education is at a peak in the area. With this, one can say that the level of education attainment varied from primary to secondary and tertiary institutions. Thus, the number of years spent in school varies from 6 to 15 years. Chart 4.8 reveals Mosan-Okunola's highest level of postgraduate holders, Akowonjo-Egbeda, and Igando-Ikotun has no primary school holders. This is

because the aspect of educational attainment was skipped by the household heads within the areas. One can say that the household heads in Mosan-Okunola are living large because of their educational attainment

Nevertheless, on average, the study area residents are educated. This could be because any urban dweller requires a bit of education before such can properly fit into the lifestyle of the urbanites. We must note that males are more educated females in the study area. The impact of such differences can only be seen in the earning capacities of the people. Additional, exposure of more males than females to education will strongly affect their poverty level differently. Fig and chart 4.8 show the education levels of household heads map and chart.

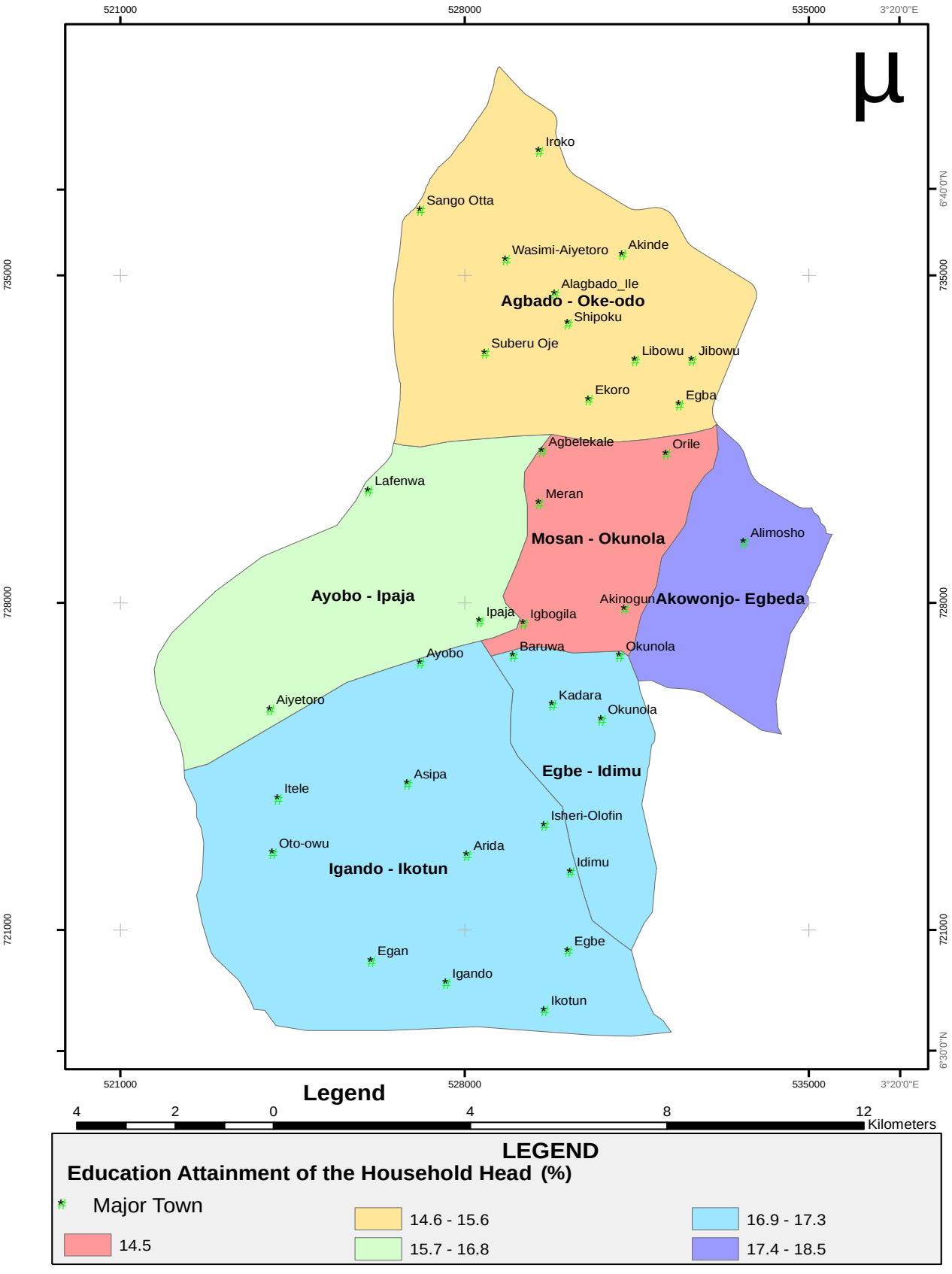

Fig 4.8 Education attainment of household heads

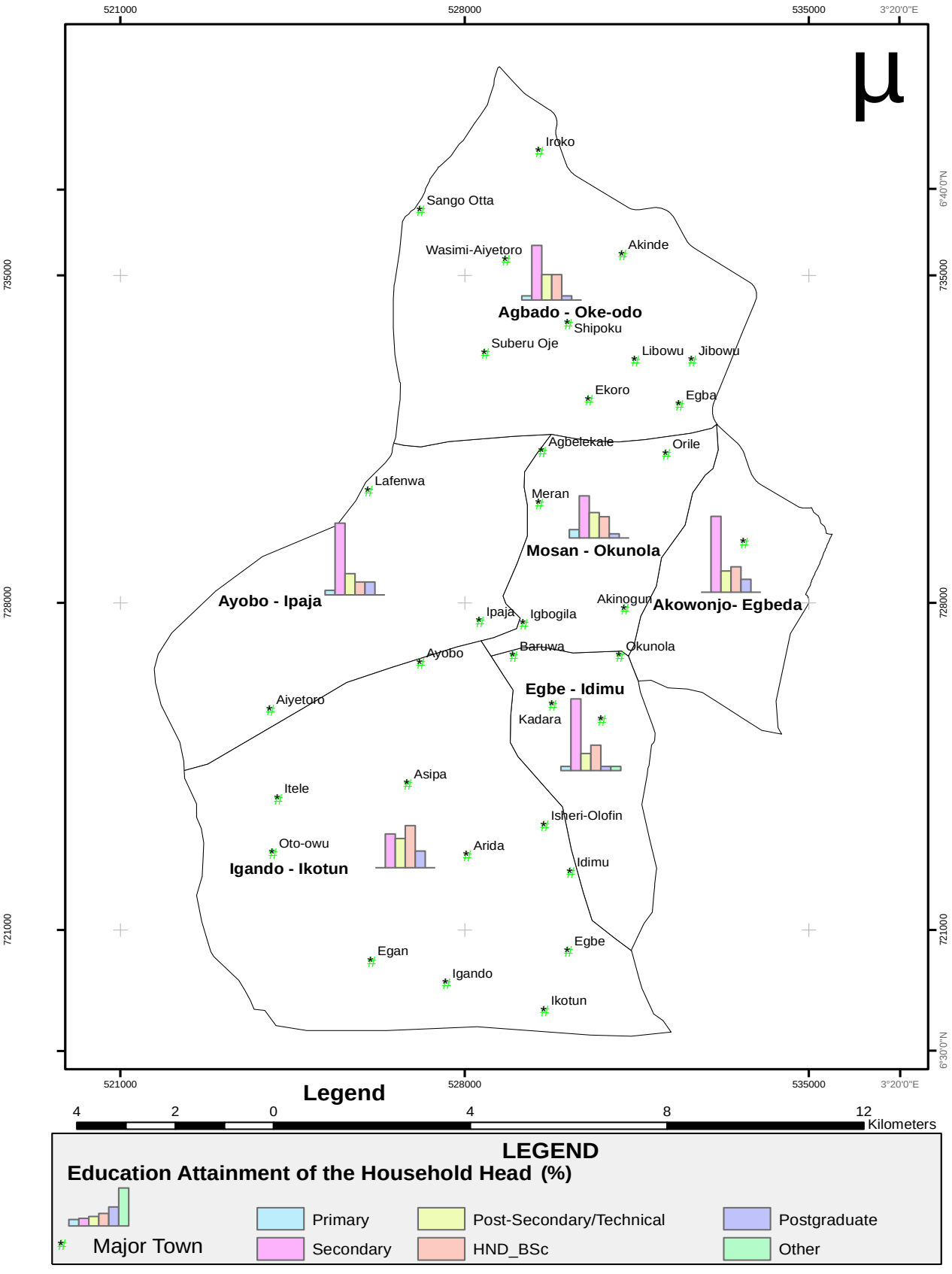

Chart 4.8 Education attainment of household heads

4.9 Household heads size

LCDA	1_3	3_6	6_8	8_10	10_12	Total	%
Agbado-Oke-Odo	1	8	7	5	1	22	15
Akowonjo-Egbeda	2	7	12	1	1	23	15
Ayobo-Ipaja	0	12	11	1	1	25	17
Egbe-Idimu	1	9	13	4	2	29	19
Igando-Ikotun	0	9	12	3	3	27	18
Mosan-Okunola	2	11	7	4	0	24	16

Table 4.9 Household heads size

Household size is a powerful indicator in any demographic study, as it relates to the size of each of the household units to the number of the households in the study area. The household head size of the respondents ranged between 1>12 for both male and female household heads. The study revealed that 41% of the sampled households constituted households with 6-8 members, households with 3-6 heads comprised 37%, 10-12 comprised 12%, 10-12 has 5% while 4% of them represented household with 1-3 heads. However, an average household size of 8 members was recorded across the study area.

The average family size of the respondents is 8. The impact of large family size is such that it reduces the per capita expenditure of the family thereby aggravating poverty in that household.

The distribution of the household by size as shown in fig 4.8 below that the higher percentage of the household size was found in Egbe-Idimu 19%. Igando-Ikotun obtained 18%, Ayobo-Ipaja acquired 17%, Mosan-Okunola 16%, while Agbado-Oke-Odo and As a result, Akowonjo Egbeda, Ayobo-Ipajaconstitutes 16.8%, Igando-Ikotun, and Agbado-Oke- Odo account for 15% respectively. Even though household size tends to reduce per capita

expenditure, it can also enhance it. This has to do with the distribution of household between adult and children and also whether such adult is working, thereby supplementing the household income or is a dependant.

Referring to chart 4.9, Igando-Ikotun and Agbado-Oke-Odo have no household size range between 1-3. While household size between 10-12 is also missing in Mosan-Okunola. Fig and chart 4.9 shows variation in household head size.

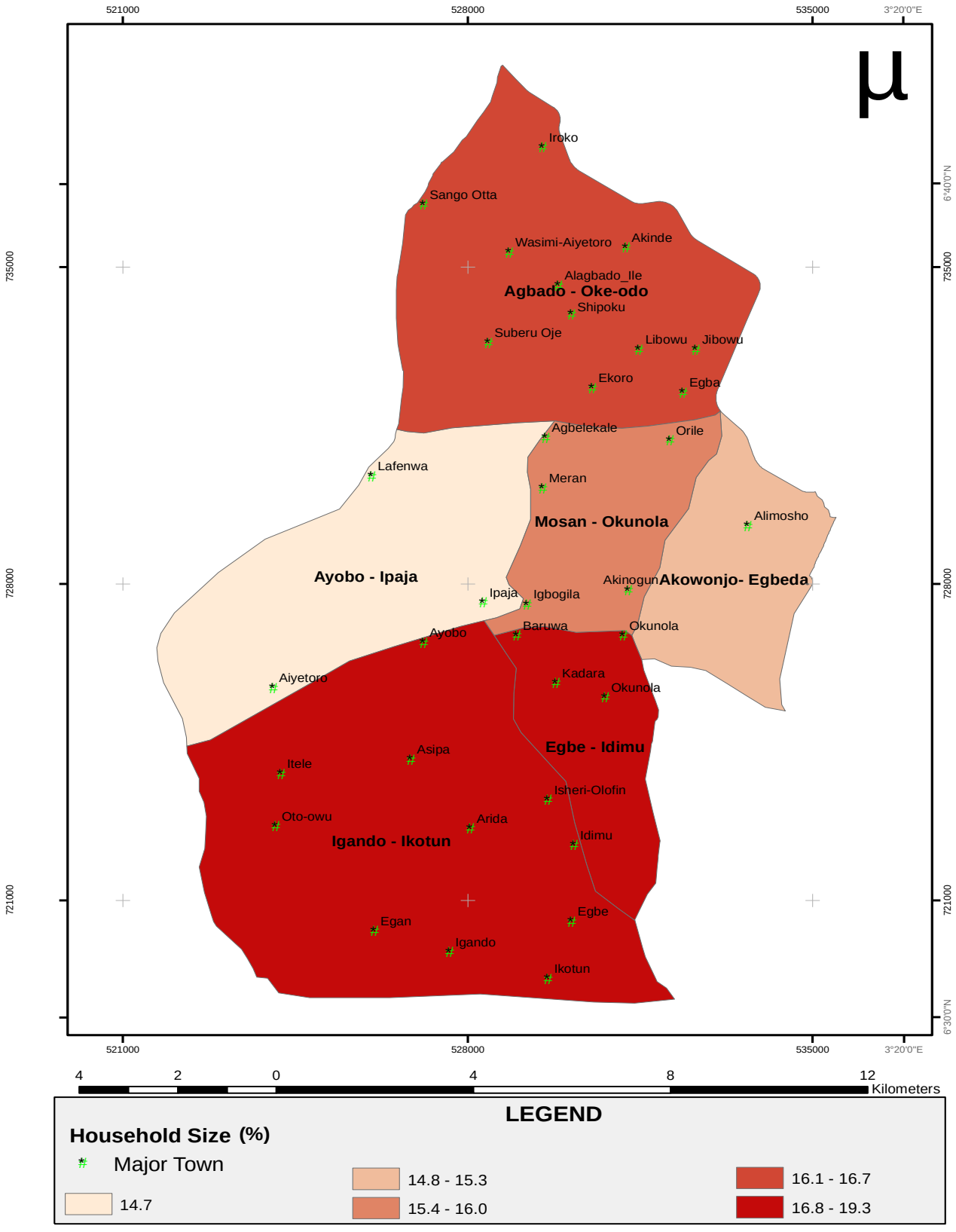

Fig 4.9 Household heads size

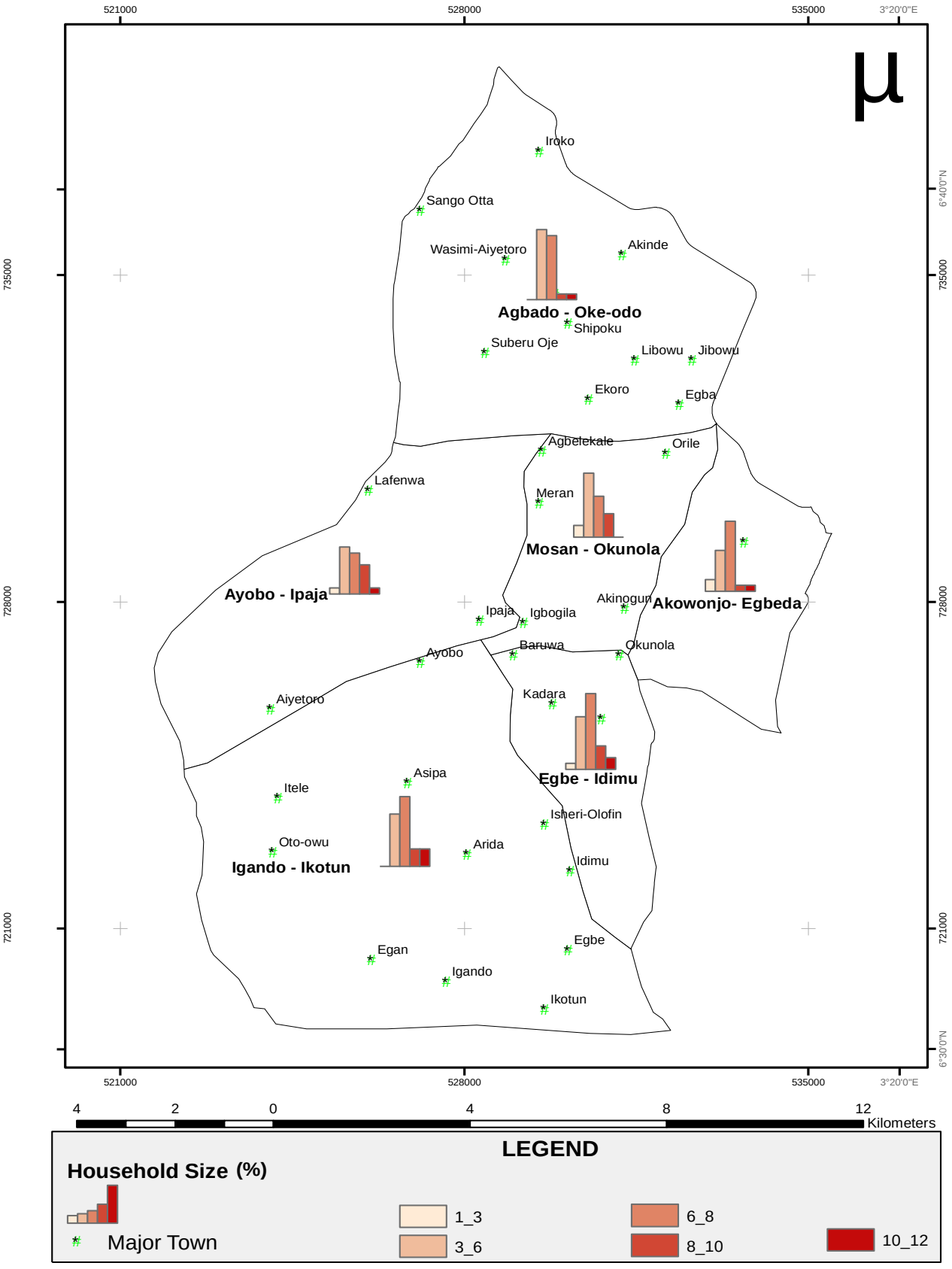

Chart 4.9 Household heads size

4.10 Poverty conditions and needs situation of the household head

This section attempted to classify the type of housing, access to water facilities, health facilities, shelter/nutrition, and dietary pattern, education of the household members, and communication/transportation. This is intending to find out the standard of living of the people based on available facilities.

4.10.1 Houses occupied

4.10.1.2 When the building was built

Years, when the houses in the study area were built, were investigated. 53% of the dwellers live in houses built between 11-20 years, 5-10 has 30%, 21-40 has 11%, and less than 5 years acquired 3% while greater than 40 years comprised of 0.6%. From table 4.10.2, only Akowonjo-Egbeda has households living in houses above 40 years. This shows variation in the household dwellings. Agbado-Oke-Odo, Ayobo-Ipaja, Mosan-Okunola comprised 16%, Igando-Ikotun, and Egbe-Idimu acquired 17%. Akowonjo-Egbeda constitutes 18% of the total buildings in the study area. Fig and chart 4.10.1.1 represent the buildings within the study area.

Table 4.10.1.2 when the building was built

LCDA	Less than 5 years	5-10 years	11-20 years	21-40 years	Greater than 40 years	Total	%
Agbado-Oke-Odo	1	10	14	2	0	28	16
Akowonjo-Egbeda	0	8	19	4	1	32	18
Ayobo-Ipaja	1	9	14	5	0	29	16
Egbe-Idimu	3	5	20	2	0	30	17

Igando-Ikotun	1	14	14	2	0	31	17
Mosan-Okunola	0	8	15	5	0	28	16

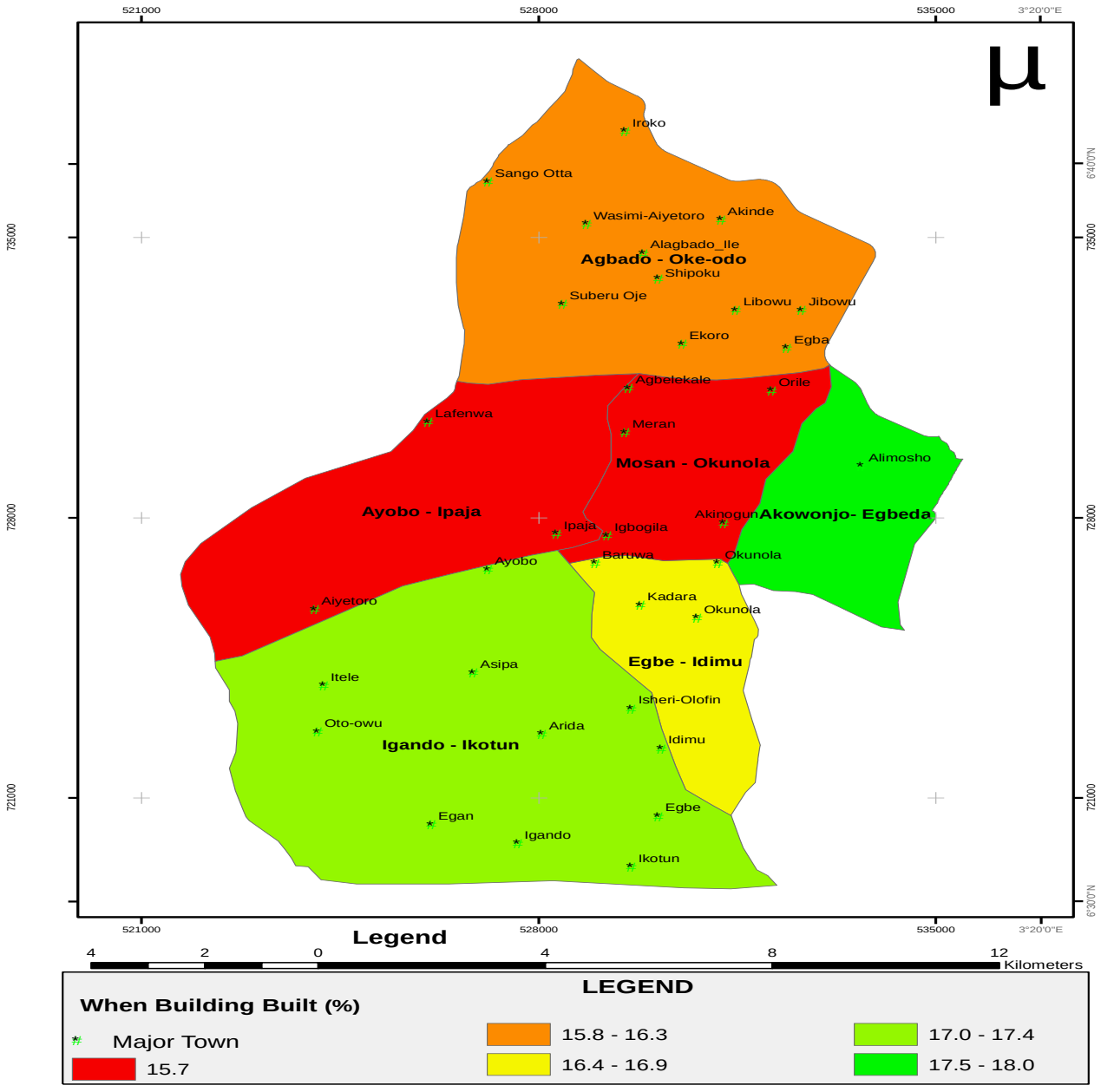

Fig 4.10.1.1 When building was built

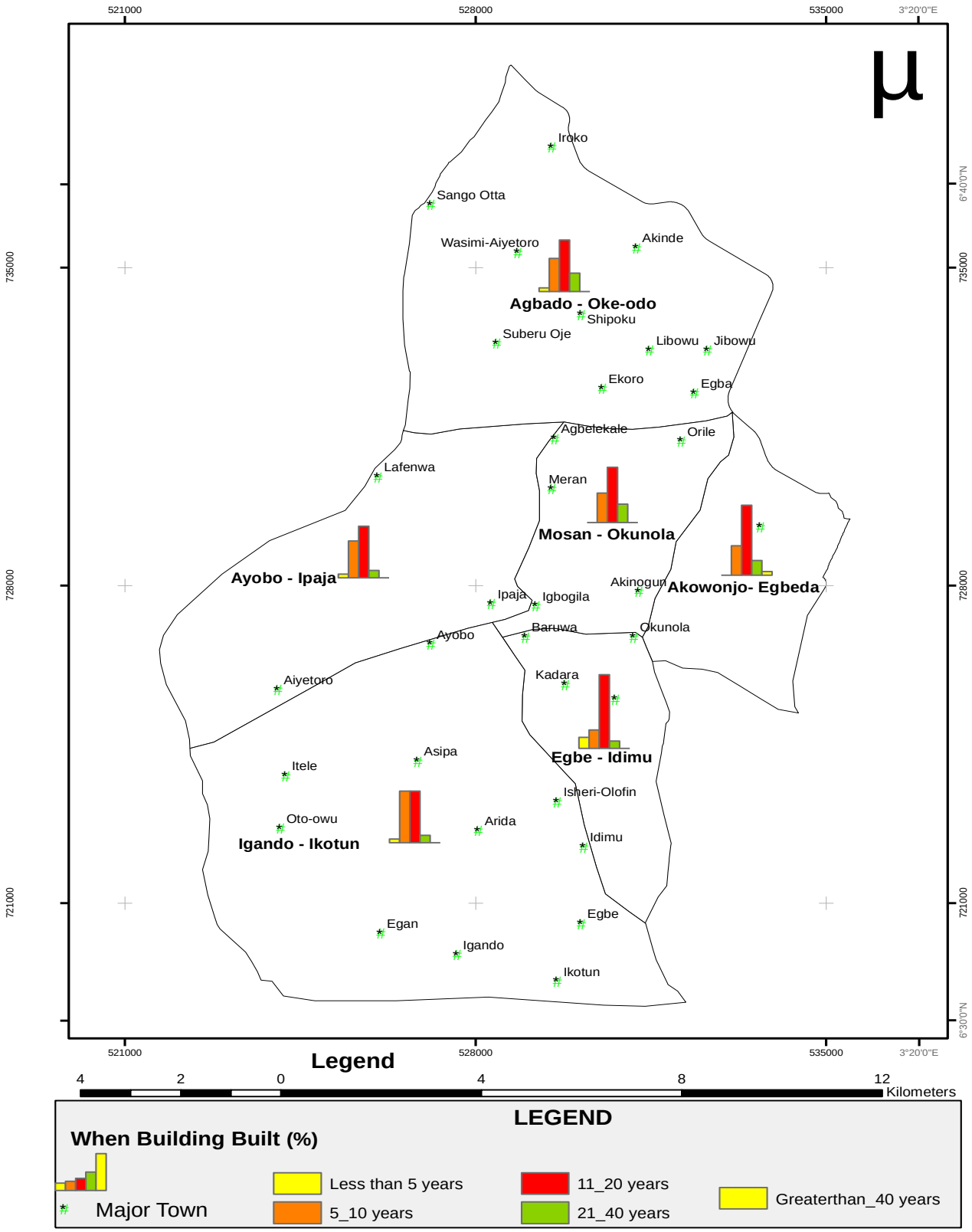

Chart 4.10.1.1 When building was built

4.10.1.3 Building material used

From table 4.10.1.3, about 77% of the buildings live by the household were built with concrete, wood accounted for 11%, zinc constituted for 10%, mud acquired 0.6% of the material used. With this, one can say that household heads can still afford to pay for houses built with concrete.

In all, Akowonjo-Egbeda has 18%, Egbe-Idimu, Igando-Ikotun has 17%, Agbado-Oke-Odo accounted for 16% while Mosan-Okunola obtained 15%. The implication of this is that poverty is at its peak at the lower percentage compared to the higher percentage. From the sample surveyed, houses with mud and wood were not found in Akowonjo-Egbeda. Fig and chart 4.10.1.3 represent the building material used in the study area.

LCDA	Wood	Concrete	Zinc	Mud	Total	%
Agbado-Oke-Odo	4	23	2	0	29	16
Akowonjo-Egbeda	0	28	4	0	32	18
Ayobo-Ipaja	3	23	2	1	29	16
Egbe-Idimu	5	24	2	0	31	17
Igando-Ikotun	4	22	5	0	31	17
Mosan-Okunola	4	19	4	0	27	15

Table 4.10.1.3 Building material used

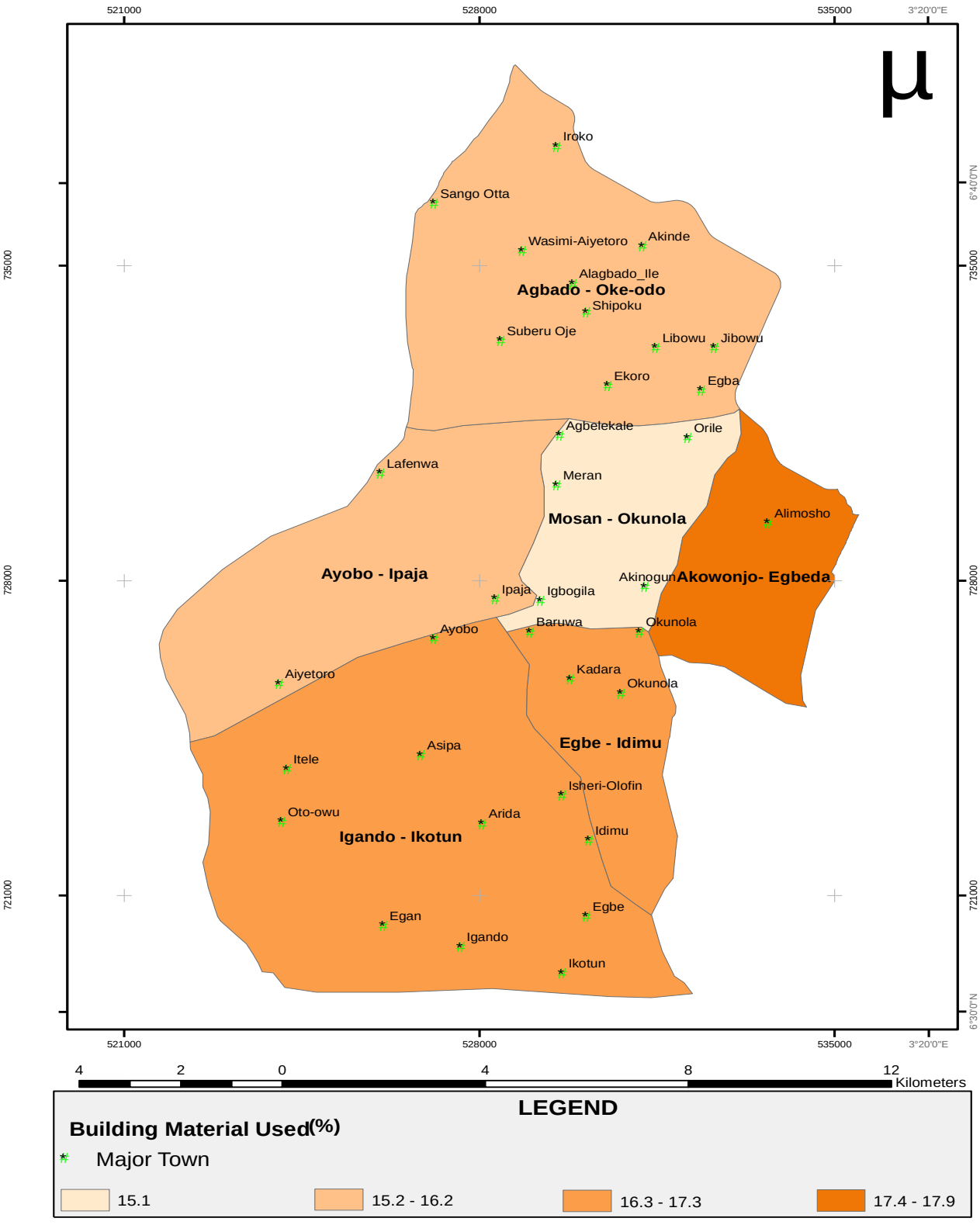

Fig 4.10.1.3 Building material used

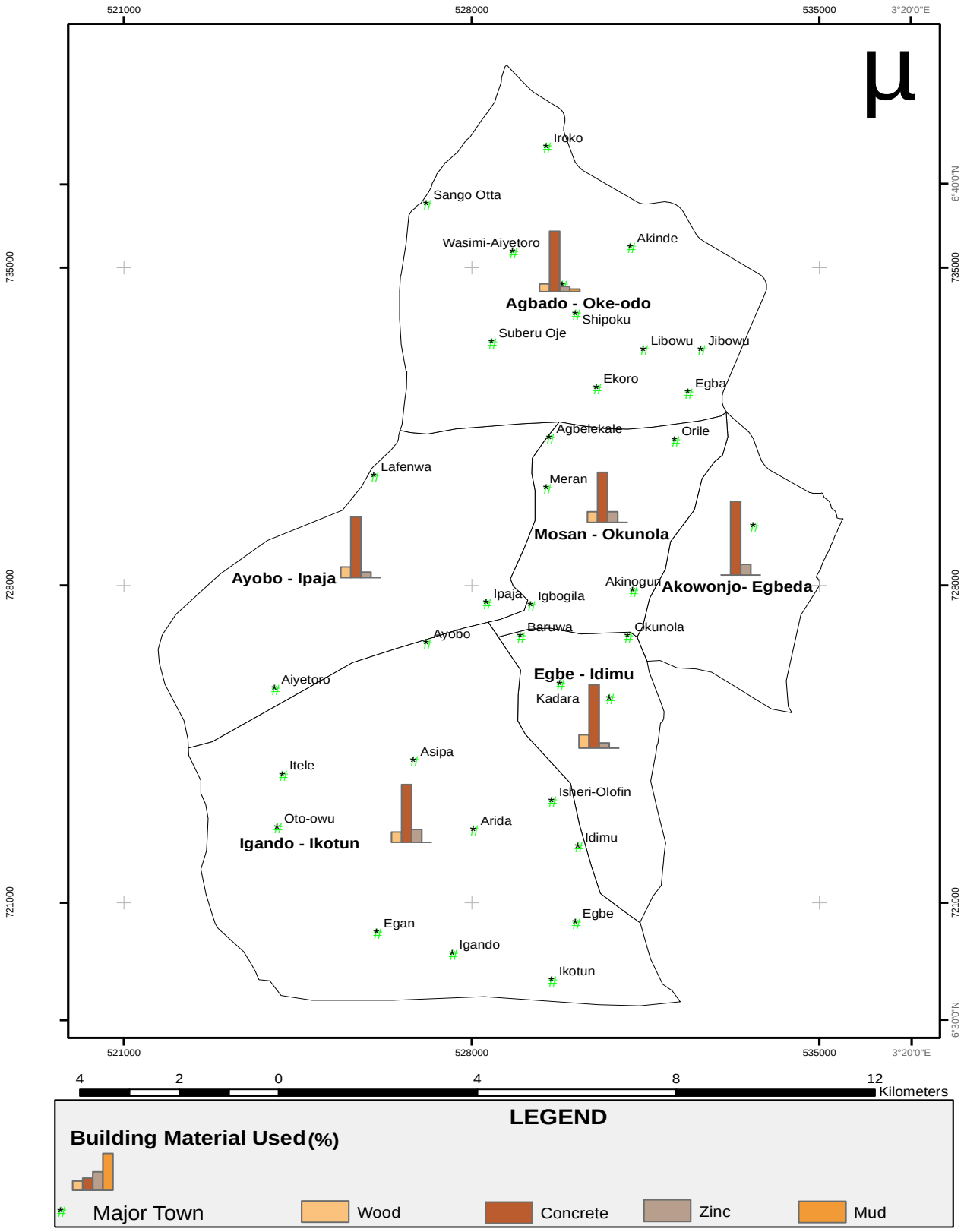

Chart 4.10.1.3 Building material used

4.10.1.4 Storey building

LCDA	Bungalow	One storey	Mud	Total	%
Agbado-Oke-Odo	19	9	1	29	16
Akowonjo-Egbeda	22	10	0	32	18
Ayobo-Ipaja	24	5	0	29	16
Egbe-Idimu	24	7	0	31	17
Igando-Ikotun	19	12	0	31	17
Mosan-Okunola	21	7	0	28	16

Table 4.10.1.4 Storey building

From table 4.10.1.4 above shows, the type of houses occupied by the respondents includes bungalows, one-story buildings, and mud. However, the majority of the respondents are living in bungalows constituted for 71%, one-story building comprised 27% while mud accounts for 0.5%.

In all, Akowonjo-Egbeda has 18%, Egbe-Idimu and Igando-Ikotun have 17%, Agbado-Oke-Odo, Ayobo-Ipaja, and Mosan-Okunola obtained 16% respectively. Fig and chart 4.10.1.4 represent the story building occupied. Chart 4.10.1.4 shows mud occurred only in Ayobo-Ipaja while Agbado-Oke-Odo has the least story building.

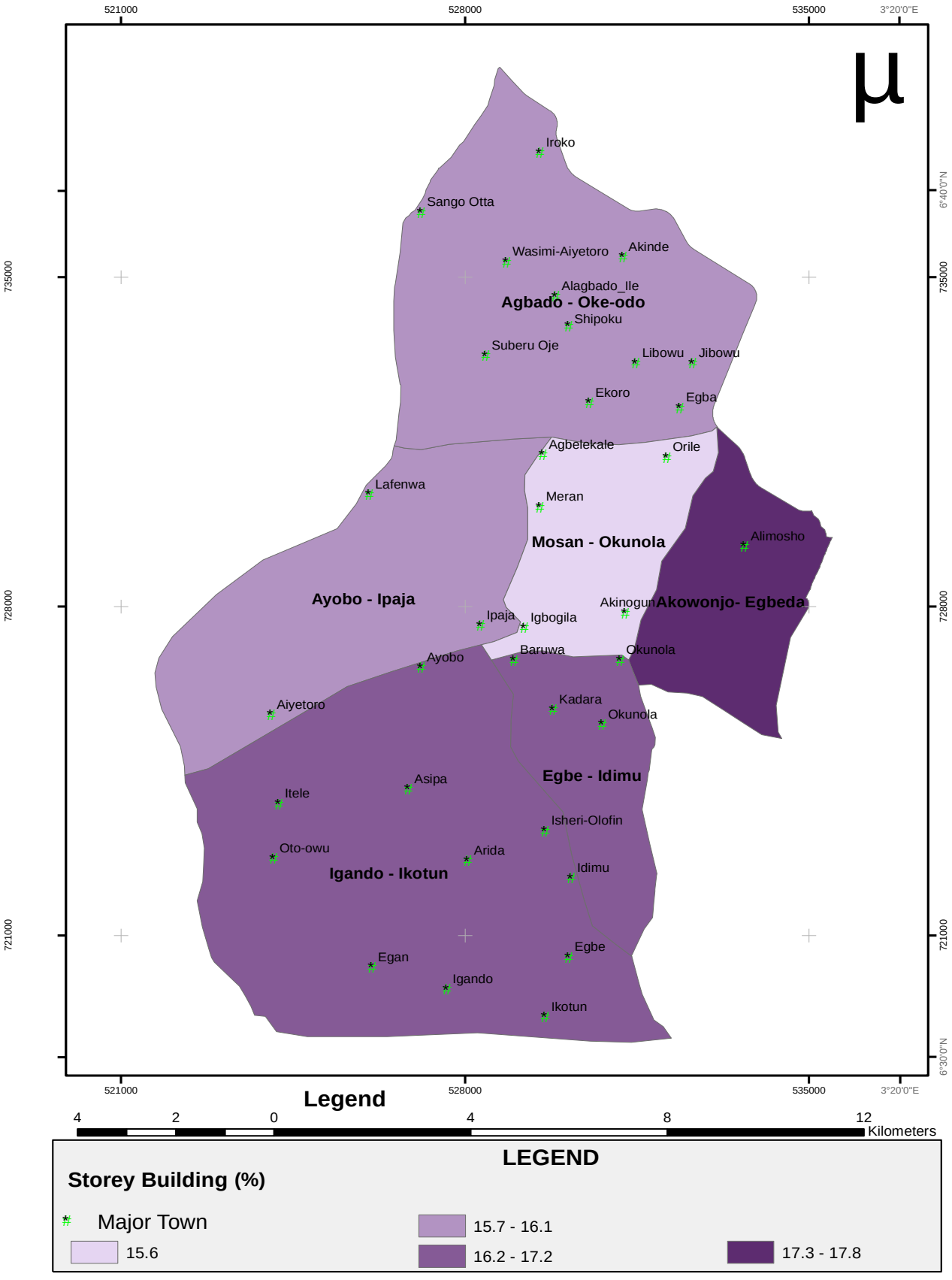

Fig 4.10.1.4 Storey building

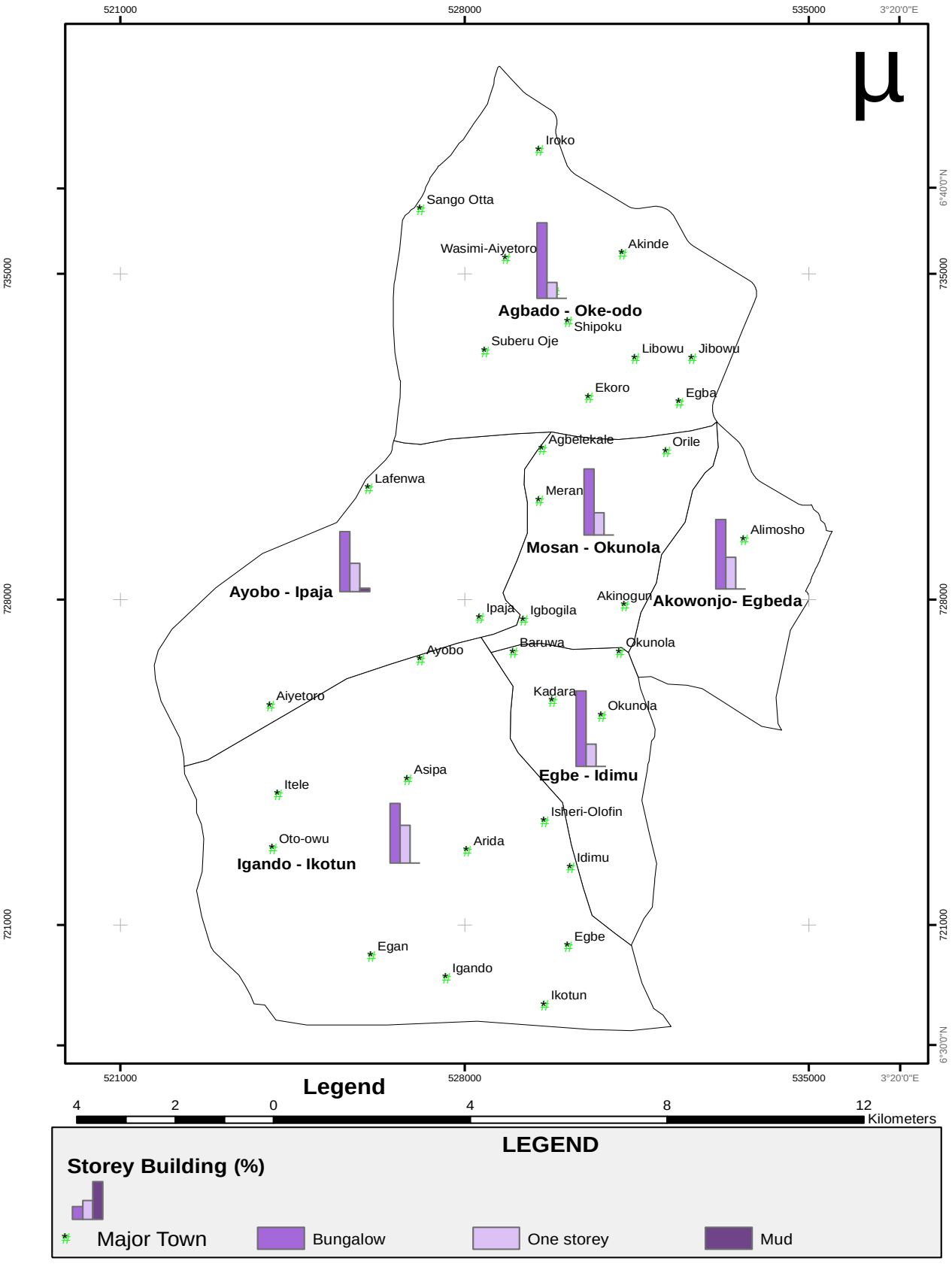

Chart 4.10.1.4 Storey building

4.10.1.5 Reasons for living in the community

60% of the household heads reside in the because of their businesses, 24 % reside because of closeness to their places of work. 6 % of the sampled household surveys were students who live in the area due to proximity to Lagos State University, low house claimed; personal built house comprised 5% while household members of the sampled survey claimed 2%. Within the LCDAs, Igando-Ikotun and Akowonjo-Egbeda have 18% respectively of the household heads that live in the areas while Mosan-Okunola has the least percentage of 15%. Fig and chart 4.10.1.5 show the poverty incidence of household heads in the study area.

LCDA	Business	Close to working place	Low house rent	Personal built house	Guidance	Schooling	Total	%
Agbado-Oke-Odo	16	7	2	2	0	2	29	16
Akowonjo-Egbeda	21	6	1	1	1	1	31	18
Ayobo-Ipaja	18	3	3	2	1	1	28	16
Egbe-Idimu	16	11	0	0	1	2	30	17
Igando-Ikotun	16	11	0	2	0	2	31	18
Mosan-Okunola	18	4	1	1	1	2	27	15

4.10.1.5 Reasons for living in the community

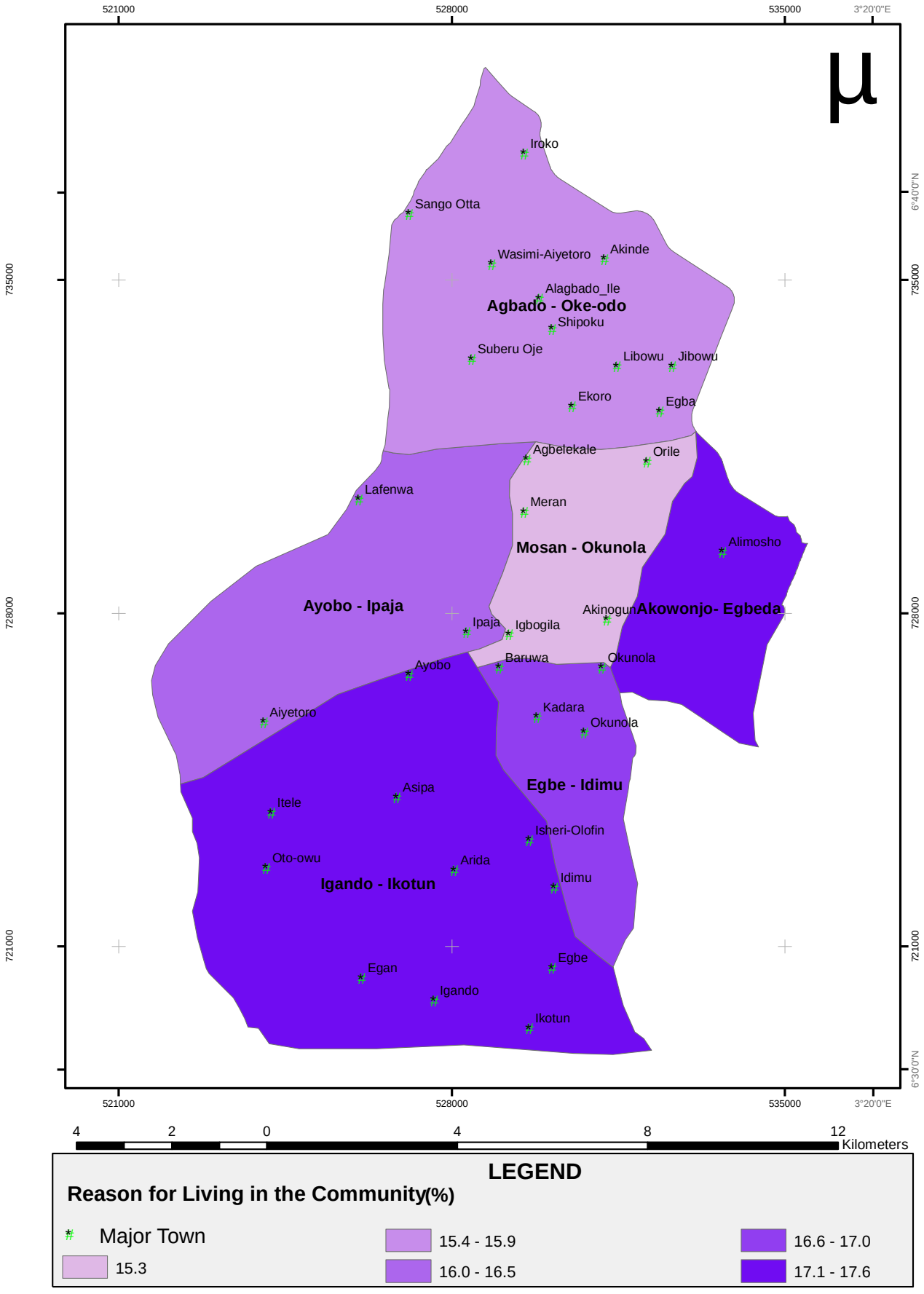

Fig 4.10.1.5 Reason for living in the community

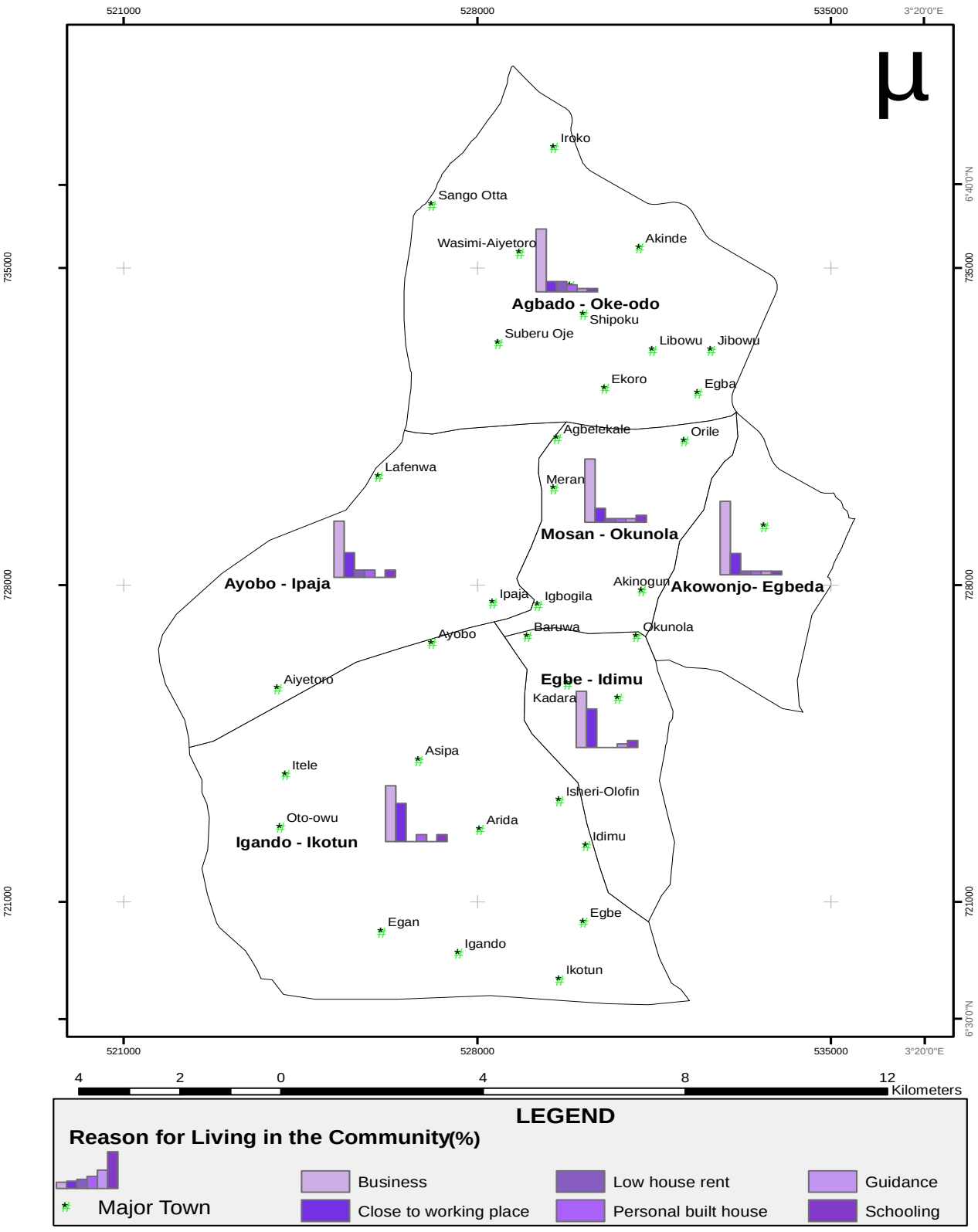

Chart 4.10.1.5 Reason for living in the community

4.10.1.6 Building status of the household head

The table below shows the distribution of the household head respondents according to the type of dwellings. The survey also reveals that about 58% of the respondents lived in rented houses or apartments while 38% live in either owned or family houses. 2% were squatters, and other acquired 1%. Akawonjo-Egbeda has 18% which is the highest of the household heads in LGA, while Mosan-Okuola, Agbado-Oke-Odo, and Ayobo-Ipaja are comprised 16% each.

Table 4.10.1.6 Building status of the household head

LCDA	Landlord	Tenant	Squatting	Other	Total	%
Agbado-Oke-Odo	7	19	1	1	28	16
Akowonjo-Egbeda	15	16	1	0	32	18
Ayobo-Ipaja	10	18	0	0	29	16
Egbe-Idimu	14	16	0	1	31	17
Igando-Ikotun	10	20	1	0	31	17
Mosan-Okunola	12	15	1	0	28	16

Fig and chart 4.10.1.6 are the status of the household heads. Chart 4.10.1.6 reveals Agbado-Oke-Odo and Egbe-Idimu have no squatters.

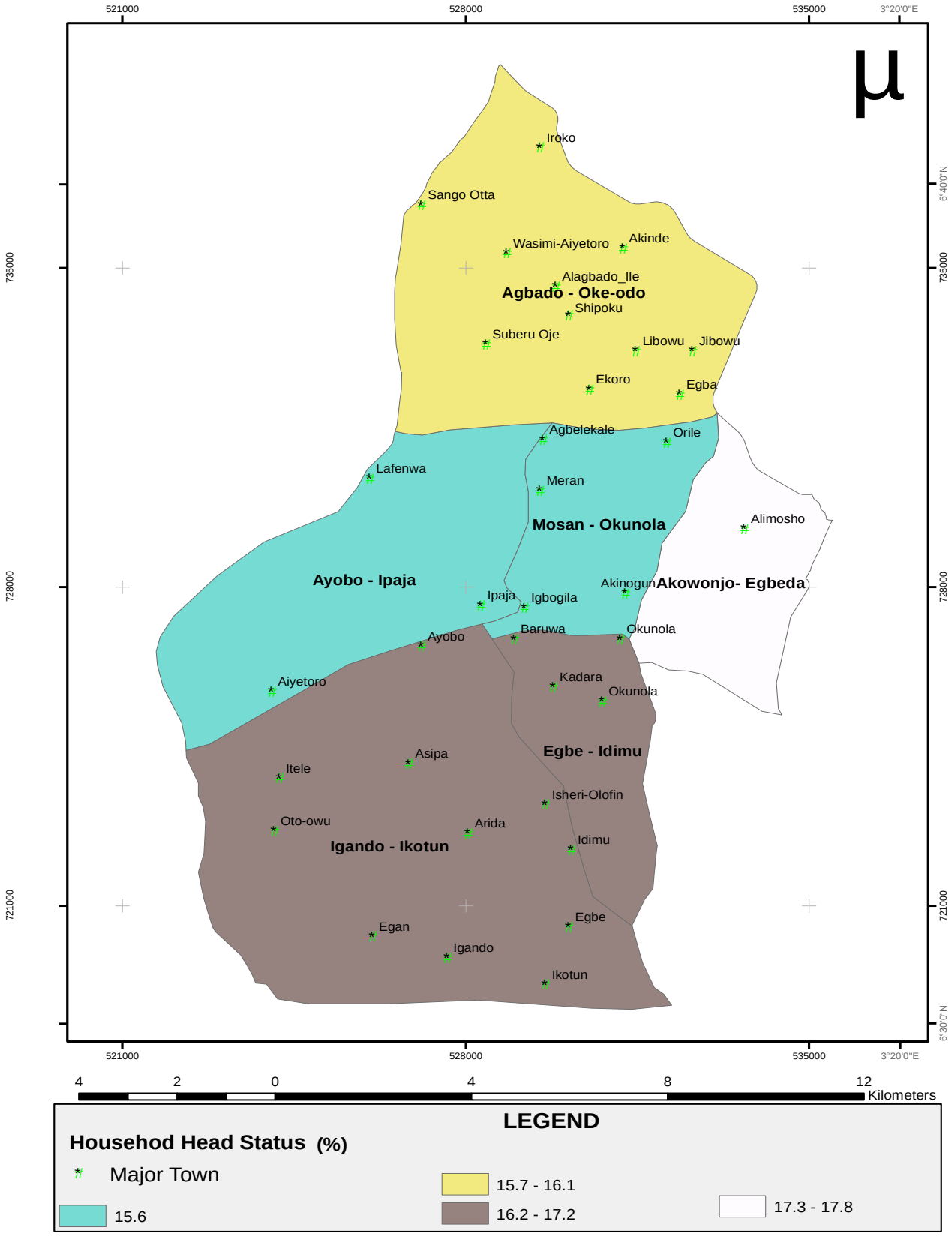

Fig 4.10.1.6 Household head status

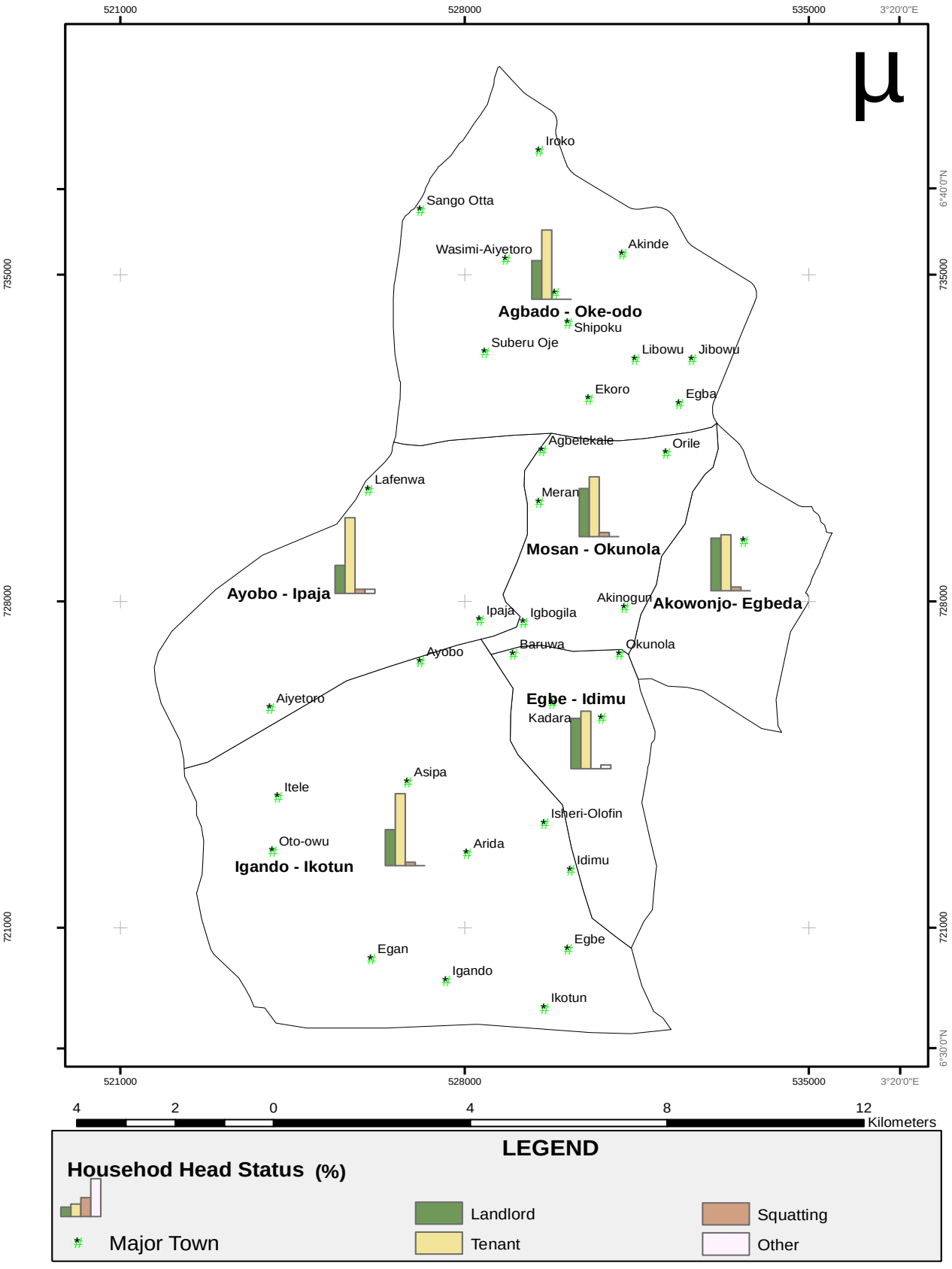

Chart 4.10.1.6 Household head status

4.10.1.7 Main problems and causes faced by household members

From the household surveyed, 28% of the respondents claim the study area is noisy due to influx of people in out of the area, 26% complain of traffic congestion as a result of heavy lorries that plying the road and bad road. Flooding 25% due to the poor drainage system, poor electricity obtained 15% while poor public water supply obtained 5%. Within the LCDA, Igando-Ikotun and Akowonjo-Egbado have 18% of each of the problems and causes faced by household respondents. It means that poverty is at the least in these areas compare to Agbado-Oke-Odo and Ayobo-Ipaja comprised of 16% respectively, Egbe-Idimu has 17% while Mosan-Okunola obtained the least percentage of 15%. Fig and chart 4.10.1.7 are the main problems faced by the household heads as a result of living in the study area.

Table 4.10.1.7 7 Main problems faced by the household heads

LCDA	Noisy	Bad road because of the heavy duties lorries that ply the road	Flooding as a result of poor drainage	Poor electricity supply	In availability of public water	Total	%
Agbado-Oke-Odo	6	10	6	5	2	29	16
Akowonjo-Egbeda	12	7	7	3	3	32	18
Ayobo-Ipaja	7	5	12	4	0	28	16
Egbe-Idimu	10	10	5	5	0	30	17
Igando-Ikotun	5	9	8	7	2	31	18
Mosan-Okunola	9	5	7	3	3	27	15

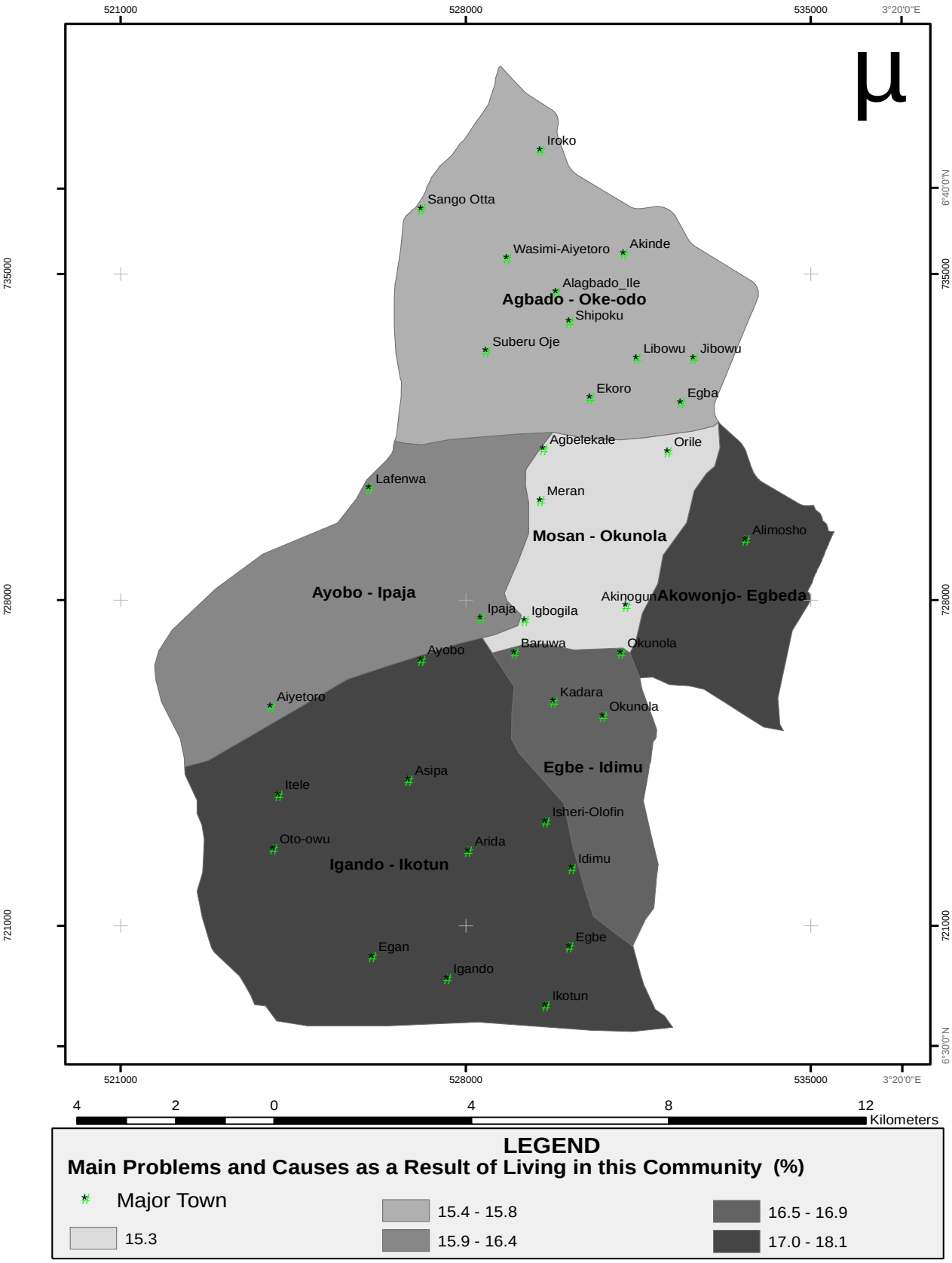

Fig 4.10.1.7 Main problems faced by the household heads

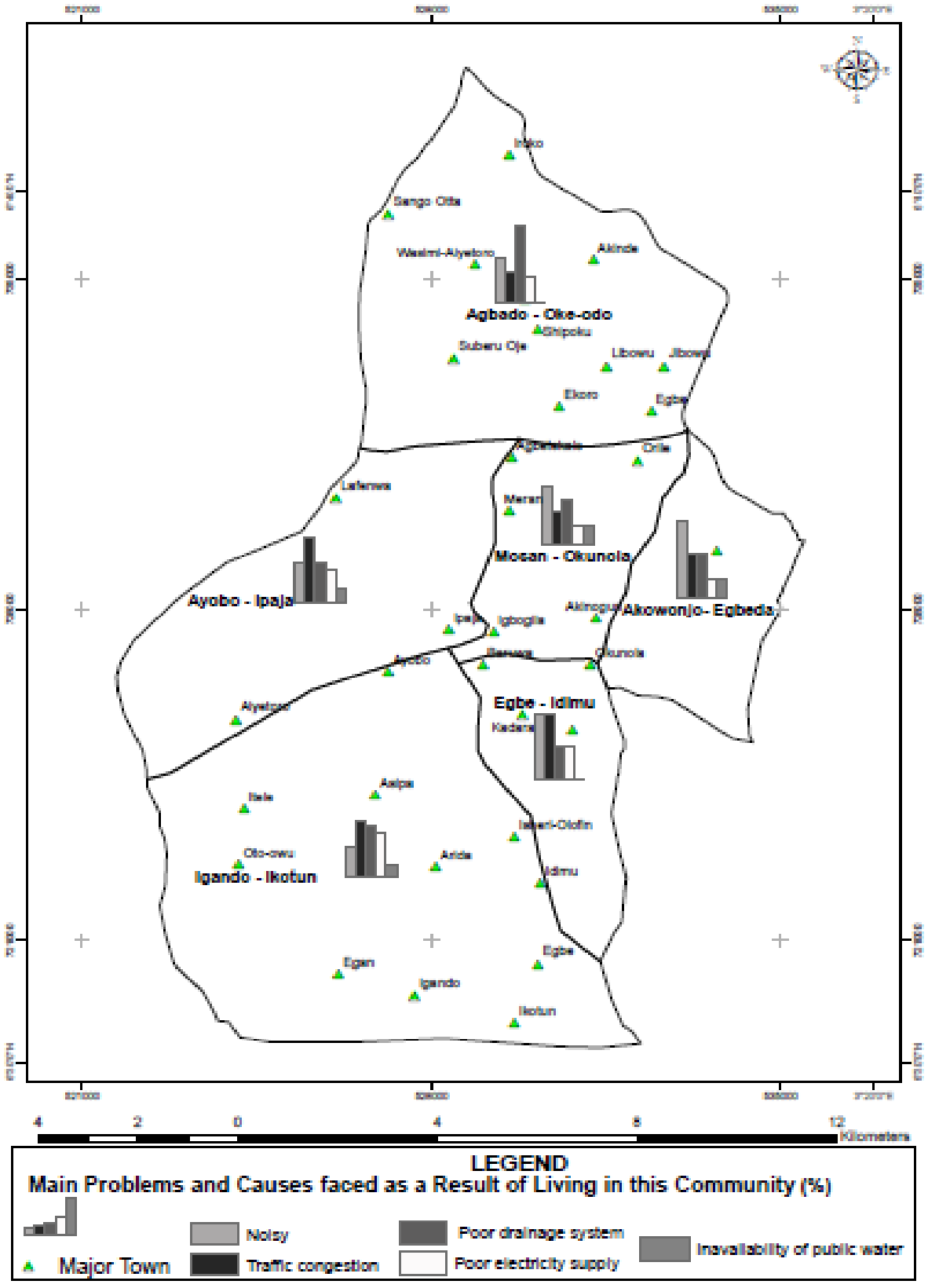

Fig 4.10.1.7 Main problems faced by the household Heads

4.10.1.8 Years of living in the community

Considering the years of living of household respondents, 50% of the household respondents sampled have been in the area between 11-20 years following this is 2-5 years obtained 29%, 20 years above acquired 11% while 2 years below has 7% which is the least of all.

LCDA	Lessthan_2years	2_5years	11_20years	Greaterthan_20years	Total	%
Agbado-Oke-Odo	3	9	15	2	29	16
Akowonjo-Egbeda	3	8	18	3	32	18
Ayobo-Ipaja	3	7	10	6	27	15
Egbe-Idimu	2	8	19	2	31	17
Igando-Ikotun	1	13	15	2	31	17
Mosan-Okunola	1	8	13	6	28	16

Table 4.10.1.8 Years of living in the community

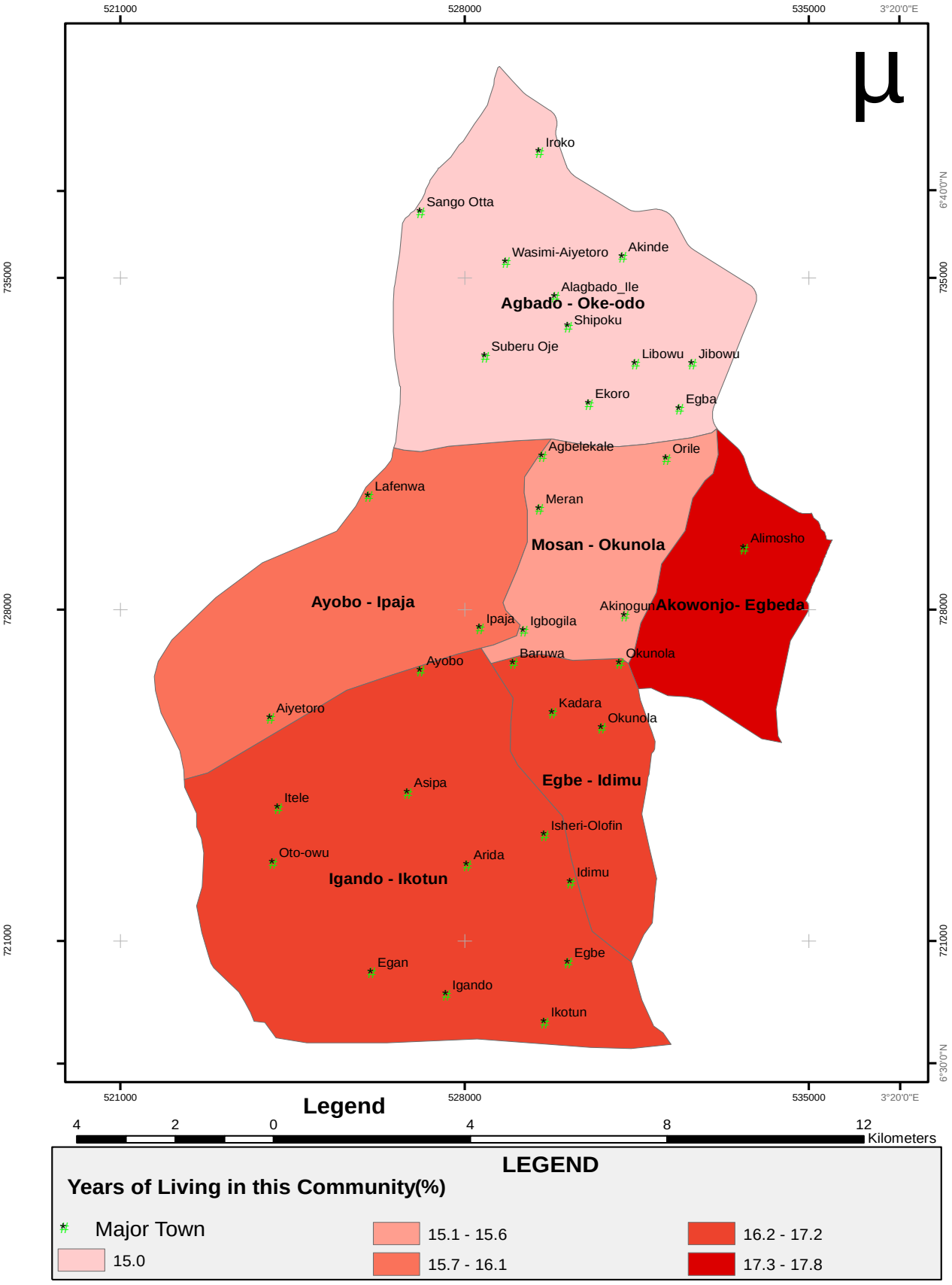

Fig 4.10.1.8 Year of living in the community

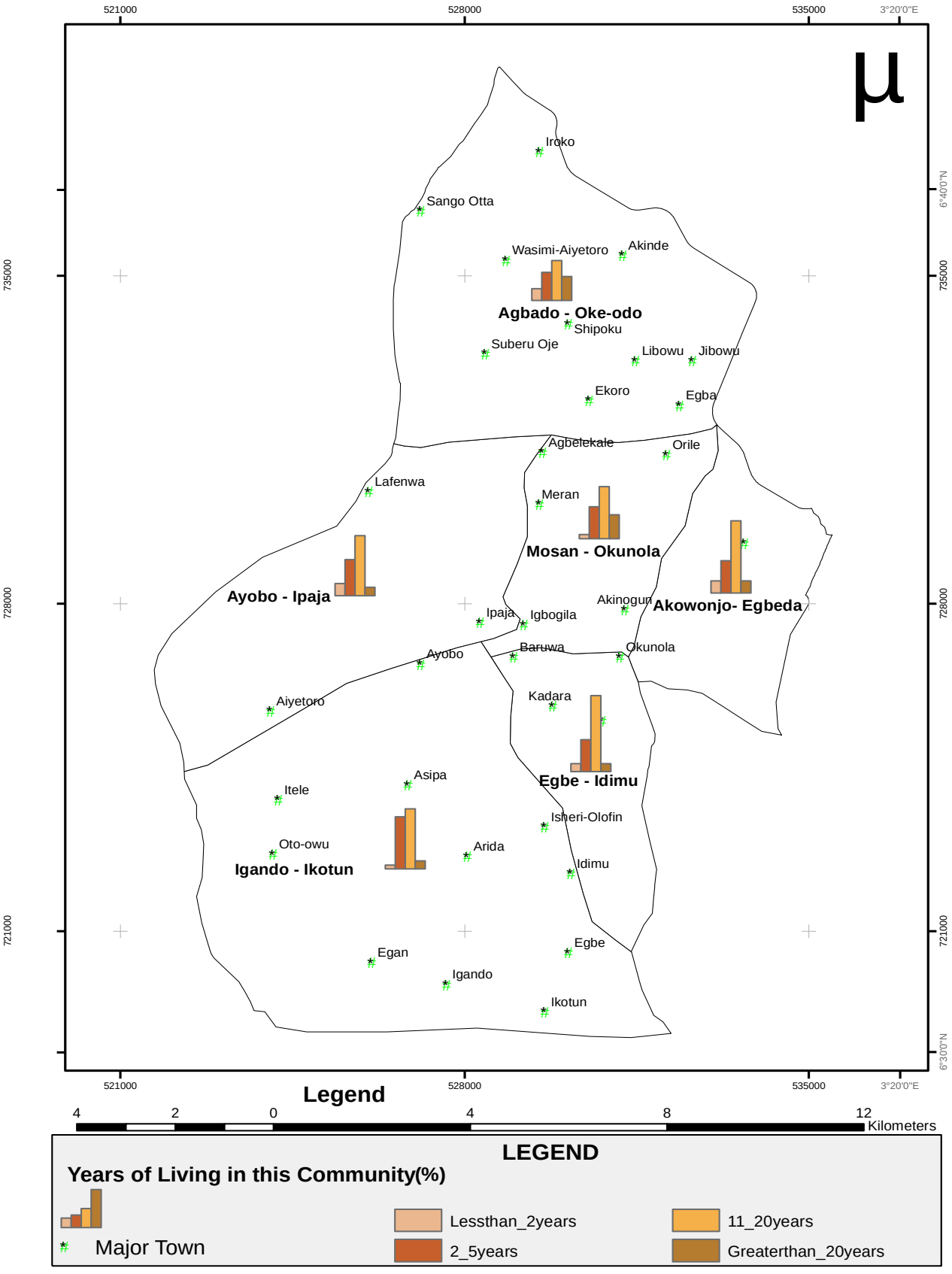

Chart 4.10.1.8 Year of living in the community

4.10.2 Source of drinking water

Majority of the sampled household depends on well-water and buying water for their water supply. 30% of the household respondents claim uses pipe born water, 23% uses public tap, 22% uses protected dug well, cart pusher accounted for15% while 8% of the household respondents use unprotected dug well water which is the least of all. Over the LCDA Akowonjo-Egbeda uses 18% of all the household major sources of water while Agbado-Oke-Odo, Ayobo-Ipaja, and Mosan-Okunola use 16% of each of the household major sources of water. Egbe-Idimu and Igando-Ikotun use 17% respectively.

Moreover, the irregularity of water supply public water in the study area makes it imperative for every household to go for alternatives like pipe-borne, well water, and cart pushers. But the implication on the health status of each family can be disastrous since many water-borne diseases can break out.

Fig and chart 4.10.2 show the major sources of water for the household heads

LCDA	Pipe born water	Public tap	Protected dug well	Unprotected dug well	Cart Pusher	Total	%
Agbado-Oke-Odo	10	10	4	2	3	29	16
Akowonjo-Egbeda	9	6	7	2	8	32	18
Ayobo-Ipaja	8	7	9	2	3	29	16
Egbe-Idimu	10	6	6	1	8	31	17
Igando-Ikotun	12	7	7	2	3	31	17
Mosan-Okunola	6	7	7	5	3	28	16

Table 4.10.2 Source of drinking water

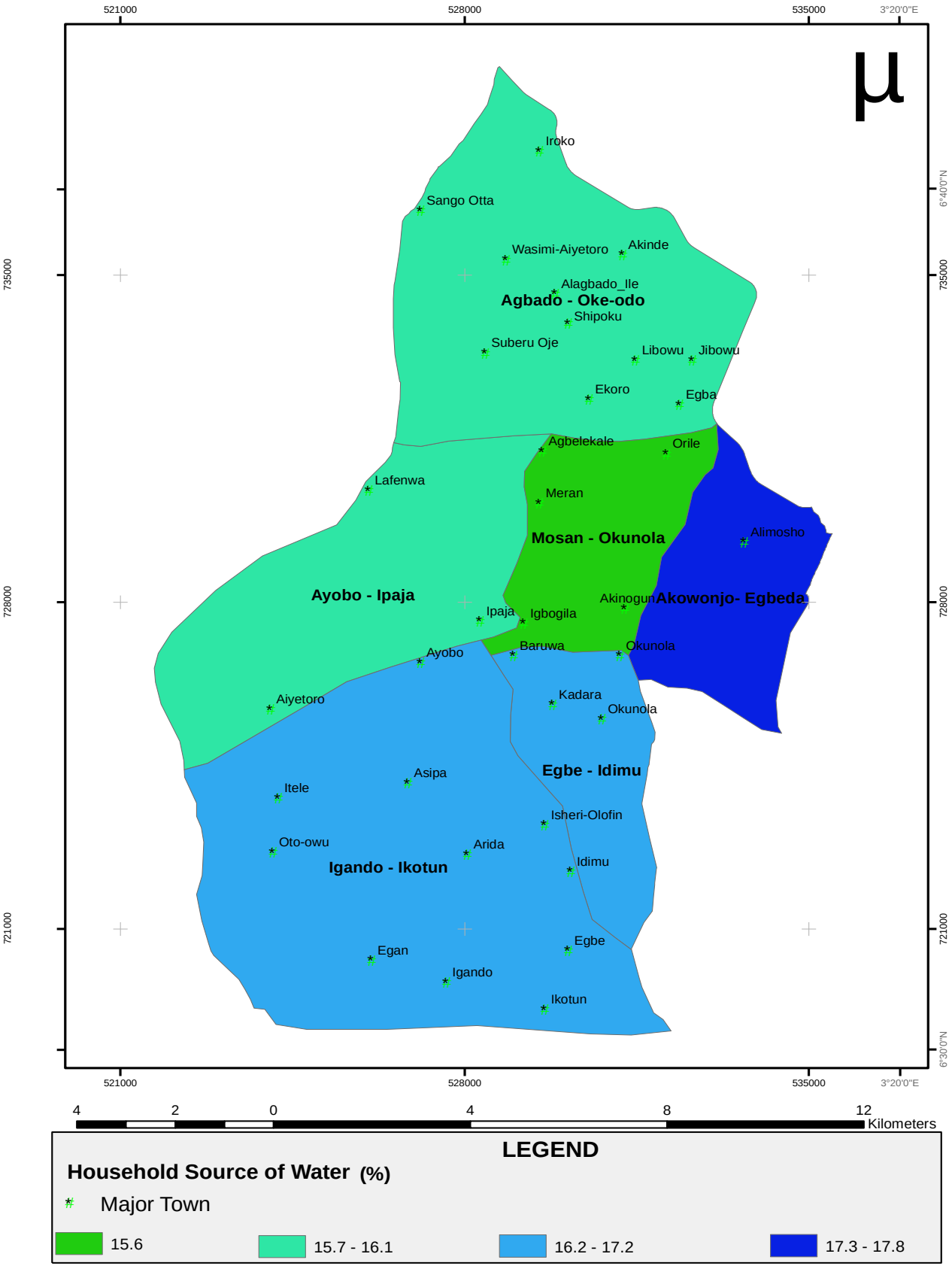

Fig 4.10.2 Source of drinking water

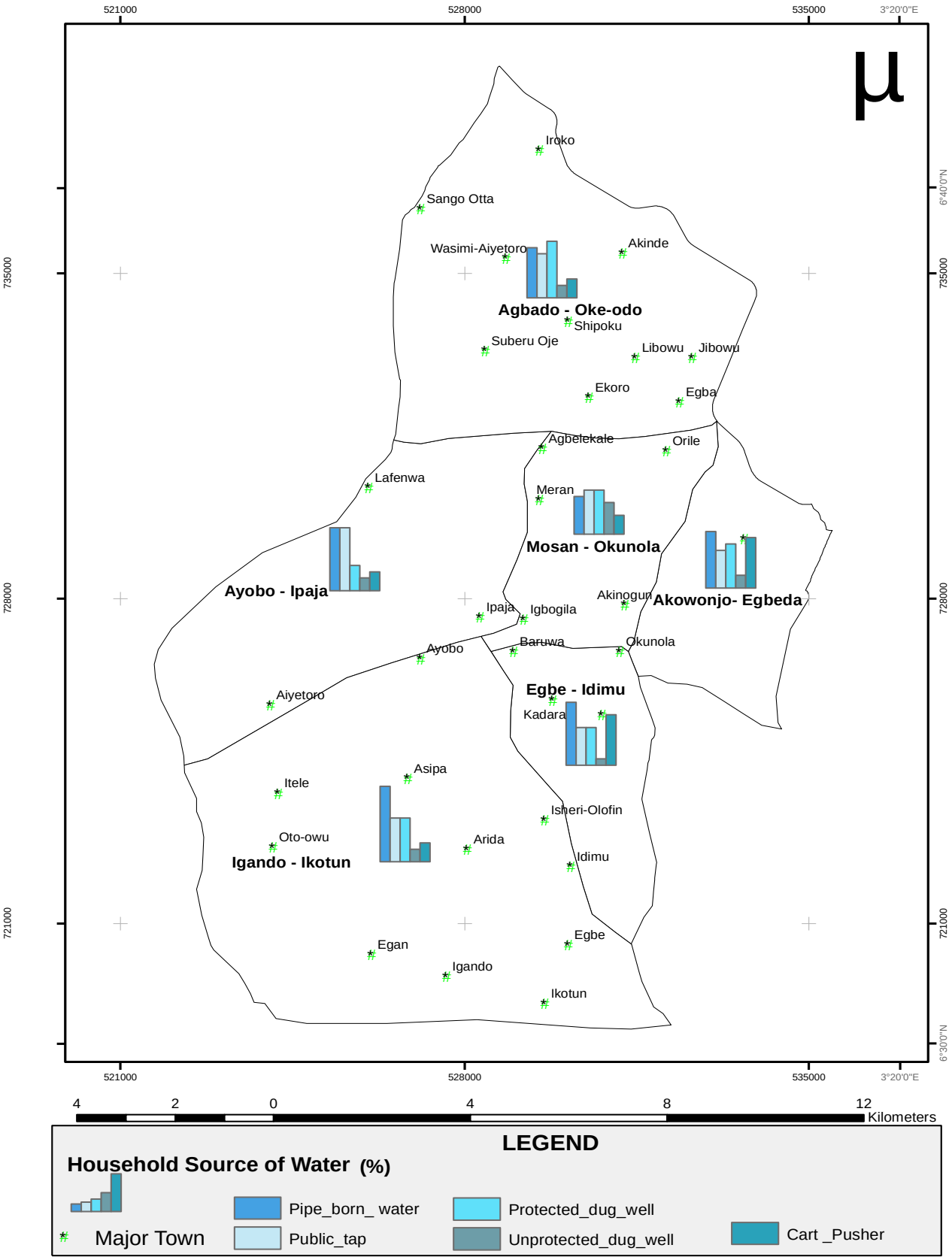

Chart 4.10.2 Source of drinking water

4.10.2.1 Distance to the water source

The majority of the household respondents had to trek distance before getting water. 66% walked for less than 30 minutes to the source of water. 30% of the respondents walked between 30 minutes – 1hour, 1.6% walked for 2-4 hours while above 4 hours had 0.5%. These express the poverty level in the study area. Over the LCDA Akowonjo-Egbeda uses 18% of all the household major sources of water while Agbado-Oke-Odo, Ayobo-Ipaja, and Mosan-Okunola use 16% of each of the household major sources of water. Egbe-Idimu and Igando-Ikotun use 17% respectively. Fig and chart 4.10.2 show the distances to the sources of water for the household heads.

LCDA	Less than 30 minute	30minutes 1 hour	2hours 4 hours	Greater than 4hours	Total	%
Agbado-Oke-Odo	20	7	2	0	29	16
Akowonjo-Egbeda	18	14	0	0	32	18
Ayobo-Ipaja	20	8	0	0	28	16
Egbe-Idimu	19	10	0	2	31	17
Igando-Ikotun	22	8	1	0	31	17
Mosan-Okunola	20	8	0	0	28	16

Table 4.10.2.1 Distances to the water sources

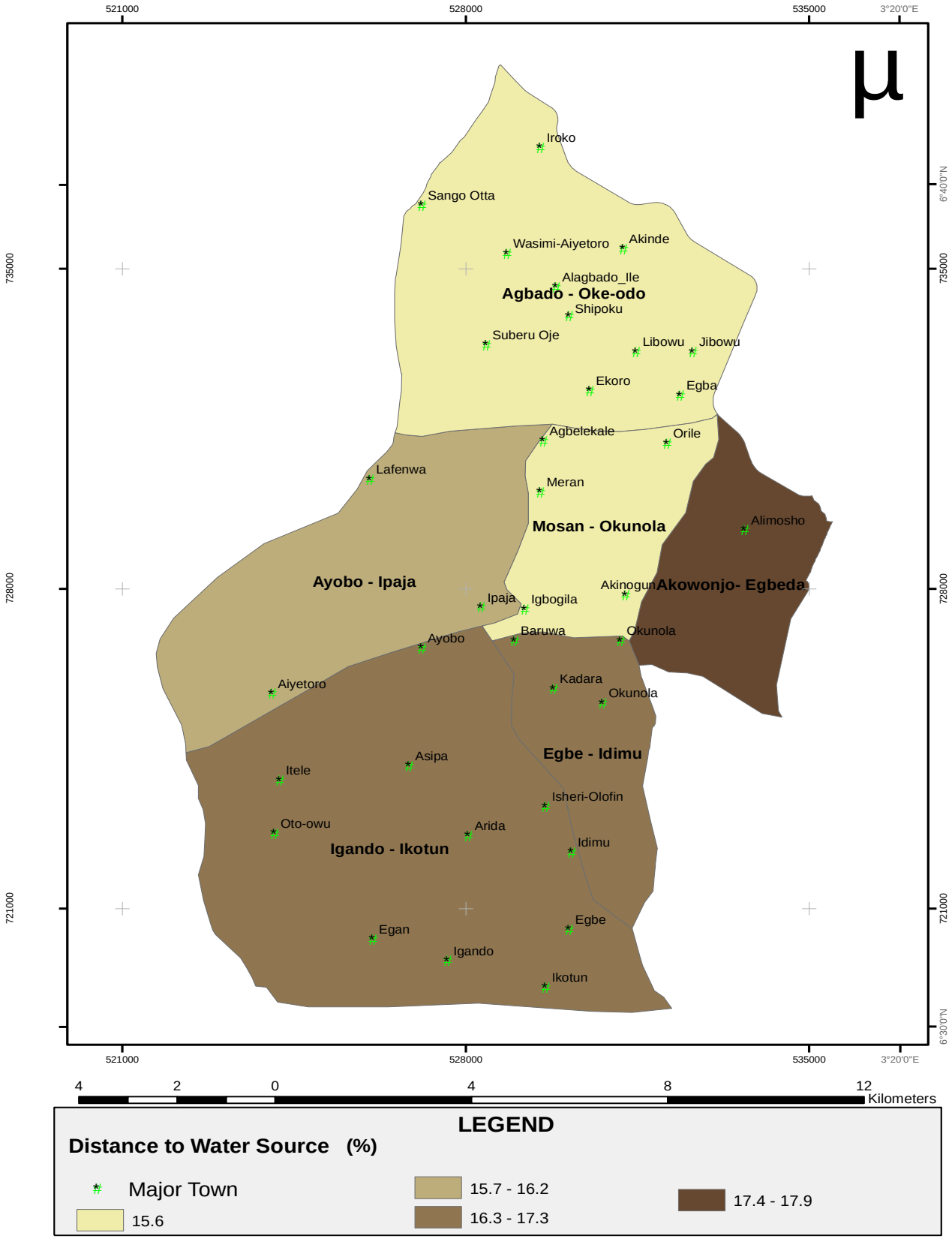

Fig 4.10.2.1 Distance to the source of water

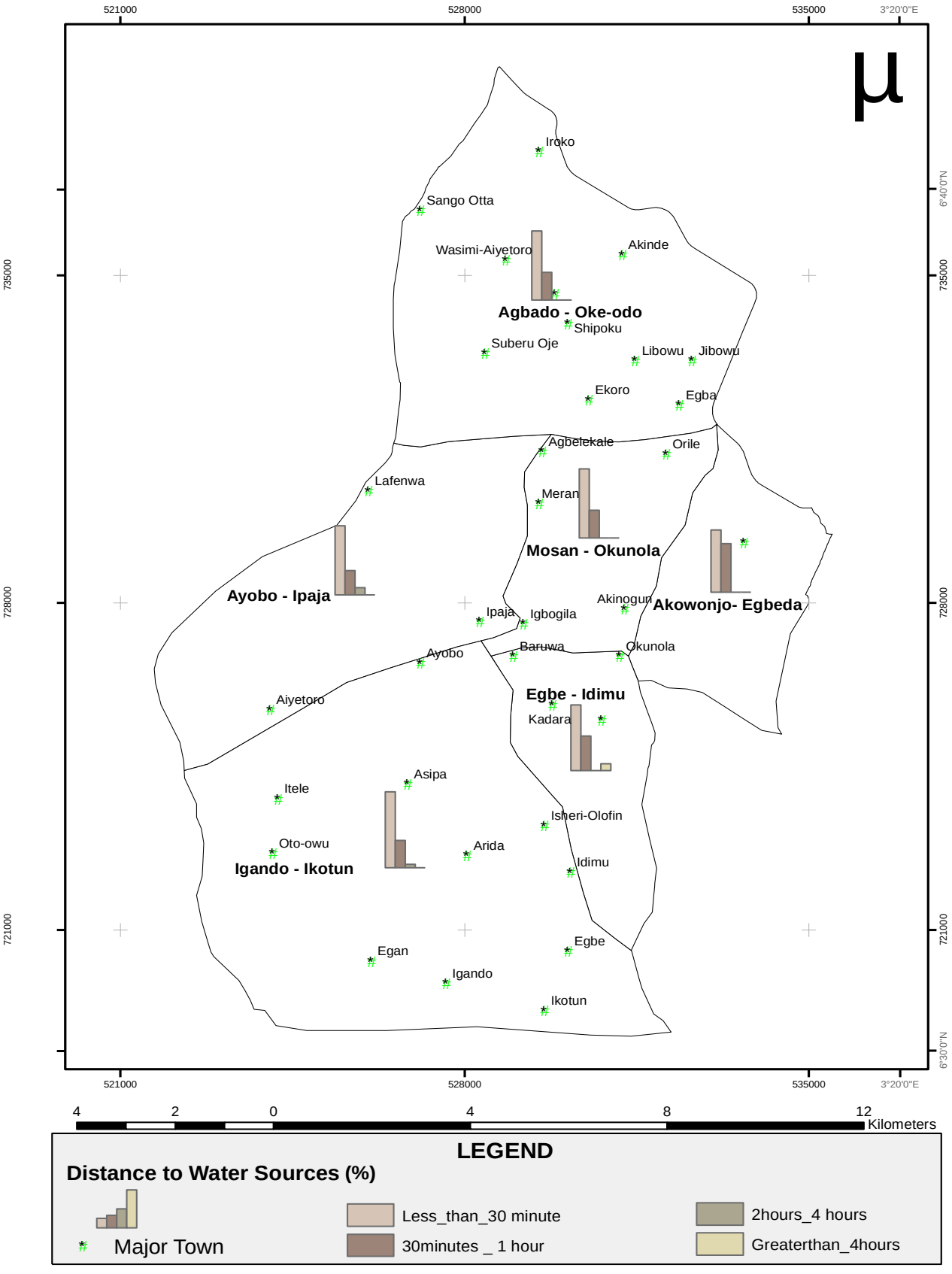

Fig 4.10.2.1 Distance to the source of water

4.10.2.2 Sufficient water for household use

LCDA	Yes	No	Total	%
Agbado-Oke-Odo	23	4	29	16
Akowonjo-Egbeda	30	2	32	18
Ayobo-Ipaja	24	3	29	16
Egbe-Idimu	23	5	31	17
Igando-Ikotun	26	4	31	17
Mosan-Okunola	23	3	28	16

Table 4.10.2.2 Sufficient water for household use

From the table above, 82% of the respondents had enough drinking water, 18% had no sufficient water for daily consumption. Over the LCDA Akowonjo-Egbeda uses 18% of the entire household had sufficient water for use daily. While Agbado-Oke-Odo, Ayobo-Ipaja, and Mosan-Okunola had 16% each. Egbe-Idimu and Igando-Ikotun comprised 17% respectively. Fig and chart 4.10.2.2 represent the daily water used by the household.

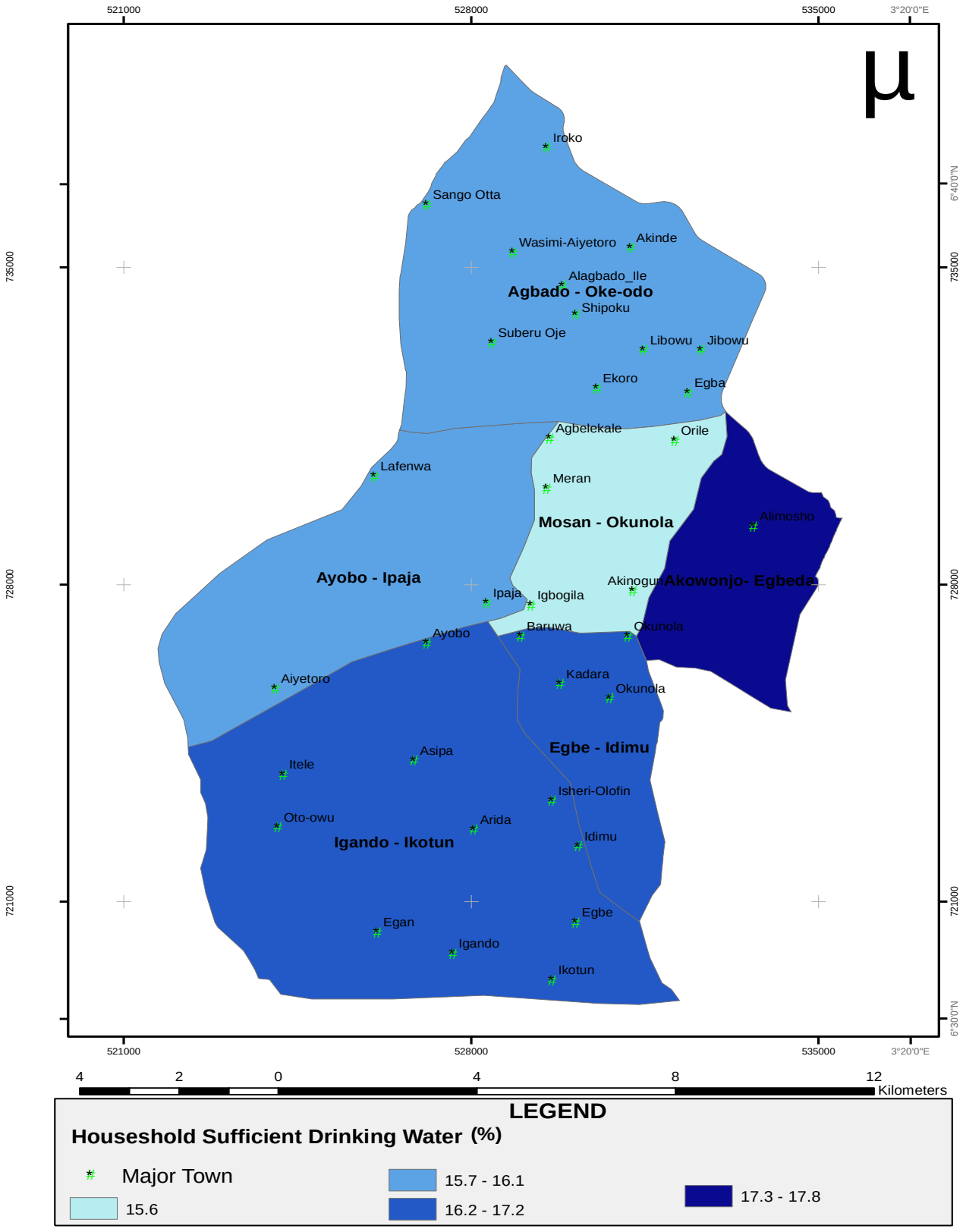

Fig 4.10.2.2 Sufficient water for household use

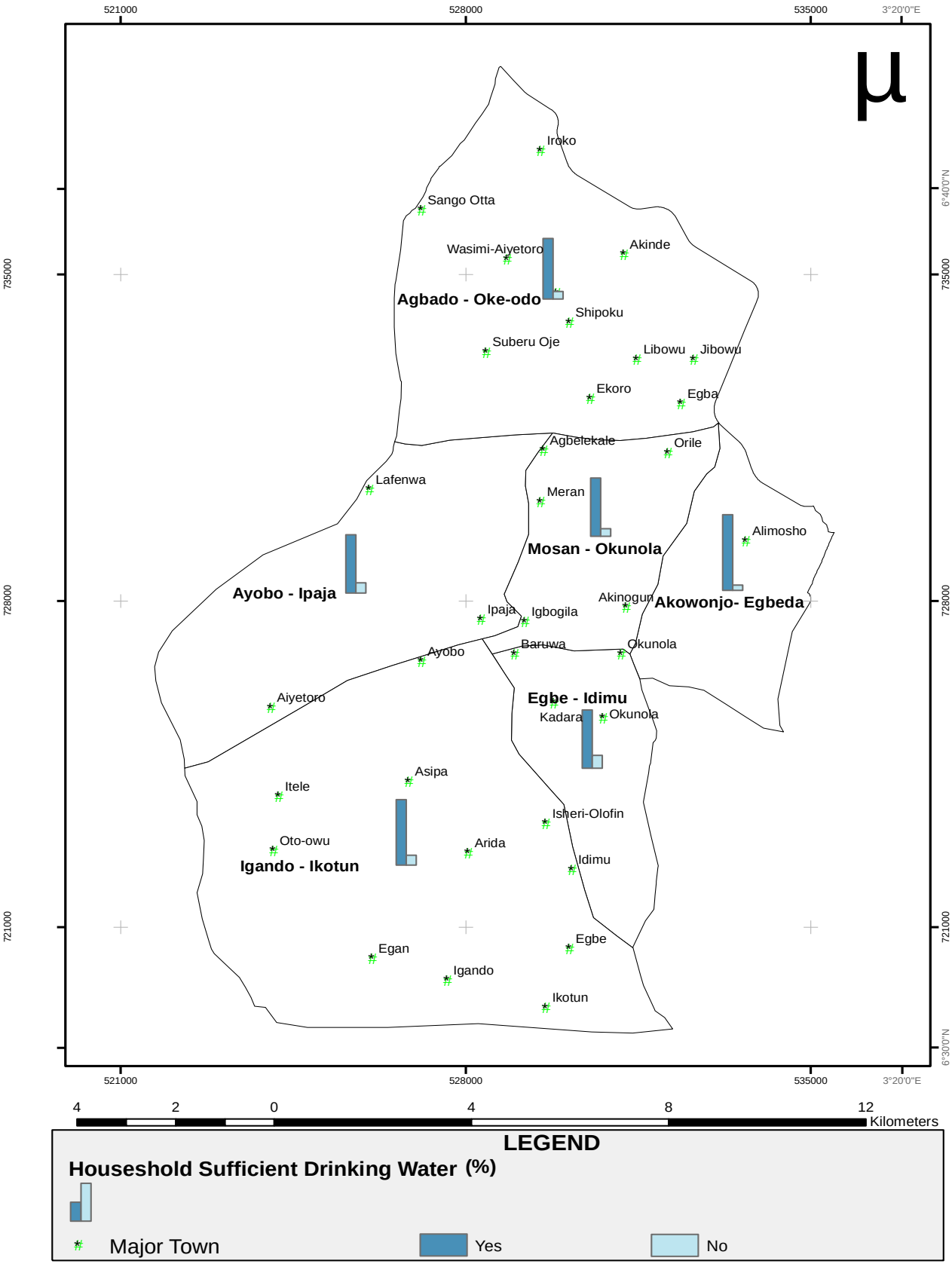

Chart 4.10.2.2 Sufficient water for household use

4.10.2.3 Water treatment

49% of the sampled household survey uses cover storage as a method of water treatment. 21% of the household use boiling method, 20% use chlorination beach, Filtration has 7% while water strain through cloth obtained the least of 2%. Akowonjo-Oke-Odo accounted for 18% of the total household water treatments while Mosan-Okunola occupied 15% which is the least of all the LCDAs in the study area. It means that Mosan-Okunola has the least method of water treatment compared to the other LCDAs within the study area. The water treatments were represented in fig and chart 4.10.2.3.

LCDA	Boiling	Chlorination beach	Strain through a cloth	Filtration	Covered storage	Total	%
Agbado-Oke-Odo	6	8	2	2	11	29	16
Akowonjo-Egbeda	5	5	0	2	20	32	18
Ayobo-Ipaja	4	4	1	4	16	29	16
Egbe-Idimu	7	8	0	2	14	31	17
Igando-Ikotun	8	8	0	1	14	31	17
Mosan-Okunola	8	4	0	2	13	27	15

Table 4.10.2.3 Water treatment

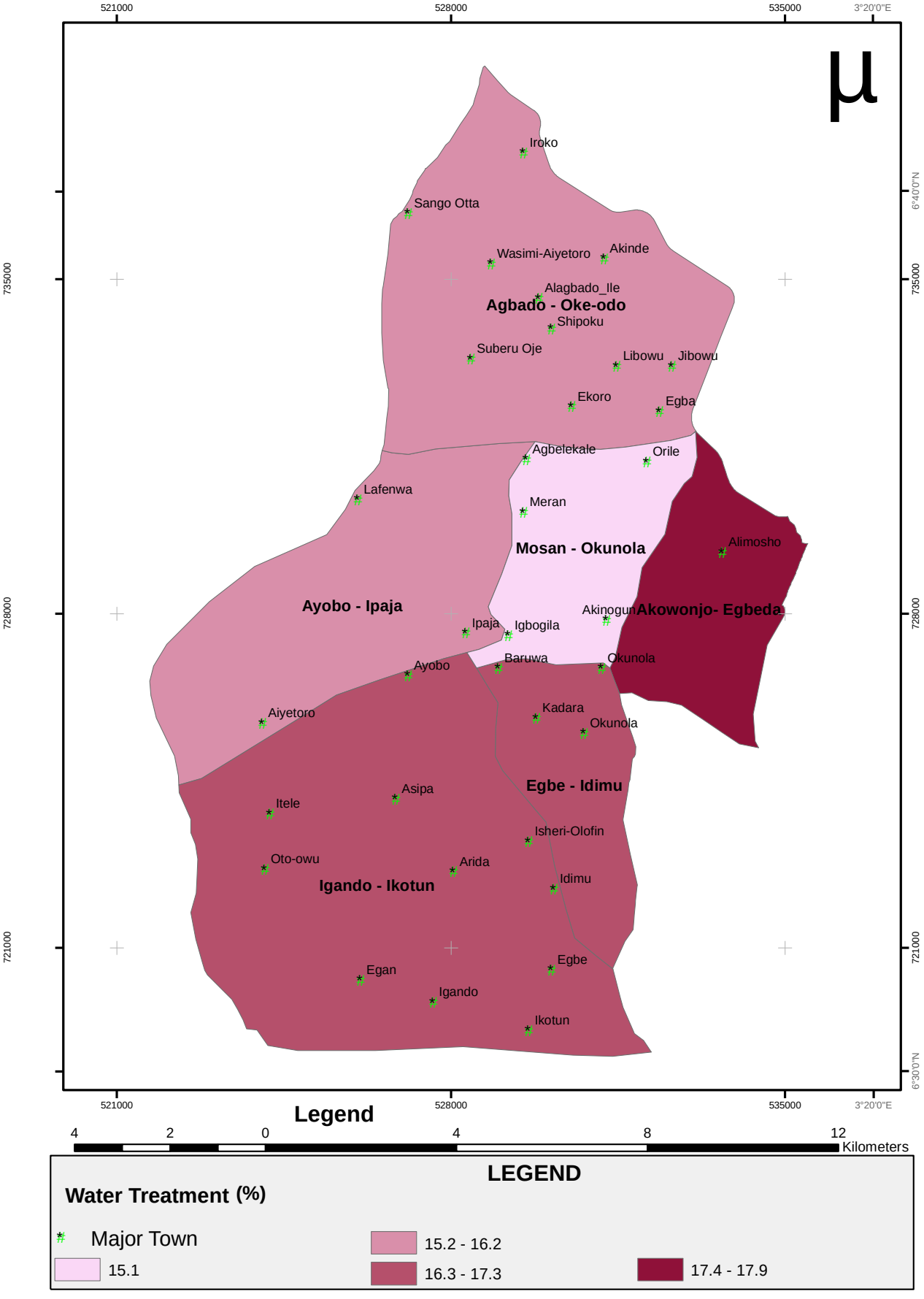

Fig 4.10.2.3 Water treatment

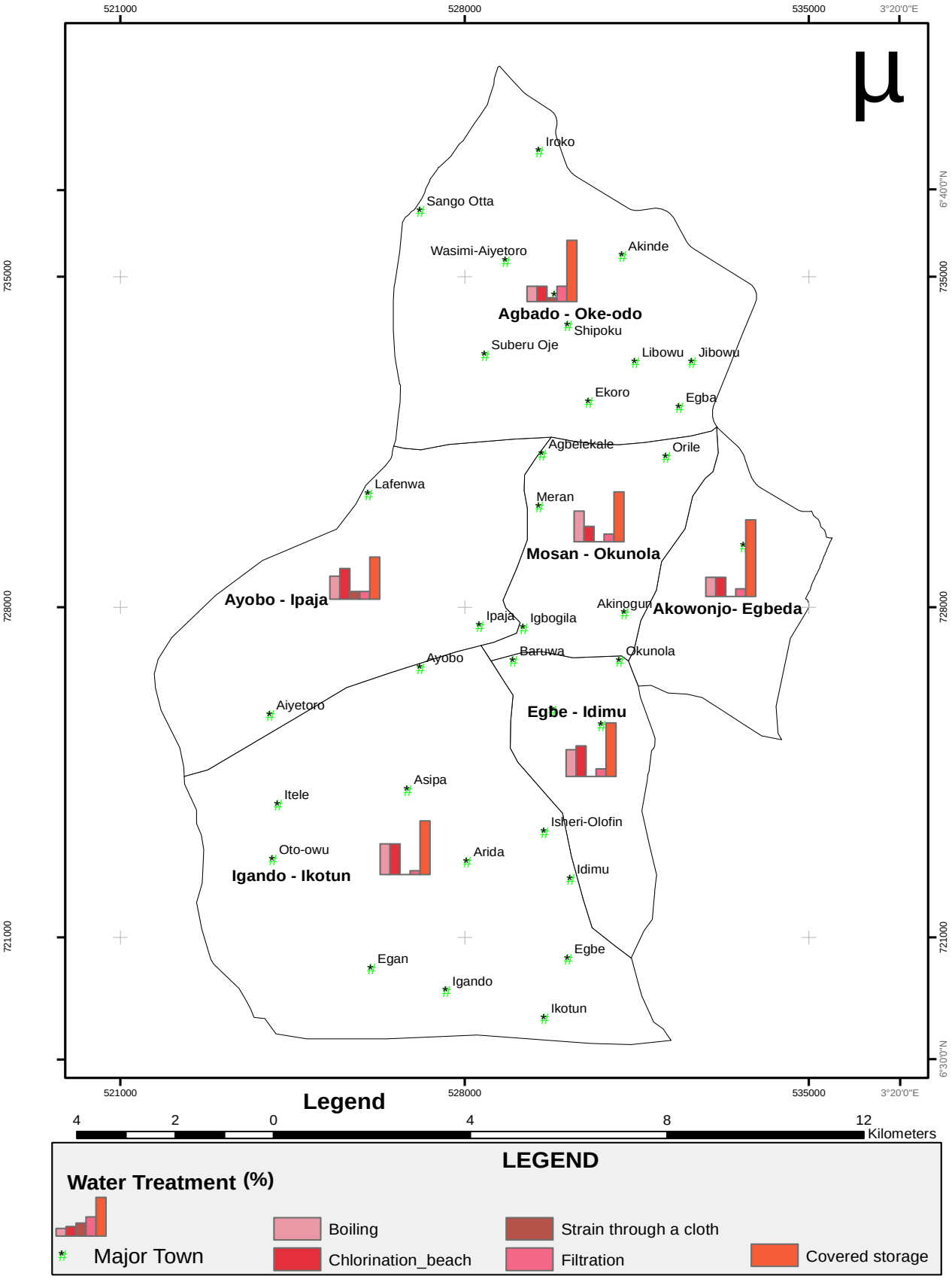

Chart 4.10.2.3 Water treatment

4.10.2.4 Sufficient water for washing of hand and bathing

55% of the household respondents have sufficient water for daily washing of hand and bathing, 43% of the sampled survey doesn't have sufficient water for daily washing of hand and bathing while 1% of the household don't know if they have sufficient water for daily washing of hand and bathing.

Fig and chart 4.10.2.4 represents sufficient water for washing of hand and bathing. Referring to chart 4.10.2.4, Agbado-Oke-Odo and Igando-Ikotun represent the households that don't know either they have sufficient or not.

LCDA	Yes	No	Dont know	Total	%
Agbado-Oke-Odo	13	14	0	27	16
Akowonjo-Egbeda	18	13	0	31	18
Ayobo-Ipaja	16	12	1	29	17
Egbe-Idimu	15	16	0	31	18
Igando-Ikotun	18	8	1	27	16
Mosan-Okunola	16	12	0	28	16

Table 4.10.2.4 Sufficient water for washing of hand and bathing

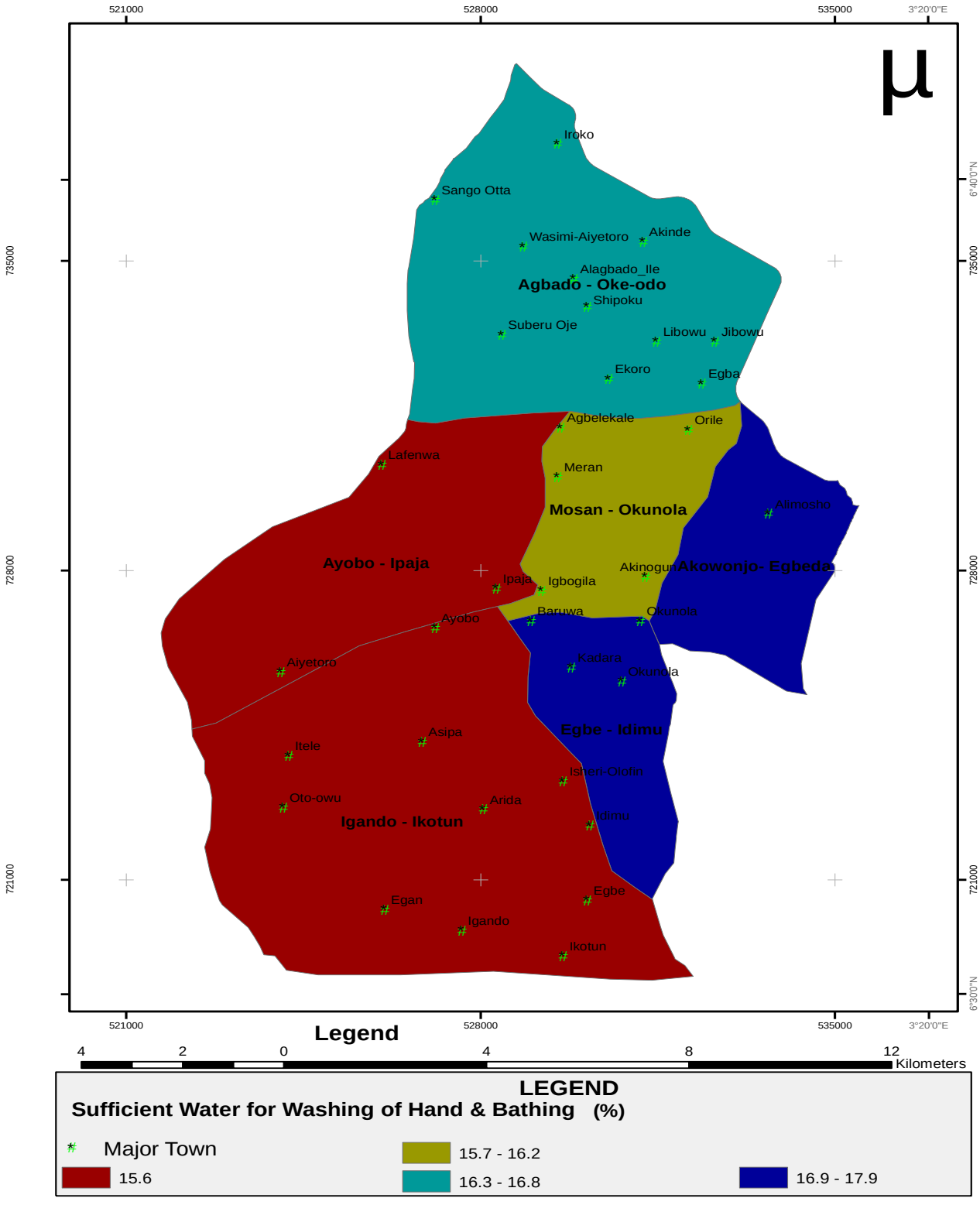

Chart 4.10.2.4 Sufficient water for washing of hand and bathing

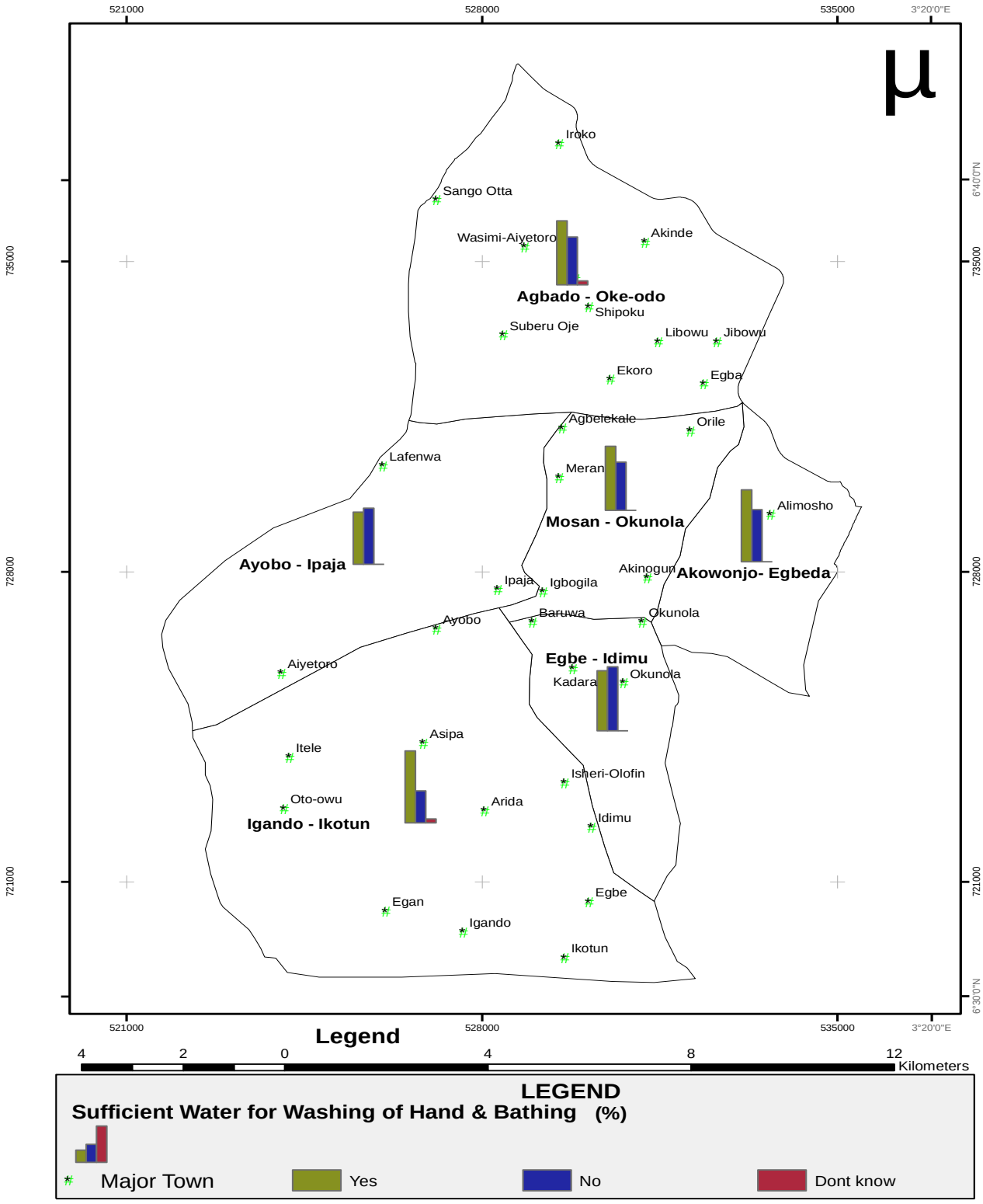

Chart 4.10.2.4 Sufficient water for washing of hand and bathing

4.10.3 Toilet facility used by household

It is to be noted that the type of toilet facilities has an impact on the health state of the family. The pit latrine toilet is common in houses comprised of 58% of the household toilet facility, water closest has 27%, toilet shared with other household has 7%, open area has 6% while toilet shared with the public community has 0.5%. The popularity of pit latrines may be due to irregularity of water supply, which makes it difficult to maintain a flush toilet, especially in large households. In term of toilet facilities, pit toilet is common amongst the respondents. Fig 4.10.3 and chart 4.10.3 reveals toilet shared by the members.

LCDA	Water closet	Pit latrine	Open area	Toilet shared with other households	Toilet shared with public community	Total	%
Agbado-Oke-Odo	5	19	1	3	1	29	16
Akowonjo-Egbeda	10	15	2	5	0	32	18
Ayobo-Ipaja	6	21	1	1	0	29	16
Egbe-Idimu	10	19	0	2	0	31	17
Igando-Ikotun	11	16	3	1	0	31	17
Mosan-Okunola	8	15	4	1	0	28	16

4.10.3 Toilet facility used by households

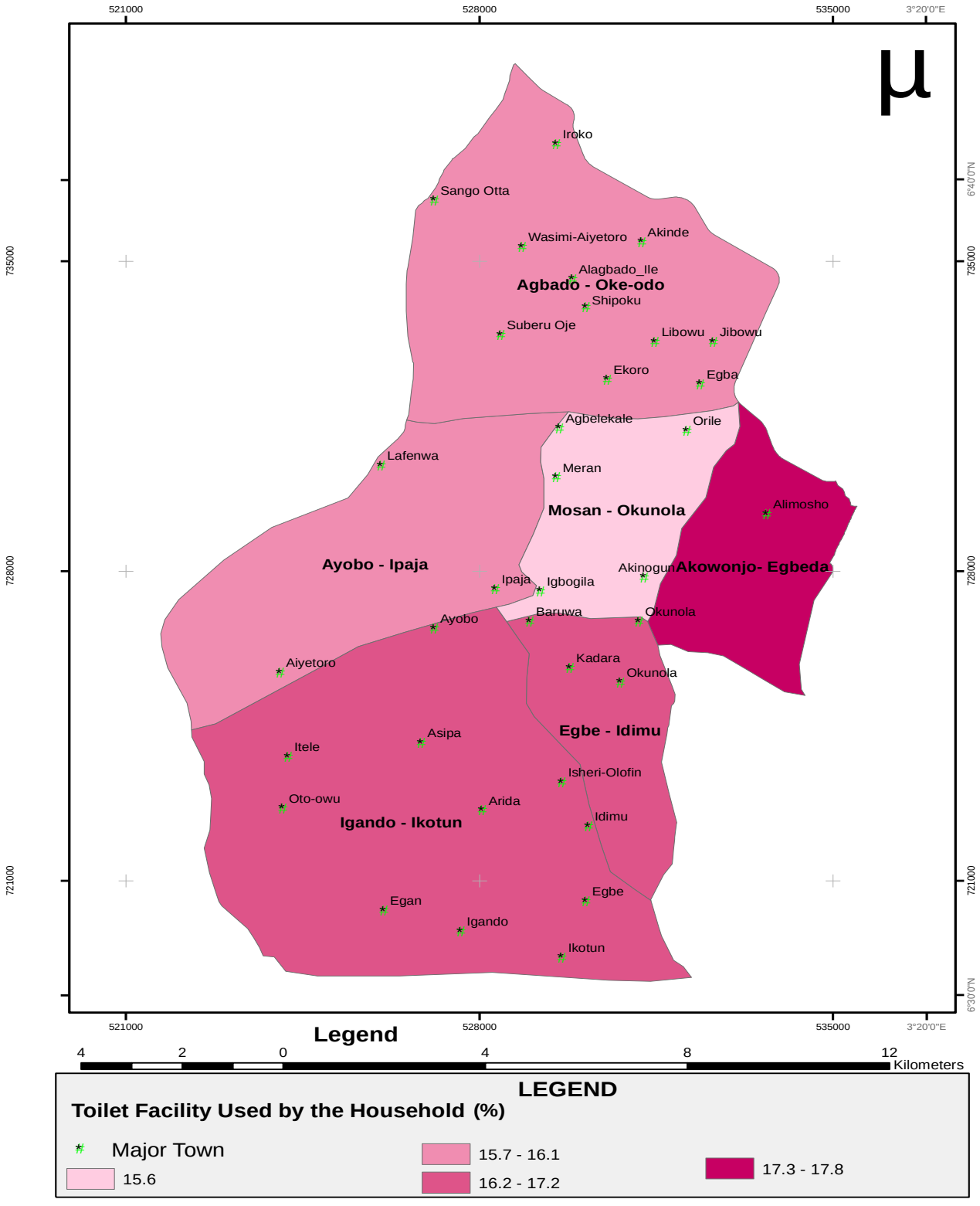

Fig 4.10.3 Toilet facility used by household

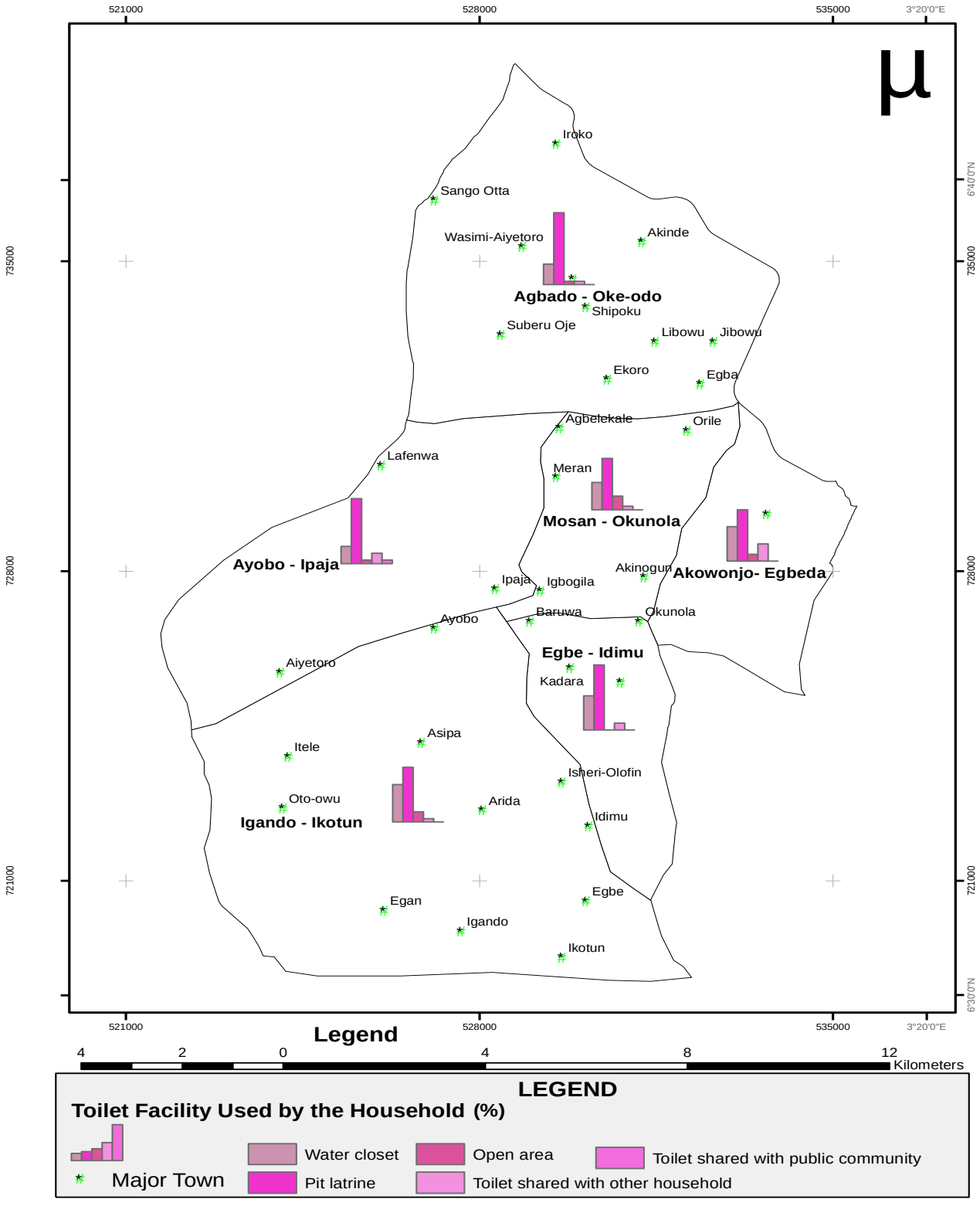

Chart 4.10.3 Toilet facility used by household

4.10.3.1 Major health concerns of household

45 % of the household members had communicable diseases of the household sample surveyed. 33% of the household comprised of non-communicable diseases, 22% comprised of malnutrition while others constituted 0.5%. The prevalence of communicable diseases in the study area was due to toilets shared by the household members. Within the LCDA, Agbado-Oke-Odo has 14% of the general health concerns of the household members while Akowonjo-Egbeda and Egbe-Idimu have 18% each. The results show that Akowonjo-Egbeda and Egbe-Idimu are more prone to all the diseases in the study area compared to other LCDAs. Agbado-Oke-Odo and Akowonjo-Egbeda were not prone to other diseases, unlike other LCDAs. Fig and chart 4.10.3.1 represents the health concerns of the household.

LCDA	Communicable diseases	Non-communicable diseases	Malnutrition	Other	Total	%
Agbado-Oke-Odo	10	7	6	1	24	14
Akowonjo-Egbeda	13	11	7	0	31	18
Ayobo-Ipaja	18	7	4	0	29	17
Egbe-Idimu	14	8	7	1	30	18
Igando-Ikotun	11	11	5	1	28	17
Mosan-Okunola	10	13	3	1	27	16

Table4.10.3.1 Major health concerns of household

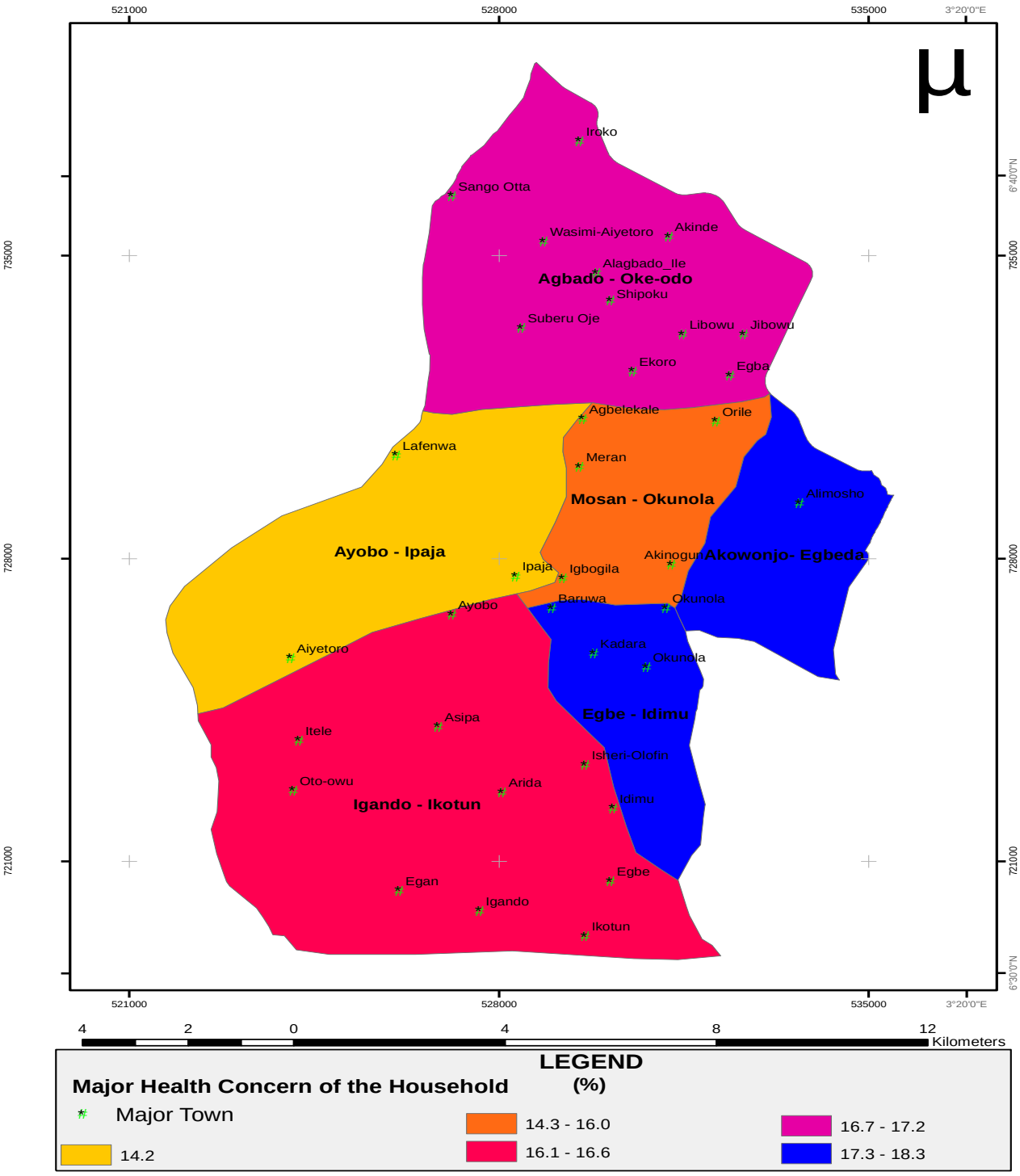

Fig 4.10.3.1 Major health oncerns of household

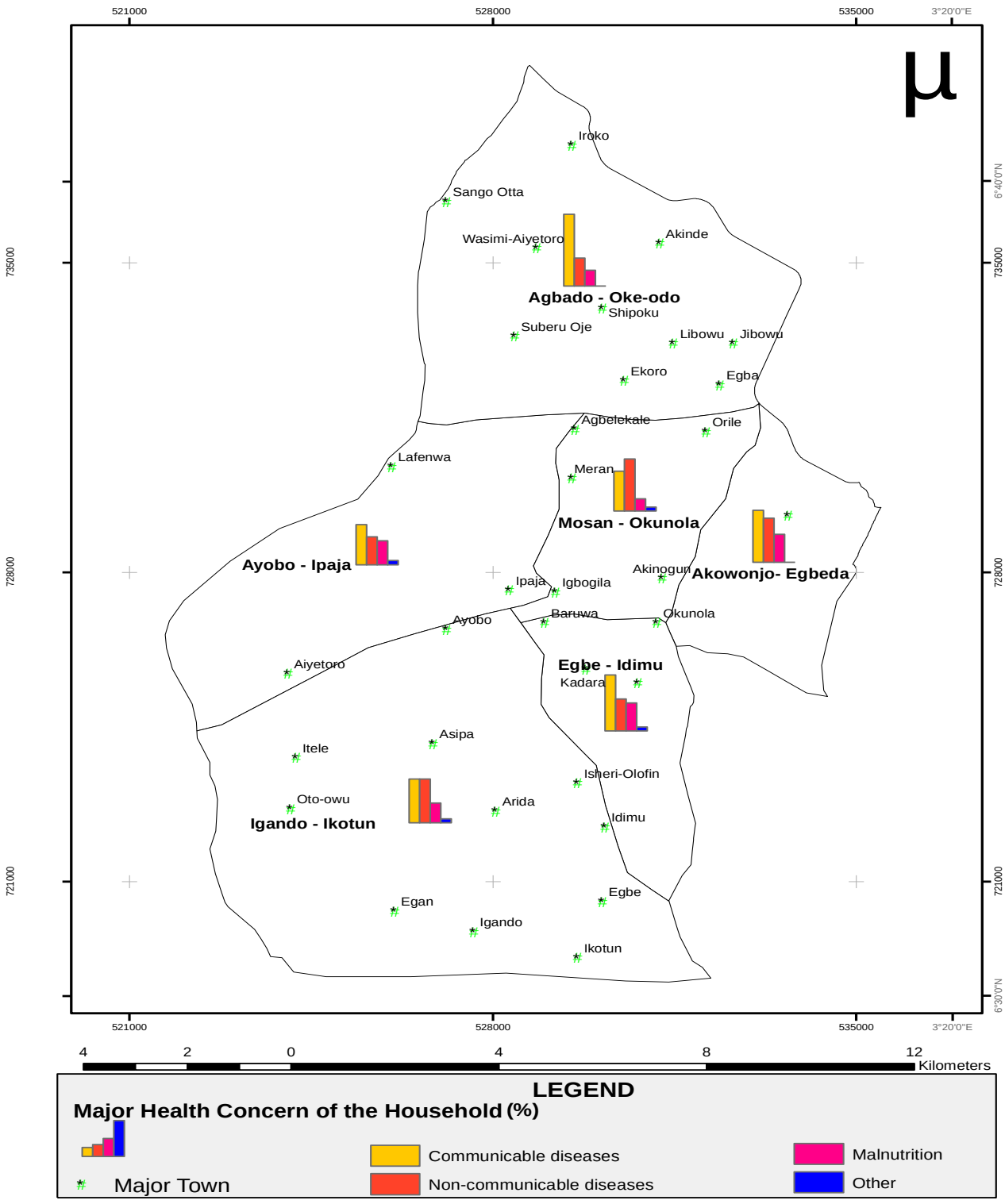

Chart 4.10.3.1 Major health concerns of household

4.10.3.2 Access to the health facility

70% of the household sample surveyed makes use of public hospitals. This could be of because the financial constraints of the household heads to have access to private hospitals. 16% have access to a private hospital because of the financial standing of the household heads. 7% of the sampled households make use of traditional sources while private clinics took 6% of the household health facilities. Akowonjo-Egbeda took the overall percentage of 18% while Agbado-Oke-Odo, Ayobo-Ipaja, Mosan-Okunola took the least percentage of 16% each. Fig and chart 4.10.3.2 represents access to health facilities of the household members.

LCDA	Public hospital	Private hospital	Private clinic	Traditional sources	Total	%
Agbado-Oke-Odo	20	6	3	0	29	16
Akowonjo-Egbeda	28	3	0	1	32	18
Ayobo-Ipaja	18	4	2	5	29	16
Egbe-Idimu	21	3	4	3	31	17
Igando-Ikotun	19	10	0	2	31	17
Mosan-Okunola	20	3	3	2	28	16

Table 4.10.3.2 Access to the health facility

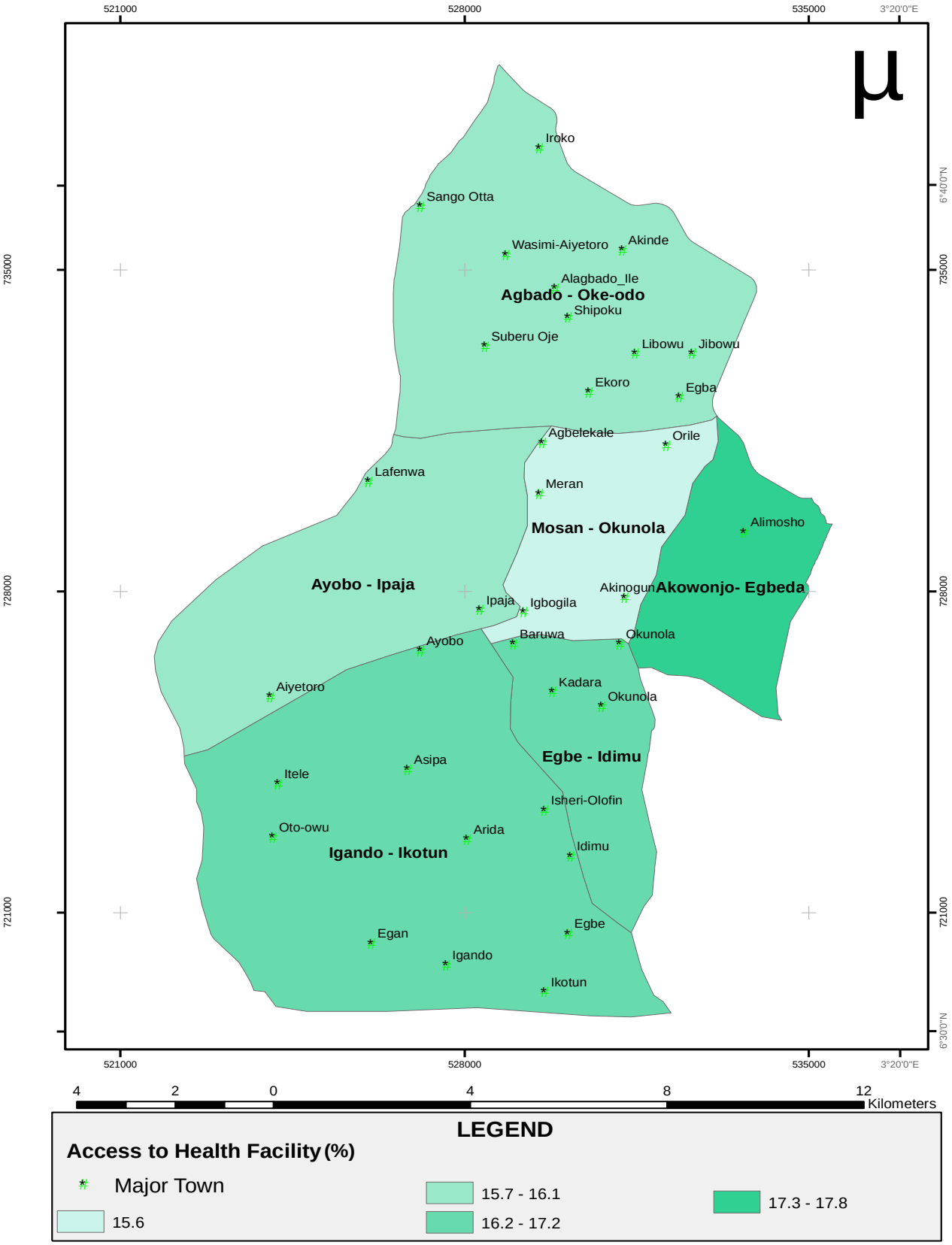

Fig 4.10.3.2 Access to the health facility

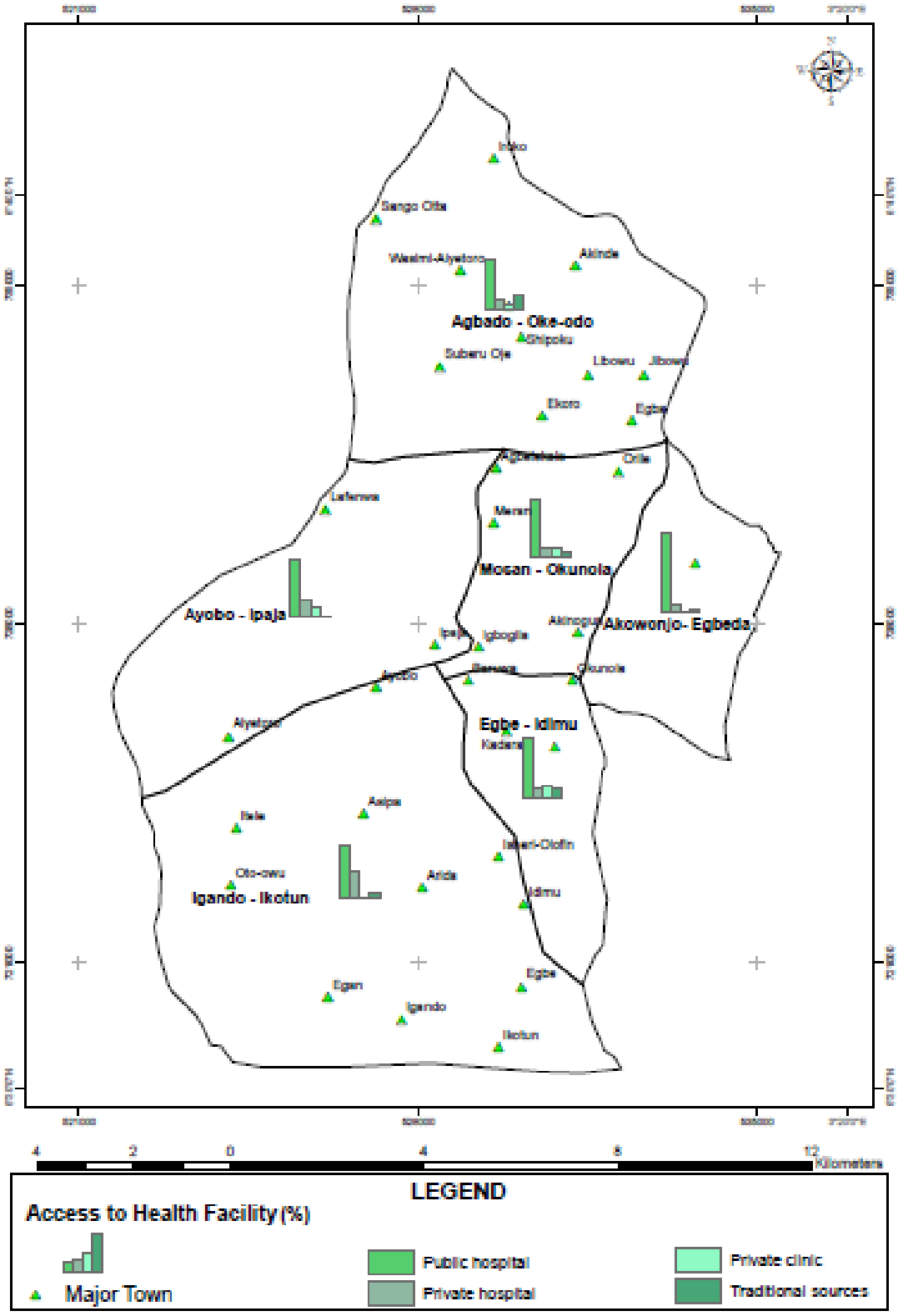

Chart 4.10.3.2 Access to the health facility

4.10.3.3 How often used the health facility

69% of the sampled household respondents use the health facilities on irregular bases, once a month took 12%, 11% took once every two weeks while once a week took had 8%. One could say that the household members do not make use of the health facilities on a regular base, this not because there are no sick people in the study area but due to financial constrain posed a great effect on the household members. Household respondents of Akowonjo-Egbeda, Egbe-Idimu, Igando-Ikotun of a greater percentage of the set of people while Agbado-Oke-Odo, Ayobo-Ipaja, and Mosan-Okunola have 16% each. Fig and chart 4.10.3.3 represent how often the health facilities of the household members.

LCDA	Once a week	Once every two weeks	Once a month	Irregularly	Total	%
Agbado-Oke-Odo	1	4	4	20	29	16
Akowonjo-Egbeda	3	2	6	20	31	17
Ayobo-Ipaja	2	2	5	20	29	16
Egbe-Idimu	2	2	4	23	31	17
Igando-Ikotun	4	6	1	20	31	17
Mosan-Okunola	3	3	2	20	28	16

Table 4.10.3.3 How often used the health facility

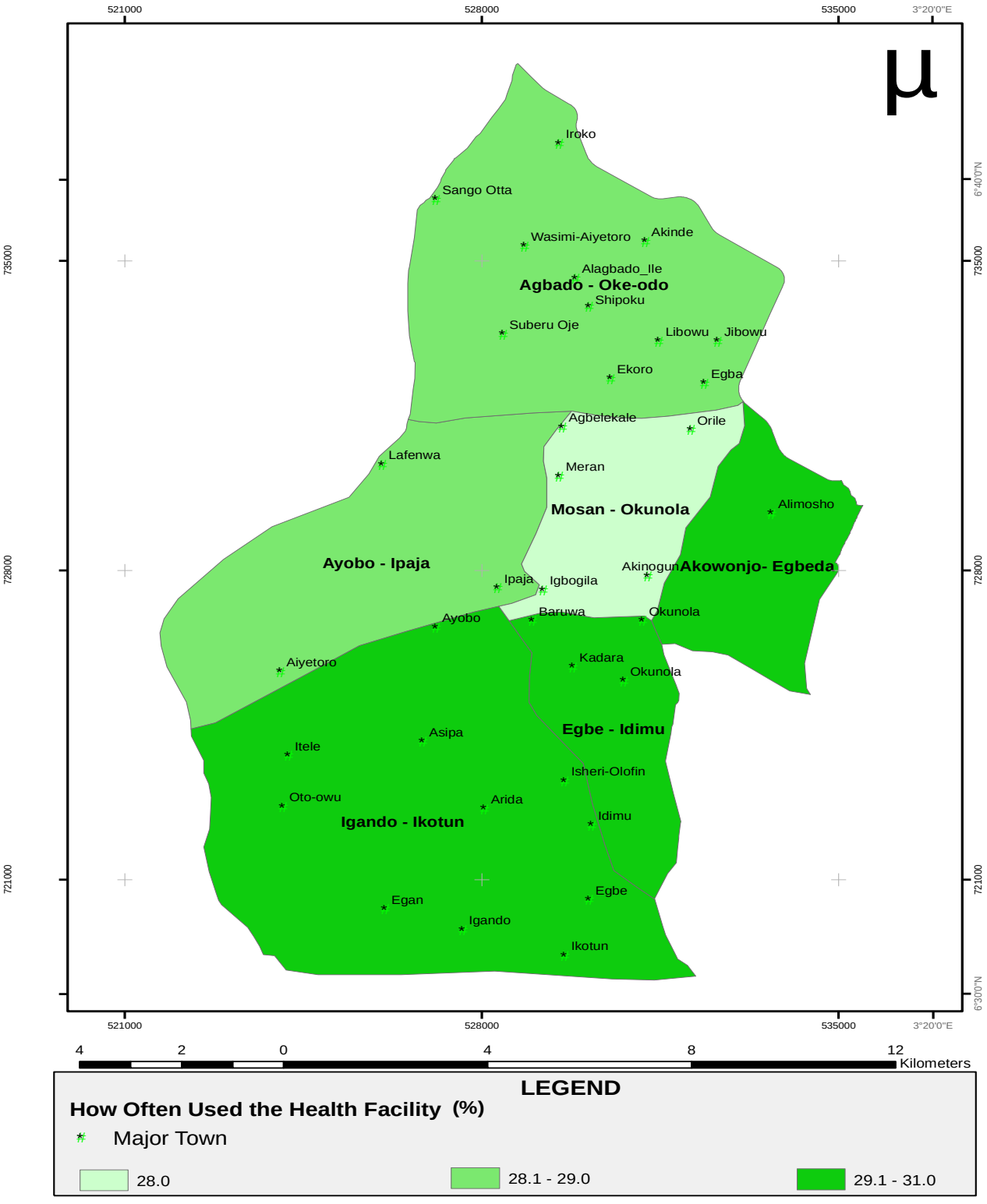

Fig 4.10.3.3 How often used the health facility

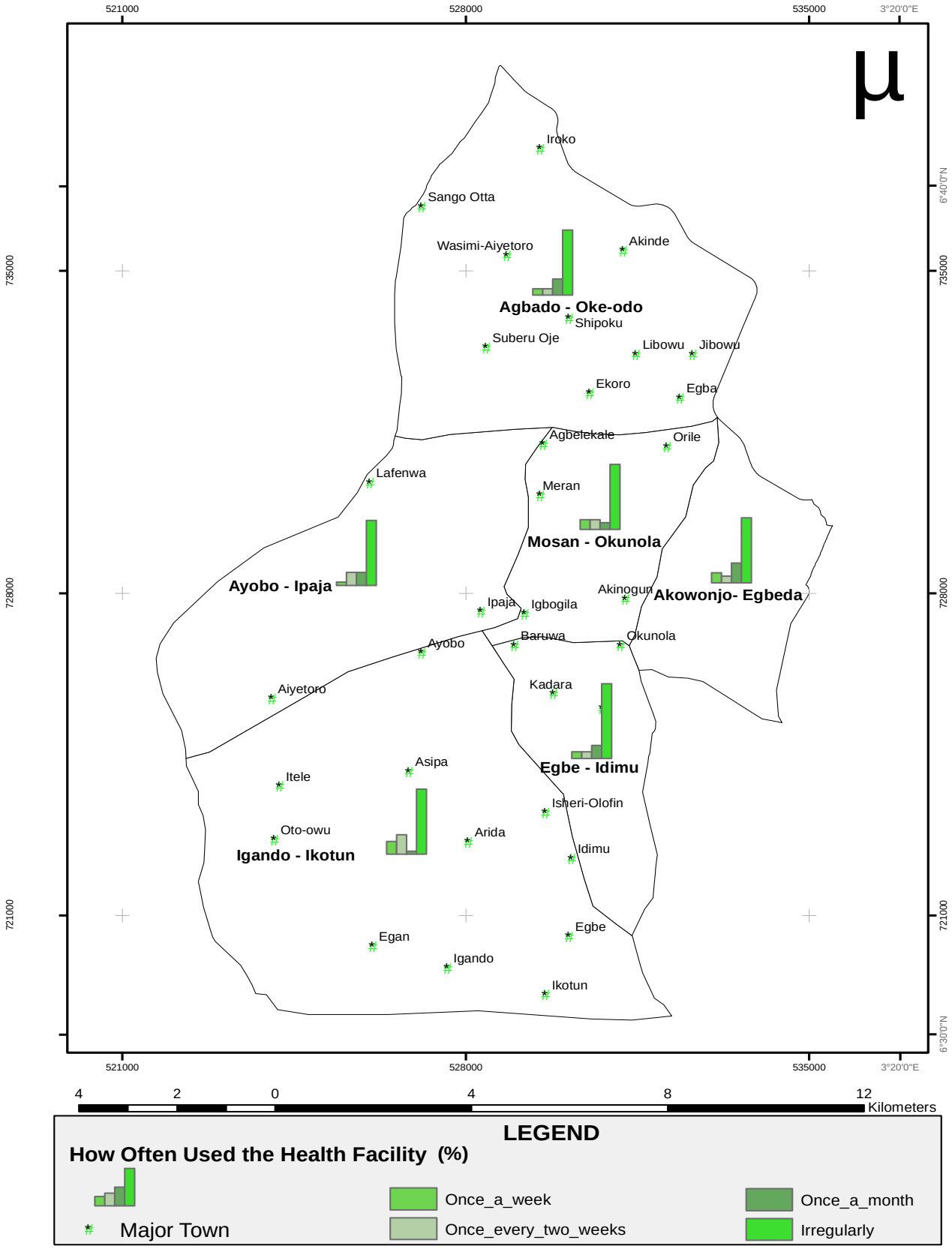

Chart 4.10.3.3 How often used the health

4.10.3.4 Distance to the nearest health facility

45% of the household members walked 30 minutes-1hour before getting to the nearest health facilities, 44% walked less than 30 minutes, 16% of the sampled survey walked between 2-4 hours to health facilities, above 4 hours accounted for 3% while 2% of the household respondents don't know the time taken to health facility close to them. Akowonjo-Egbeda, Egbe-Idimu, and Igabdo-Ikotun have 17% each, while Agbado-Oke-Odo, Ayobo-Ipaja, and Mosan-Okunola have 16% each. Fig and chart 4.10.3.4 represent the distance to the nearest health facility of the household members.

LCDA	Less than 30minutes	30minutes-1hour	2-4 hours	Greater han-4hours	Don't-know	Total	%
Agbado-Oke-Odo	12	10	5	1	0	29	16
Akowonjo-Egbeda	6	18	7	0	0	31	17
Ayobo-Ipaja	14	11	4	0	0	29	16
Egbe-Idimu	10	15	4	2	0	31	17
Igando-Ikotun	11	12	5	2	1	31	17
Mosan-Okunola	7	15	4	0	2	28	16

Table 4.10.3.4 Distance to the nearest health facility

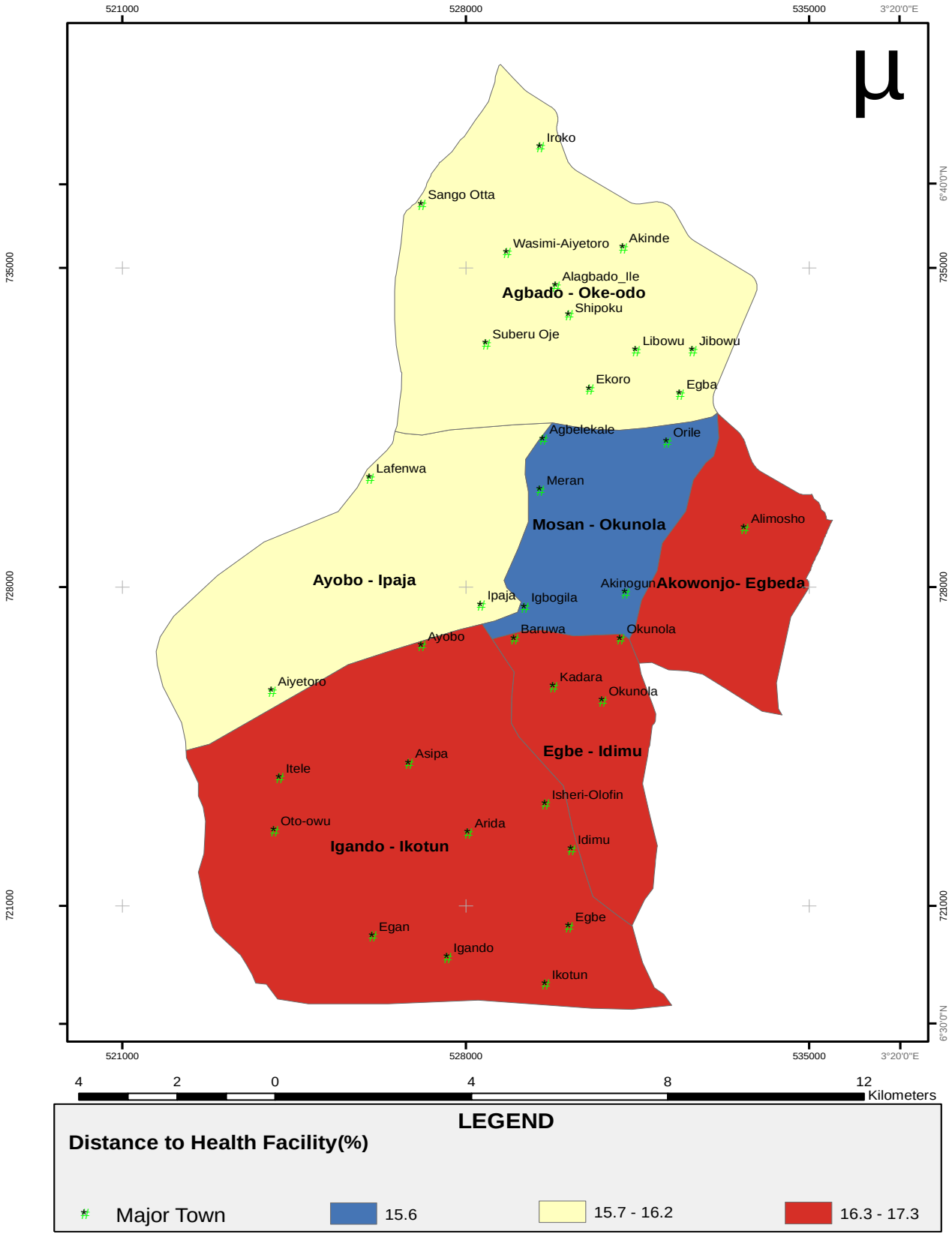

Fig 4.10.3.4 Distance to the nearest health facility

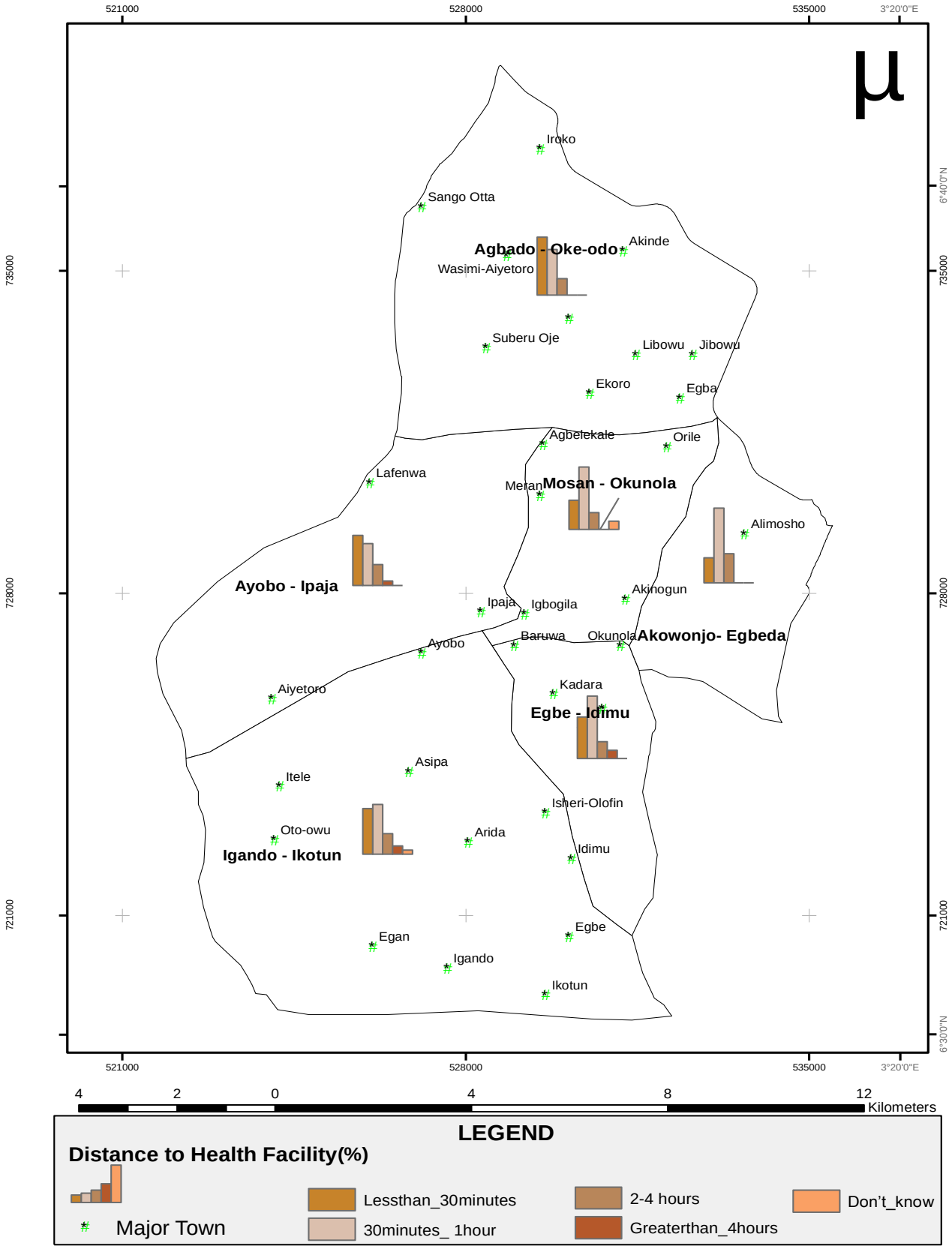

Chart 4.10.3.4 Distance to the nearest health facility

4.10.4 General condition of the household head

Table 4.10.4 reveals the general condition of household heads, 47% of the household heads reveal fairly good condition, 41% of the household has the good condition; the poor condition has 1% while 0.5% has the perfect condition. The results show fairness in the standard of living of the household head respondents.

Akowonjo-Egbeda took the overall percentage of 18% while Agbado-Oke-Odo, Ayobo-Ipaja, Mosan-Okunola took the least percentage of 16% each. Fig and chart 4.10.3.4 represent the general condition of the household heads.

LCDA	Perfect condition	Good condition	Fairly good condition	Poor condition	Total	%
Agbado-Oke-Odo	1	15	10	3	29	16
Akowonjo-Egbeda	3	13	14	2	32	18
Ayobo-Ipaja	2	8	17	2	29	16
Egbe-Idimu	3	13	13	2	31	17
Igando-Ikotun	1	19	10	1	31	17
Mosan-Okunola	1	16	9	2	28	16

Table 4.10.4 General condition of the household heads

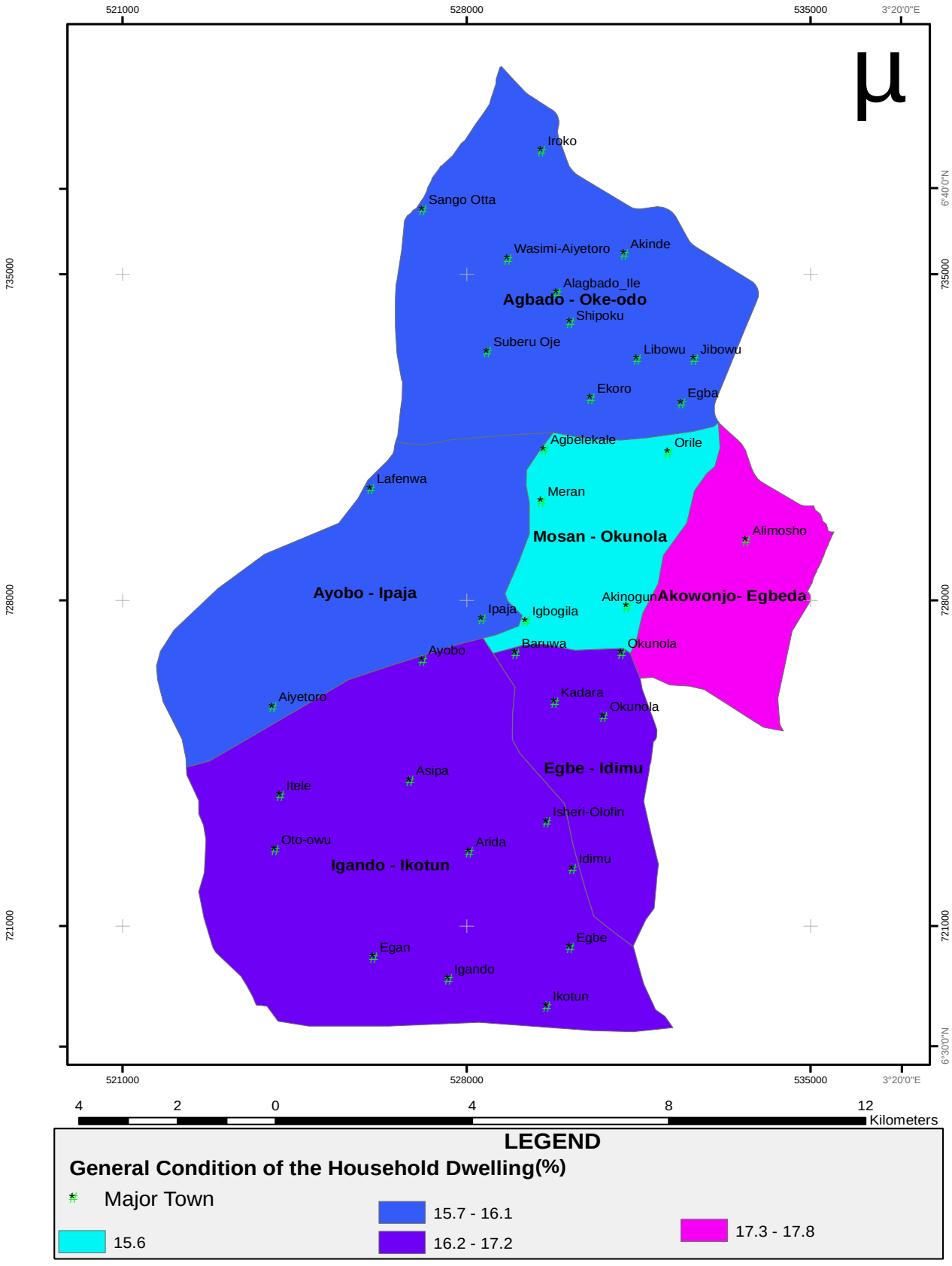

Fig 4.10.4 General condition of the household heads

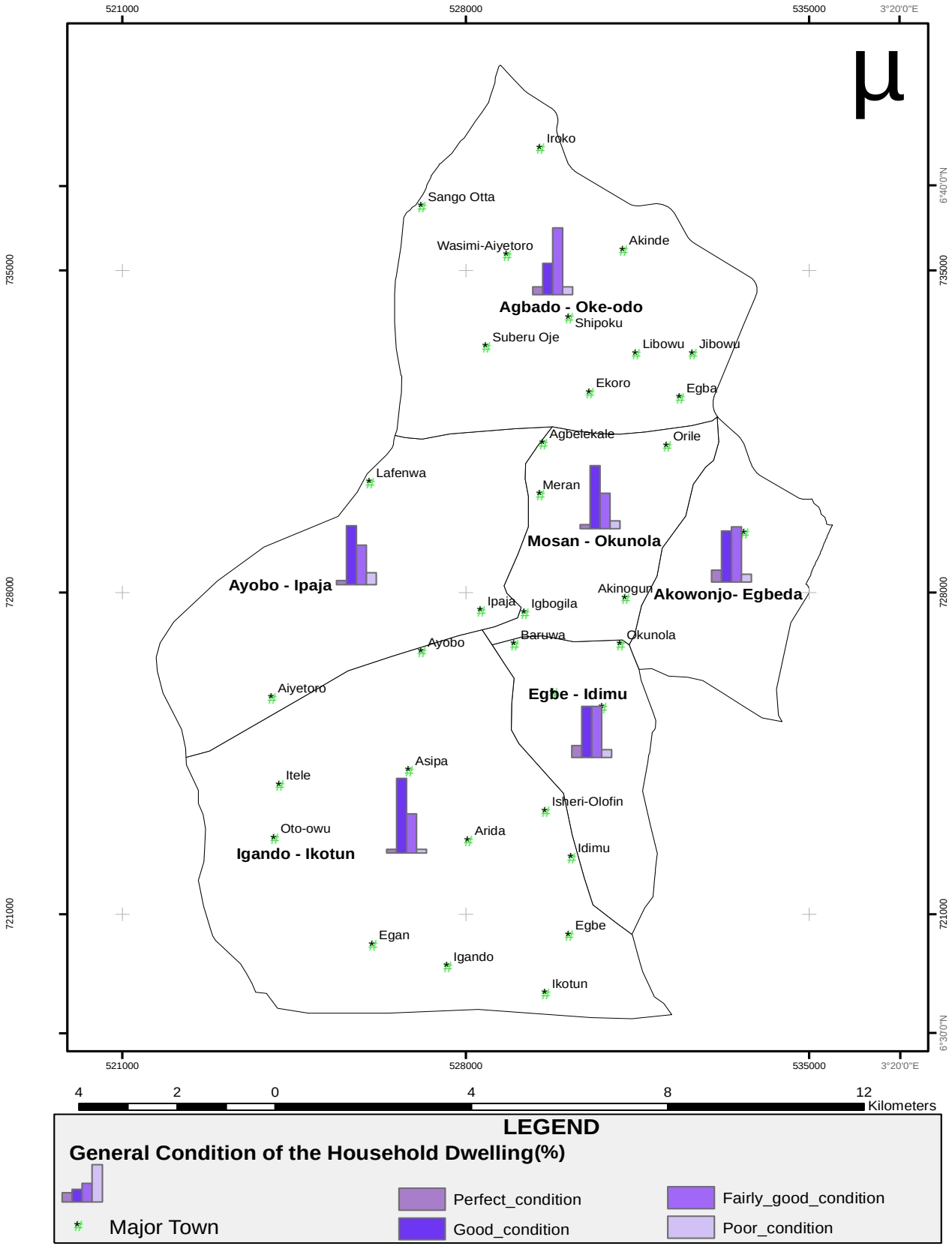

Chart 4.10.4 General condition of the household heads

LCDA	Bread_tea	Pap_bean_cake	Rice	Garri	Total	%
Agbado-Oke-Odo	7	8	8	2	25	15
Akowonjo-Egbeda	9	7	10	3	29	17
Ayobo-Ipaja	6	11	7	4	28	17
Egbe-Idimu	3	13	10	3	29	17
Igando-Ikotun	8	10	10	2	30	18
Mosan-Okunola	3	9	9	4	25	15

Table 4.10.5 Food combination of the household members

From the table above, 35% of the household members combine pap and bean cake most of the time, rice comprised 33%, 22% of the household members combine bread and tea, while 11% of the household combine garri with their meals. The table also revealed that Igando-Ikotun has the highest number of household respondents that had the combination of food in their meals constituting 18%, Akowonjo, Ayobo-Ipaja, and Egbe-Idimu has17% each. While Agbado-Oke-Odo and Mosan-Okunola have 15% of the household members' food combination. Fig and chart represent the food combination of the household members.

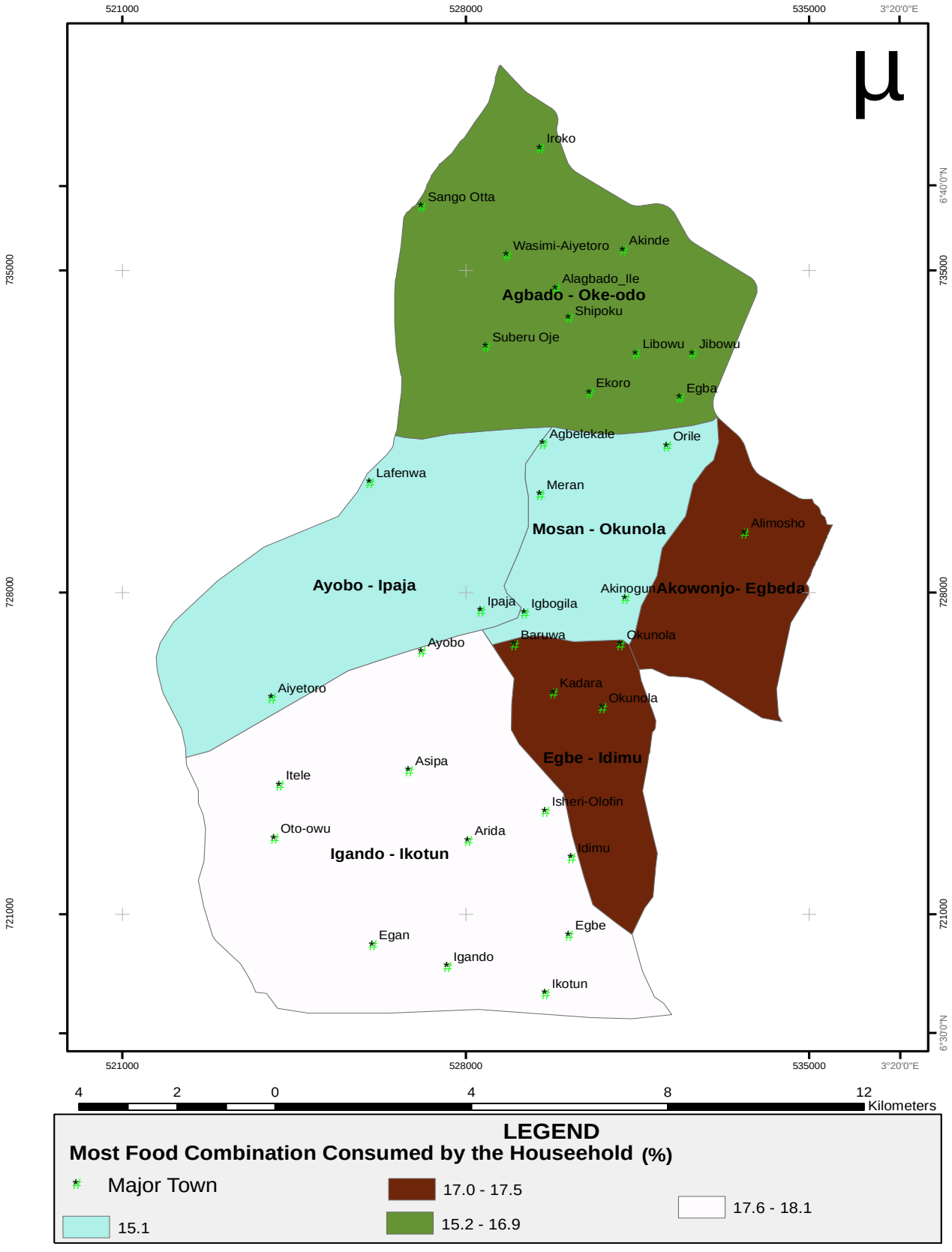

Fig 4.10.5 Food combination of the Household members

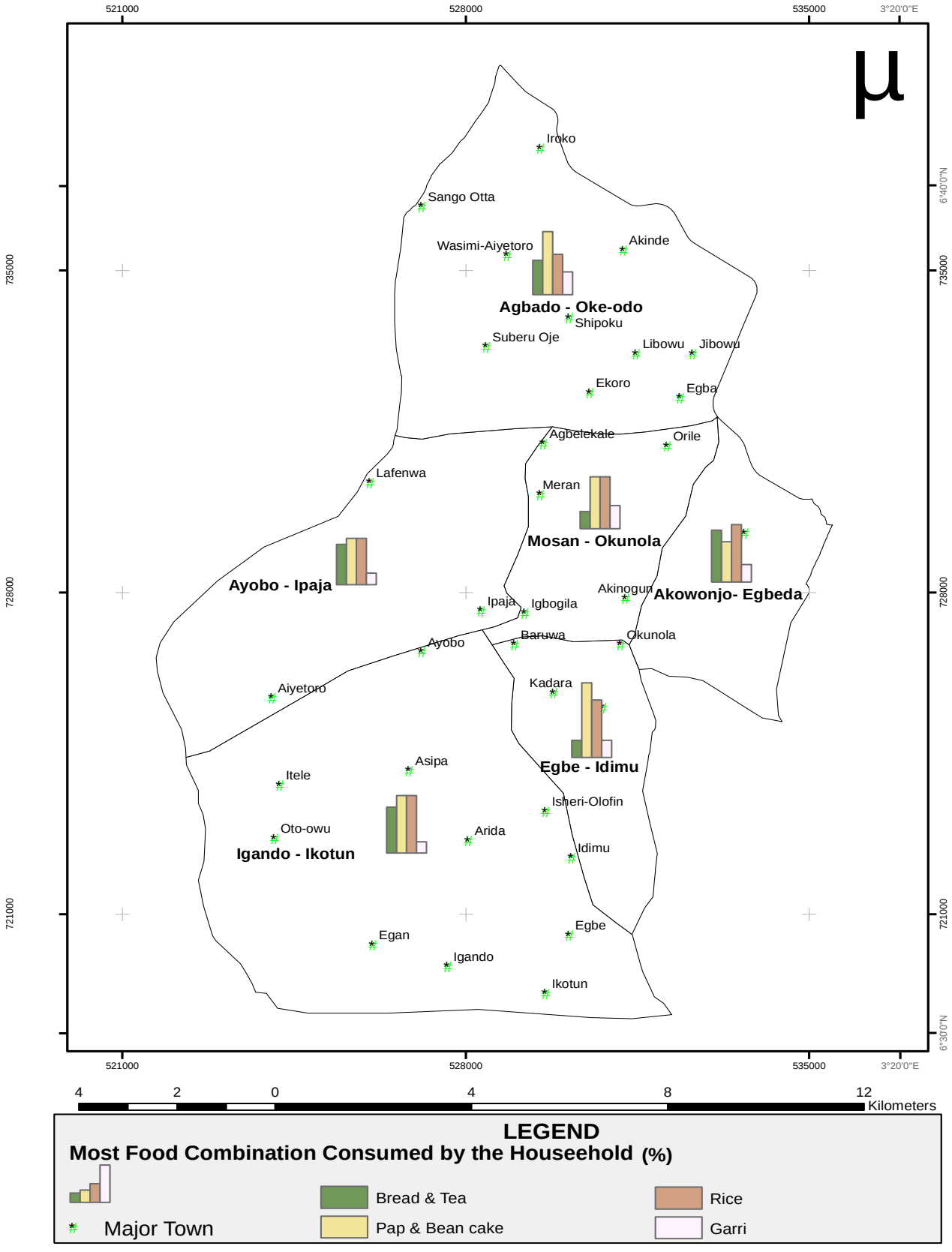

Chart 4.10.5 Food combination of the household members

4.10.6 Meal skipped mostly by the household members

51% of the household survey misses their launch, 36% miss their breakfast, and while13% of the household members go to bed without dinner. 18% of Igando-Ikotun respondents skipped their meals which is the highest of all the LCDAs while Agbado-Oke-Odo, Ayobo-Ipaja, and Mosan-Okunola comprised 16% of the household members that skipped their meals.

Fig and chart 4.10.6 represents the meal skipped mostly by the household members

LCDA	Breakfast	Launch	Dinner	Total	%
Agbado-Oke-Odo	13	10	5	28	16
Akowonjo-Egbeda	14	15	1	30	17
Ayobo-Ipaja	9	17	2	28	16
Egbe-Idimu	5	20	4	30	17
Igando-Ikotun	14	12	5	31	18
Mosan-Okunola	7	15	5	27	16

Table 4.10.6 Meal skipped mostly by the household members

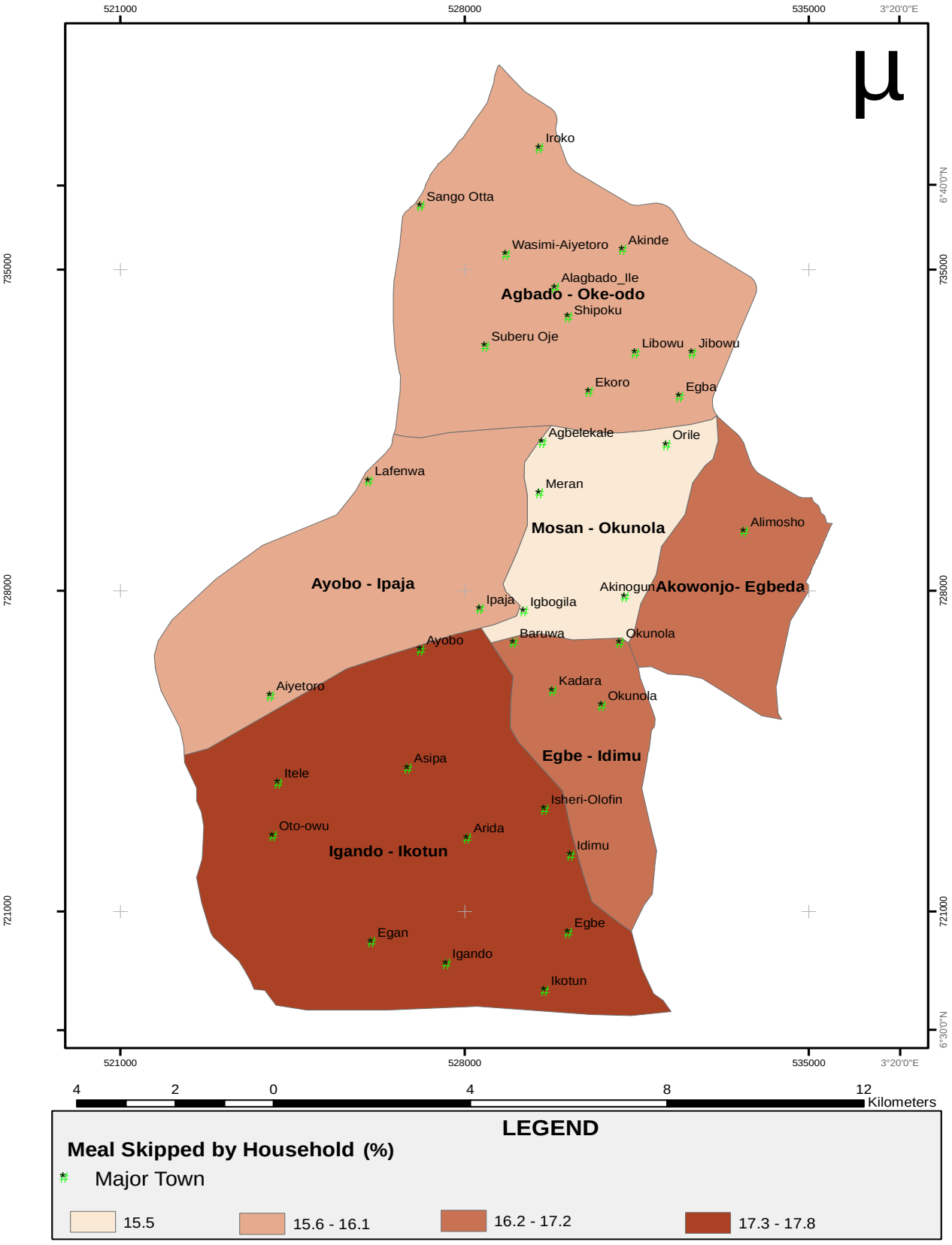

Fig 4.10.6 Meal skipped mostly by the household members

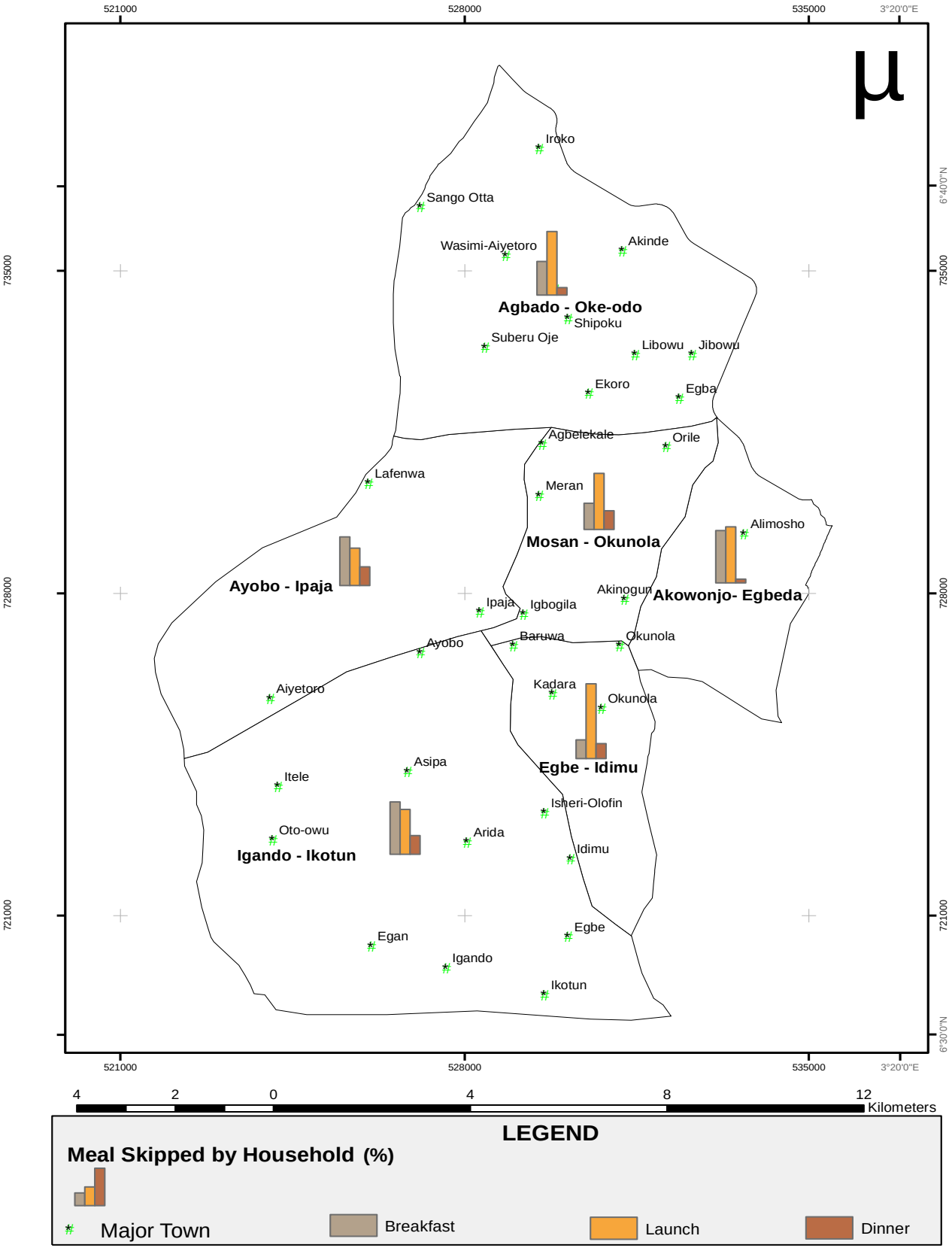

Chart 4.10.6 Meal skipped mostly by the household members

4.10.7 Means of communication

The majority of the household respondents make use of the mobile phone as the major source of communication. 88% of the sampled survey made use of mobile phones, 11% uses fixed phones at home while 0.5% have access to a neighbour's fixed telephone. Fig and chart 4.10.7 represent household heads' means of communication.

LCDA	Fixed telephone at own home	Mobile	Access to neighbor's fixed telephone	Total	%
Agbado-Oke-Odo	3	26	0	29	16
Akowonjo-Egbeda	4	28	0	32	18
Ayobo-Ipaja	4	24	1	29	16
Egbe-Idimu	3	28	0	31	17
Igando-Ikotun	4	27	0	31	17
Mosan-Okunola	2	26	0	28	16

Table 4.10.7 Means of communication

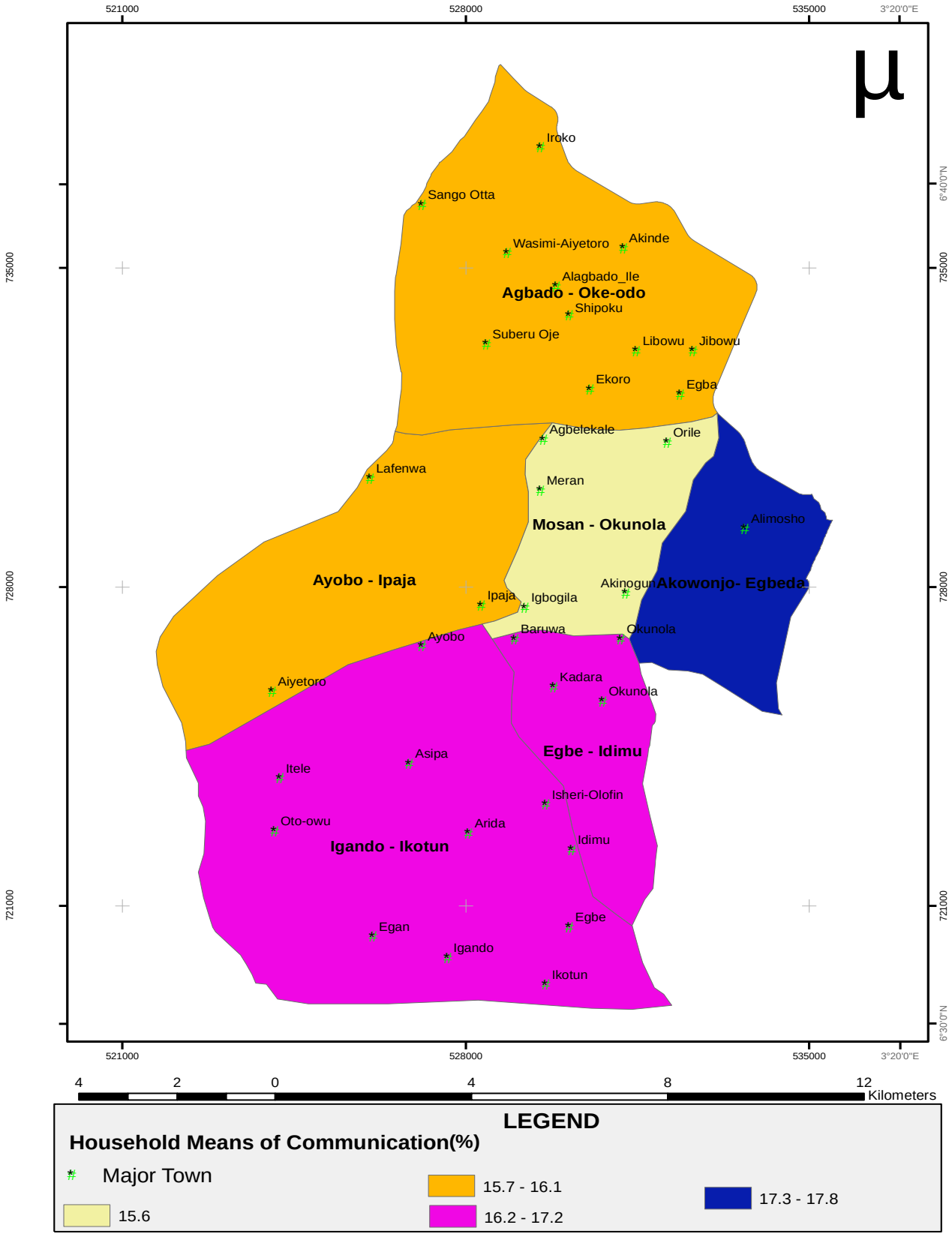

Fig 4.10.7 Means of communication

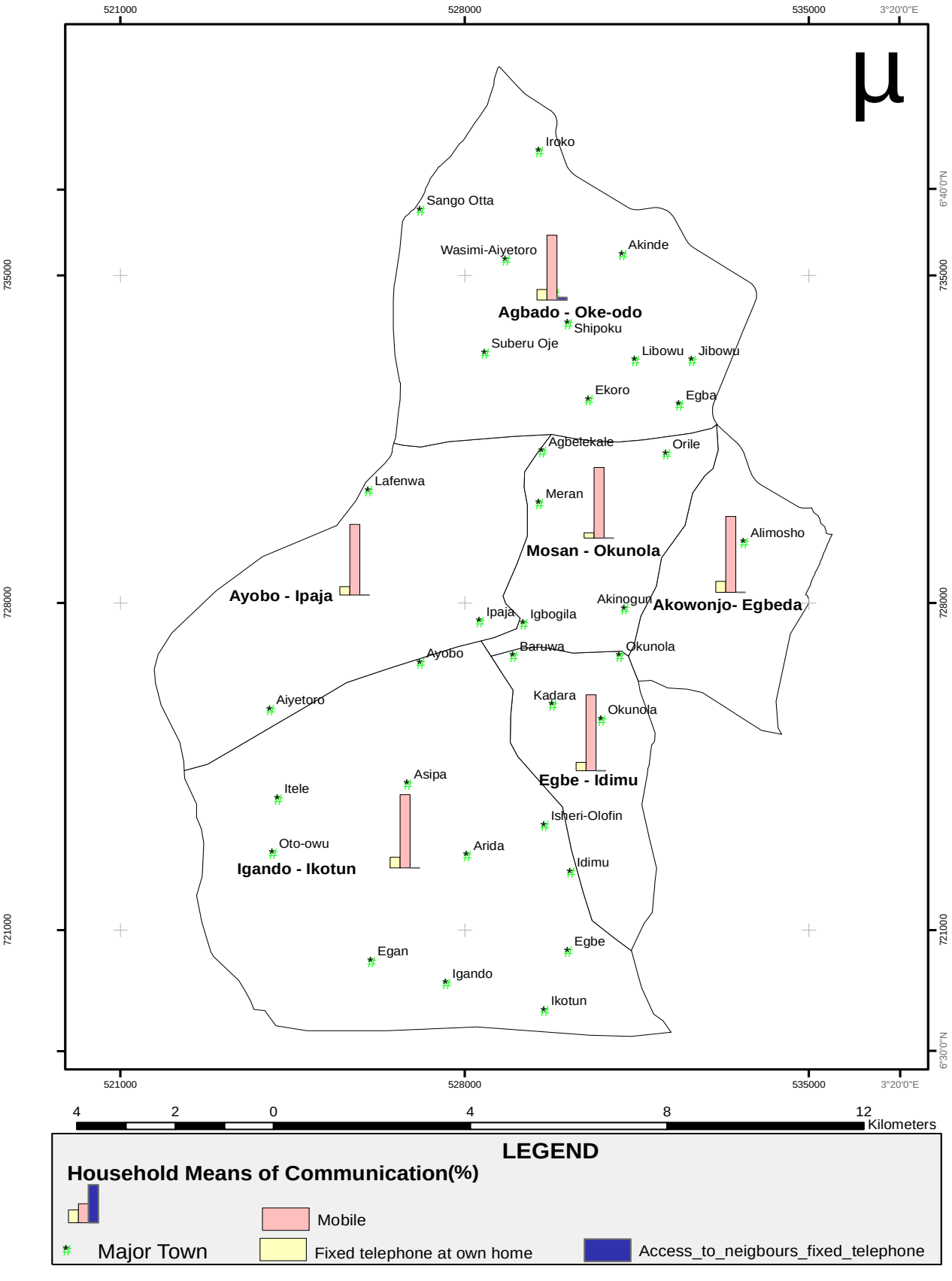

Chart 4.10.7 Means of communication

4.10.8 Means of transportation

LCDA	Motor vehicle	Motor cycle	Bicycle	Trekking	Total	%
Agbado-Oke-Odo	19	2	0	8	29	16
Akowonjo-Egbeda	16	8	0	8	32	18
Ayobo-Ipaja	15	7	0	7	29	16
Egbe-Idimu	19	9	0	3	31	17
Igando-Ikotun	18	7	0	6	31	17
Mosan-Okunola	15	9	1	3	28	16

Table 4.10.8 Means of transportation

The table above-disclosed that 60% of the respondents' main mode of transportation is “Public Bus”. The next common mode of transportation is “motorcycle” with 23% of respondents asserting to this, trekking has 19% while 05 % of the household has a bicycle.

In general, Fig and chart 4.10.8 show the spatial distribution of the household mode of transportation. Akowonjo-Egbeda has 18%, Igando-Ikotun, and Egbe- Idimu has 17% each while Agbado-Oke-Odo, Ayobo-Ipaja, and Mosan-Okunolacomprised of 16% respectively.

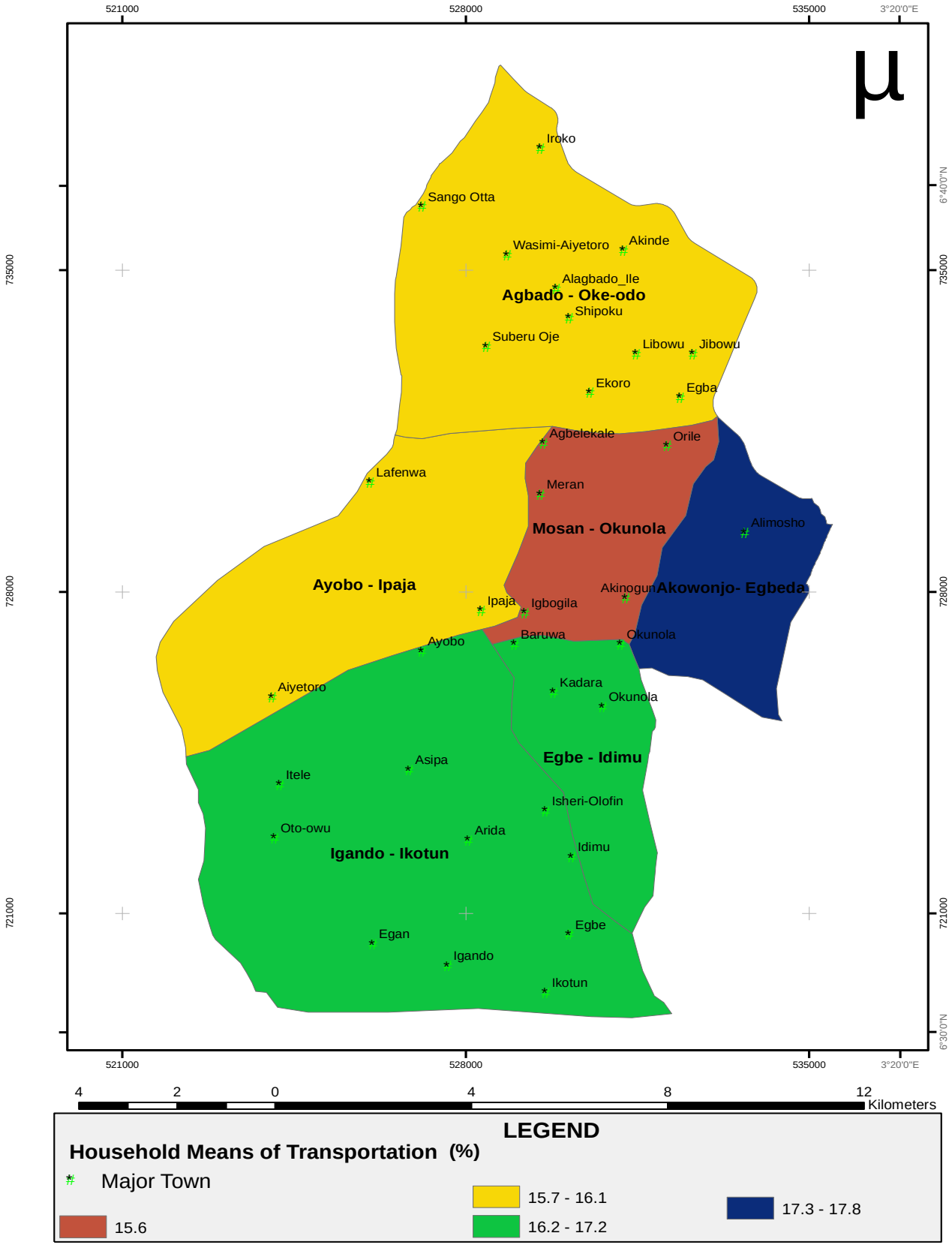

Fig 4.10.8 Means of transportation

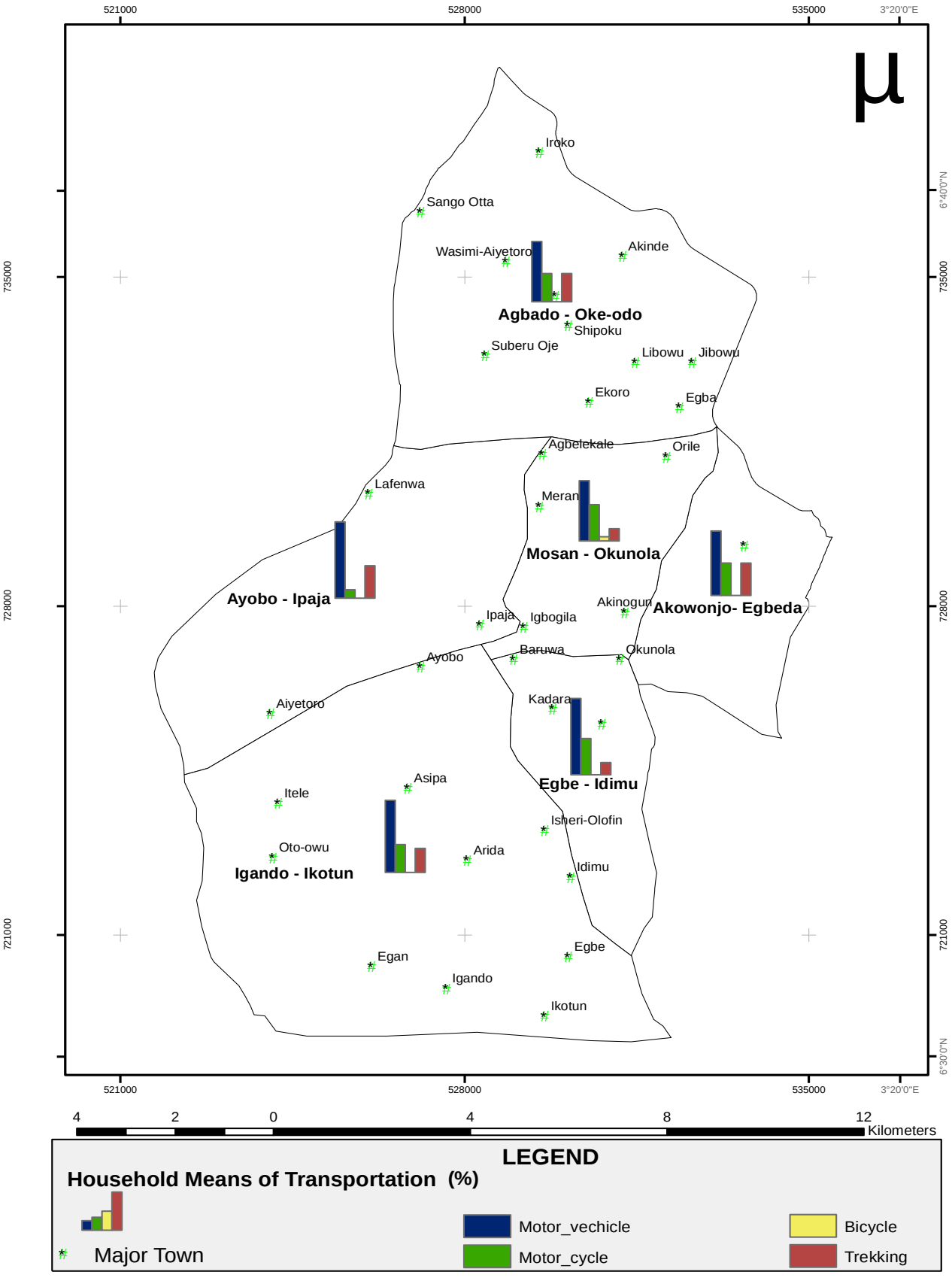

Chart 4.10.8 Means of transportation

4.12 Multivariate regression analysis on the determinants of poverty

After taking a look at each of the variables, a multiple regression analysis was executed combining the ten (22) different variables i.e., meals skipped, the major source of water, when the building was built, residence status of the household heads, main problems, and causes faced as a result of living in the community, how long does it take to get water, means communication, how long to the nearest health facility, reason living community, household size, monthly income, food combination, major health concern, how often use the health facility, years living in the community, health services have access to, water treatment, means transportation, education attainment, the material used in the building, general condition dwelling, story building represent the independent variables against occupation which is the dependent variable.

The multivariate regression analysis Results show that the regression model could explain 60.6% of the variation in poverty incidence in the study area as indicated by the value of R^2 (Table 4.12). Meanwhile, Analysis of Variance (ANOVA) shows the goodness of fit of the model, and in this case, it is statistically significant at 0.05 (Table 4.12.1). In other words, the regression model can explain the determinants of poverty. On the other hand, bivariate correlations show that none of the variables have a correlation coefficient greater than 1.0 (Appendix 2). This means that collinearity among the independent variables there is co-existent.

Accordingly, fourteen (14) out of ten (22) (marked as *) variables are strongly and statistically significant at 0.01 (Table 4.12.2). These include Age Distribution, Gender, monthly income, highest educational attainment, Reason living Community Household Size, Main problems, Major source water, How long to get water, How long to get water, Sufficient water Drinking, Treatment drinking water, Treatment drinking water, Major Health concern, Health services Access, Food Communication, Meals Skipped. As such, there is a

very strong significant relationship that exists between poverty incidence and these factors; they are the best predictors for the level of poverty within the study area. In the same way, four (4) other variables are less strong determinants but still statistically significant at 0.05 (marked as **).

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.778[a]	.606	.489	.89580

Table 4.12: Multiple regression model summary

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	112.270	27	4.158	5.182	.000[a]
	Residual	73.024	91	.802		
	Total	185.294	118			

Table 4.12.1 Anova table of multiple regression

Coefficients				
Model		**Unstandardized Coefficients**		**Standardized Coefficients**
		B	**Std. Error**	**Beta**
1	Age Distribution	-.455	.178	-.235*
	Gender	.005	.245	.001*
	Ethnic group	-.020	.140	-.010**
	Marital status	-.393	.156	-.212**
	Monthly income	.572	.130	.433*
	Highest education Attainment	.094	.110	.085*
	Household Size	-.006	.117	-.004*
	Building Built	.008	.133	.005**
	Material Used	-.109	.204	-.047**
	Story Building	-.464	.235	-.171**
	Reason living Community	.373	.084	.392*
	Residential status	-.210	.164	-.098**
	Main problems	-.233	.080	-.221*
	Years Living Community	.439	.130	.293**
	Major source water	-.080	.075	-.089*
	How long to get water	.064	.053	.095*
	Sufficient water Drinking	.005	.141	.003*

	Treatment drinking water	-.140	.064	-.181*
	Toilet Facility Use	-.246	.130	-.163**
	Water for bathing	.122	.231	.050**
	Major Health concern	-.082	.119	-.051*
	Health services Access	-.278	.119	-.209*
	General Condition Dwelling	-.223	.149	-.130*
	Food Communication	-.059	.107	-.045*
	Meals Skipped	.046	.049	.068*
	Means Communication Access	-.108	.274	-.032**
	Means Transportation	-.031	.098	-.027**

Table 4.12.2 Multiple regression coefficients

*****Significant at 0.01

** Significant at 0.05

As mentioned above, the results of the multiple regression analysis revealed that education attainment is the strongest influential determinant to poverty as reflected by its high standardized coefficient of -0.94. This finding implies that low education attainment posts a high incidence of poverty. A low level of education significantly affects the state of poverty in all the LCDAs. Education is a determinant factor for development. Lack of equality education will not spur economic investment that will generate employment and income for the household heads within the study area. It interrupts the mobility of people,

goods, and services. It also derails people's access to opportunities such as work, income, housing, and even health services. Good education quality lowers the poverty rate.

Therefore, one can say that education of household heads status had a significant impact on the per capita income of household basic needs in the study area. This can be interpreted as the higher the income available to the household; the better is the disposable income and purchasing power of such a household. Hence, the households are at a better advantage position to be able to spend more of their income on basic needs.

In the case of educational status, there are two implications of the result. Firstly, the higher the level or number of years of schooling, the better-exposed one is and also more enlightened. Hence, one is adequately informed to devote a sizeable amount of the household income to the basic needs to maintain a particular level of standard of living suitable to his level of educational standard. Secondly, income and educational status tend to move together in the same direction. Therefore, with improvement in the level of education, one is better placed in terms of income generation and therefore enhanced the purchasing power of the person and thereby improving his standard of living and poverty level.

The household size is however negatively related to the result presented above. This means that the higher the number of households the less or smaller the level of per capita expenditure especially when only a few of them are working. Although the household size is not significant in the area under study area, this could be because the majority of the members of the household, apart from the students, perform one economic activity or other to generate income.

The age and sex of household heads though negatively related but are insignificant at 1% and therefore insignificant in the determination of the household per capita expenditure. They do not significantly influence the level of poverty in the area under study. The relatively low R2

may be due to the non-inclusion of certain variables, which range from quantitative to qualitative ones.

Finally, values with negative signs mean that they have are no strong significant effects on poverty incidence while the positive values have strong statistical effects on poverty incidence.

Chapter Five

5.0 Summary, conclusions, and recommendations

5.1 Summary

From the map and chart, one can easily pinpoint the peak poverty incidence at each LCDA without the table which can be easily communicated by the novice and makes GIS better than other sources of poverty studies. This study had shown the application of GIS to urban poverty analysis. Poverty indicators in the study area were identified to LCDAs level using the household survey conducted by Lagos State Ministry of Economic Planning and Budget 2011. Different thematic maps of the indicators were produced to show the spatial distribution of poverty in the study area. The results reveal the demographic characteristics of the inhabitants of the LCDAs in Alimosho LGA, their age structure, the highest level of educational attainment, main activity, and mode of transportation, employment, household size, occupation, average monthly income, expenditure, and gender.

It showed that an average household size of 8 members was recorded across the LCDAs. However, since the headship of a household is determined by functional responsibilities as regards provision of accommodation, feeding, and other sources of livelihood to the other members of the household, there is a noticeable variation in the gender composition of heads of household in the study area. The gender distribution of households' heads revealed that 74.5 % of the household heads were males while 25.5% of them were females. An average of 69.1% of the respondents i.e. three (3) out of every five (5) household heads were aged between 41-55years, 29.7% (3 out of 10 household heads) of them were aged 56-70 years, 12% were aged, 4% were aged between 16-25 while about 0.5% of them constituted household heads that were above 70year. Also, this study revealed that 66% of the household heads were engaged in trading/business while 3% were unemployed with males accounting for a higher percentage majority which is pensioners. It is interesting to note that 15% of the

household heads were civil servants, 7% were artisan, and students 4%, professionals has 2%, Farmers and fishermen constituted 0.5%.

This study addressed the educational background of household members to determine the educational level attained the quality of inhabitants as well as completion rate across the LGA. The survey result shows that Primary school has 3%, secondary school has 48%, Post-secondary /technical accounted for 19%, HND/BSC holders acquired 21%, and postgraduate obtained 8% while other which is Arabic studies acquired 0.6% of the household heads.

The monthly income of respondents from all possible sources in the past one month was also examined the result indicated that the average monthly expenditure of the majority of the households is put at 73% (i.e those households that spend above N3, 000) while 6%, 11% and 10% of households spend between N500-N1000, N1001-N2, 000 and N2, 001-N3, 000 respectively. What the above means is that 27% of the household heads spend less than N3, 000 per month which is about N100 per day which is less than a dollar per day.

The study also showed that the majority of the respondents (73%) expended more than N3, 000.00 on average monthly. The Survey also revealed that the average monthly income of the majority of the respondents (38%) was less than N20, 000.00 while 37% made between N21, 000.00 and N40, 000.00 monthly on average. This indicated that 75% of the entire respondent households earned less than N40, 000.00 monthly on average. Only 2% of the respondents earned above N100, 000.00 monthly on average.

5.2 Conclusions

Geographical Information Systems (GIS) are considered a very powerful tool for developing poverty maps displaying different dimensions of poverty and spatial variations of its levels. The developed poverty maps can be used in the decision-making process to guide the government intervention and to target these intervention schemes towards those areas

suffering from high levels of poverty. This can finally contribute to poverty alleviation at local levels. By using GIS, the spatial patterns of poverty, measured in terms of incidence, reveal spatially heterogeneous characteristics. Poorest areas, on the one hand, are spatially concentrated.

From the analysis, the thematic maps indicate that there was considerable inequality in the distribution of wealth among the households in the urban area studied, that is, a little above average population controlled a large proportion of the wealth of all households. For the residents of Alimosho LGA to be able to cope with poverty, the poor among them dependent mostly on re-adjusting their expenditure patterns and savings, feeding, clothing, and education of children. The majority of the households either fail to save at all or save less than 10% of their income. The inequality in income or wealth distribution and the existence of different poverty levels can be accounted for by unequal opportunities to get the same level of education, the type of occupation of the household head, and partly due to the difference in the number of household size and the number of people working in the household; the totality of which resulted in the difference in the level of poverty among the households.

5.3 Recommendations

Referring to the results above, the following recommendations were made:

- From the analysis of findings, it is obvious that poverty exists in the Alimosho area of Lagos State, Nigeria, where the study was carried out and it is also found that education, household size, occupation, employment, shelter, income, and social infrastructural facilities such as health facilities, roads electricity, good schools, accommodation, water can be linked to the occurrence of poverty in the area.

Therefore, any attempt to improving these factors will be a step in the right direction in alleviating poverty in the region and Nigeria as a whole.

- Poverty maps are becoming important tools for developing effective policies aimed at reducing disparities within a country, and in designing intervention schemes to reach the neediest groups. Therefore, National Statistics Offices as custodians of socio-economic data should strengthen their capabilities in GIS to facilitate poverty mapping and poverty analysis.
- The GIS technology has many critical uses in statistical applications, the integration of data from various sources and their visualization in causal relationships, an opportunity provided by GIS, enhances analysis and understanding of complex data and phenomena. Decision-making is then made easier and more accurate. GIS could be used to integrate the statistical data with their spatial which gives a balance in analysis.
- The Government Poverty Alleviation Programme should be restructured to include spatial poverty mapping to show the locations where poverty is at its peak. This will enhance the design that is centered on the 'basic needs' approach. This approach emphasizes the importance of separating generalized increase in income from the more significant attainment of the requirements for a permanent reduction of poverty through the provision of health services, education, housing sanitation, water supply, and adequate nutrition.

Appendix 1

SELINUS UNIVERSITY OF SCIENCE AND LITERATURE

FACULTY OF ENGINEERING AND TECHNOLOGY

MAJOR IN GEOTECHNICAL ENGINEERING

QUESTIONNAIRE ON URBAN POVERTY ANALYSIS IN ALIMOSHO LOCAL GOVERNMENT AREA, LAGOS STATE, NIGERIA

INTRODUCTION

My name is **OLADOKUN, Damilola O.** A Ph.D. student in the Faculty of Engineering and Technology, Selinus University of Science and Literature, I am currently carrying out my final research work on **URBAN POVERTY ANALYSIS** (A Case Study of Alimosho Local Govt. Area, Lagos State, Nigeria). The information required in this questionnaire is strictly an academic excise; all answers will be treated confidentially.

Household Code Number……..

Name of Investigator: ……

LCDA ……

Street Name……

Date: …….

Section I: Household Information

1. What is your name?……..
2. How old are you? ☐ Male…….. ☐ Female
3. Age Distribution of Household Head: ☐ 16-25 ☐ 26-40 ☐ 41-55 ☐ 56-70 ☐ Above 70years
4. Gender of Household Head: ☐ Male ☐ Female
5. Ethnic Group of Household Head: ☐ Hausa ☐ Yoruba ☐ Igbo ☐ Others……..... ☐ ☐ ☐
6. Marital Status of Household Head: Single Married Separated/Divorced ☐ Widow/Widower ☐ Never married ☐ ☐ ☐
7. Occupation of Household Head: Artisan Farmer Fishing ☐ Trading ☐ Business ☐ ☐ ☐ ☐ Civil Servant Professional Student Unemployed Other…… ☐ ☐ ☐
8. Monthly Income of Household Head: < ₦10,000 ₦10,001- ₦25,000 ₦50,001 - ₦100,000 ☐ ₦100,001- ₦250,000 ☐ ₦250,001 - ₦500,0000 ☐ > ₦500,000
9. Highest educational Attainment of Household Head: ☐ Primary ☐ Secondary ☐ Post-Secondary/Technical ☐ HND/BSc. ☐ Postgraduate ☐ Other…… ☐ ☐

10. Total Number in Household: Children Men ☐ Women ☐ Disabled ☐

    Other (Specify)…….

SECTION II: Housing

11. When was this building built? ☐ < 5 years ☐ 5-10years ☐ 11-20 years ☐ 21-40 ☐

    years > 40 years ☐

12. What was the material of the building used? ☐ Wood ☐ Concrete ☐ Zinc ☐

    Mud

    ☐ Others (Specify) …….

13. How many-story building is this house? Bungalow ☐ One Stor ☐ Mud ☐

    Others (Specify)……

14. Why do you live in this community?

    Explain……

    ……

    ……

    ……..

15. What is the residence status of the Household Head? Landlord-Tenant Squatting

    Other (Specify)……..

16. What are the main problems and causes, you are facing as a result of living in this community? Specify in order of importance

    1……

    2……..

3……

4……

5……

17. How long have been living in this community? ☐ < 2 years ☐ 2-5 years ☐ 11-20 years ☐ > 20 years

SECTION III: ACCESS TO WATER

18. What is the major success of drinking water for your household: ☐ Pipe Born Water ☐ Public Tap ☐ Protected Dug Well ☐ Unprotected Dug Well Cart Pusher

19. other (Please specify)…… ☐ …... ☐ ☐

20. How does it take you to get water? <30 minute 30 minutes - 1hr 2hrs – ☐ 4hrs > 4hrs

21. Does your household have sufficient drinking water every day? ☐ Yes ☐ No ☐ Don't know

22. How do you treat drinking water in your household? ☐ Boiling ☐ Chlorination/beach ☐ Strain through a cloth ☐ Filtration ☐ Covered storage ☐ Solar disinfection

Others (Please, specify)…….

☐

SECTION IV: HEALTH

23. What toilet facility does your household use? ☐ Water closet ☐ ☐ Pit latrine Open area Toilet shared toilet with other household Toilet shared with public/community other (Please, specify)…….

24. Is there sufficient water for all household members to bath daily, and handwashing?

☐ Yes ☐ No ☐ Don't Know

25. ☐at are the major health concerns ☐ the household' ☐ Communicable diseases ☐ ☐

- Non-communicable diseases Malnutrition other (Please, specify)……..

26. What health services does your household have access to? Public hospital Private

hospital ☐ Private Clinic ☐ Traditional sources ☐ Other (Please, Specify)…… ☐ ☐ ☐

27. How often do you use the sources? Once a week Once every two weeks Once

a month ☐ Irregularly ☐ Other (Specify)……

28. How long does it take to get to the nearest health facility? ☐ < 30min ☐ 30min – 1hr

☐ 1-2hrs ☐ 2-4hrs ☐ > 4hrs ☐ Don't know

SECTION V: SHELTER/ NUTRITION AND DIETARY PATTERN

29. What is the general condition of your household dwelling? ☐ Perfect condition ☐ Good ☐ ☐

Condition Fairly good condition Poor condition

30. Which of these food types/ combinations is **MOSTLY** included in the food consumed by your family during meal times? ☐ Bread & Tea ☐ Pap & Bean cake ☐ Rice ☐ Garri

31. Which of these meals does your household skip most often? ☐ Breakfast ☐ Launch ☐ Dinner

SECTION VI: EDUCATION

32. What is the highest level of education of members of your household? ☐ Primary ☐ Secondary ☐ Technical/Diploma ☐ Trade Certificate ☐ Tertiary ☐ None

33. Are there school-age children in this household? ☐ Yes ☐ No

34. How far are the children from school from hor ☐ < 3 ☐ in ☐ 30min – ☐ 1hr-2hrs ☐ 2hrs-4hrs ☐ > 4hrs

SECTION VII: COMMUNICATION/TRANSPORTATION

35. What means of communication do you have access to? ☐ Fixed telephone in own home ☐ Mobile ☐ Access to neighour's fixed telephone ☐ other (specify)……..

What is the household's major means of transportation? ☐ Motor vehicle ☐ Motorcycle ☐ Bicycle ☐ Trekking ☐ Other (specify)…….

Appendix 2

Correlations

			Age_Distribution_HH_Hea	Gender_HH_Head	Monthlyincome_HH_Head	Highesteducation_Attainment_HH_Head	HH_Size	Reasonliving_Community	Mainproblems_Causes	Majorsources_water	Howlong_Getwater	Sufficientwater_Drinking	Treatment_Drinking_HH	Major_Healthconcern	ToiletFacility_HH_Use	Healthservices_HH_Access	General_Condition_HH_Dwelling	Food_Communication	Meals_HH_Skipped	Means_Communication_Access	HH_Means_Transportation
Spearman's rho	Age_Distribution_HH_Hea	Correlation	1.000	-.096	.085	-.039	.267**	-.236**	-.139	.075	-.052	-.126	.023	-.027	-.068	-.124	.124	.250**	.144	.052	.012
		Sig. (2-tailed)	.	.204	.266	.616	.001	.002	.066	.317	.489	.093	.765	.732	.365	.098	.100	.001	.059	.491	.872
		N	178	178	173	171	148	174	175	178	178	178	177	167	178	178	178	164	172	178	178
	Gender_HH_Head	Correlation	-.096	1.000	-.017	.066	.067	.186*	.009	.018	.002	-.006	-.123	.089	-.026	.237**	.131	.100	-.094	.047	.157*
		Sig. (2-tailed)	.204	.	.818	.392	.416	.013	.901	.809	.976	.935	.101	.250	.724	.001	.080	.200	.215	.530	.035
		N	178	180	175	173	150	176	177	180	180	180	179	169	180	180	180	166	174	180	180
	Monthlyincome_HH_Head	Correlation	.085	-.017	1.000	.472**	.018	.070	.110	-.357**	-.059	-.174*	-.149	.191*	-.331**	.213**	-.286**	-.006	-.081	-.290**	-.197*
		Sig. (2-tailed)	.266	.818	.	.000	.828	.364	.152	.000	.441	.021	.050	.015	.000	.005	.000	.942	.297	.000	.009
		N	173	175	175	168	147	172	172	175	175	175	174	164	175	175	175	161	170	175	175
	Highesteducation_Attainment_HH_Head	Correlation	-.039	.066	.472**	1.000	-.001	.263**	-.040	-.409**	-.119	-.109	-.197*	.054	-.286**	.292**	-.203**	.003	-.149	-.258**	-.121
		Sig. (2-tailed)	.616	.392	.000	.	.994	.001	.601	.000	.119	.155	.010	.491	.000	.000	.007	.971	.053	.001	.113
		N	171	173	168	173	149	169	170	173	173	173	173	163	173	173	173	159	169	173	173
	HH_Size	Correlation	.267**	.067	.018	-.001	1.000	-.033	.118	.046	.071	-.059	-.083	.038	-.023	.028	-.049	.030	.153	.145	.020
		Sig. (2-tailed)	.001	.416	.828	.994	.	.688	.154	.577	.388	.477	.316	.657	.778	.730	.552	.729	.063	.077	.804
		N	148	150	147	149	150	148	148	150	150	150	150	142	150	150	150	137	148	150	150
	Reasonliving_Community	Correlation	-.236**	.186*	.070	.263**	-.033	1.000	.086	-.177*	-.055	.089	-.208*	.048	-.153*	.288**	-.076	-.083	-.207**	-.168*	-.078
		Sig. (2-tailed)	.002	.013	.364	.001	.688	.	.254	.018	.465	.239	.006	.541	.042	.000	.319	.291	.007	.026	.305
		N	174	176	172	169	148	176	176	176	176	176	175	165	176	176	176	163	171	176	176
	Mainproblems_Causes	Correlation	-.139	.009	.110	-.040	.118	.086	1.000	-.007	.046	.009	-.053	.224**	-.043	.029	-.152*	-.166*	-.097	-.059	-.024
		Sig. (2-tailed)	.066	.901	.152	.601	.154	.254	.	.927	.546	.907	.482	.004	.567	.698	.044	.034	.207	.432	.756
		N	175	177	172	170	148	176	177	177	177	177	176	166	177	177	177	164	171	177	177
	Majorsources_water	Correlation	.075	.018	-.357**	-.409**	.046	-.177*	-.007	1.000	.348**	.072	.107	-.110	.287**	-.364**	.206**	.029	.123	.178*	.238**
		Sig. (2-tailed)	.317	.809	.000	.000	.577	.018	.927	.	.000	.338	.156	.155	.000	.000	.006	.709	.107	.017	.001
		N	178	180	175	173	150	176	177	180	180	180	179	169	180	180	180	166	174	180	180
	Howlong_Getwater	Correlation	-.052	.002	-.059	-.119	.071	-.055	.046	.348**	1.000	.211**	-.093	.050	.040	.011	.042	.052	.033	.059	.308**
		Sig. (2-tailed)	.489	.976	.441	.119	.388	.465	.546	.000	.	.004	.217	.522	.591	.885	.573	.504	.664	.430	.000
		N	178	180	175	173	150	176	177	180	180	180	179	169	180	180	180	166	174	180	180
	Sufficientwater_Drinking	Correlation	-.126	-.006	-.174*	-.109	-.059	.089	.009	.072	.211**	1.000	-.178*	-.080	.015	.255**	.290**	.148	.037	.097	.291**
		Sig. (2-tailed)	.093	.935	.021	.155	.477	.239	.907	.338	.004	.	.017	.302	.842	.001	.000	.057	.632	.193	.000
		N	178	180	175	173	150	176	177	180	180	180	179	169	180	180	180	166	174	180	180
	Treatment_Drinking_HH	Correlation	.023	-.123	-.149	-.197*	-.083	-.208**	-.053	.107	-.093	-.178*	1.000	-.044	.211**	-.299**	.032	.101	.128	.030	-.209**
		Sig. (2-tailed)	.765	.101	.050	.010	.316	.006	.482	.156	.217	.017	.	.572	.005	.000	.672	.198	.091	.695	.005
		N	177	179	174	173	150	175	176	179	179	179	179	168	179	179	179	165	174	179	179
	Major_Healthconcern	Correlation	-.027	.089	.191*	.054	.038	.048	.224**	-.110	.050	-.080	-.044	1.000	-.139	.098	-.123	-.035	.027	-.034	.030
		Sig. (2-tailed)	.732	.250	.015	.491	.657	.541	.004	.155	.522	.302	.572	.	.071	.204	.110	.659	.736	.660	.697
		N	167	169	164	163	142	165	166	169	169	169	168	169	169	169	169	158	163	169	169
	ToiletFacility_HH_Use	Correlation	-.068	-.026	-.331**	-.286**	-.023	-.153*	-.043	.287**	.040	.015	.211**	-.139	1.000	-.399**	.339**	.107	.186*	.259**	.167*
		Sig. (2-tailed)	.365	.724	.000	.000	.778	.042	.567	.000	.591	.842	.005	.071	.	.000	.000	.169	.014	.000	.025
		N	178	180	175	173	150	176	177	180	180	180	179	169	180	180	180	166	174	180	180
	Healthservices_HH_Access	Correlation	-.124	.237**	.213**	.292**	.028	.288**	.029	-.364**	.011	.255**	-.299**	.098	-.399**	1.000	-.212**	-.077	-.227**	-.223**	-.044
		Sig. (2-tailed)	.098	.001	.005	.000	.730	.000	.698	.000	.885	.001	.000	.204	.000		.004	.325	.003	.003	.555
		N	178	180	175	173	150	176	177	180	180	180	179	169	180	180	180	166	174	180	180
	General_Condition_HH_Dwelling	Correlation	.124	.131	-.286**	-.203**	-.049	-.076	-.152*	.206**	.042	.290**	.032	-.123	.339**	-.212**	1.000	.400**	.106	.323**	.470**
		Sig. (2-tailed)	.100	.080	.000	.007	.552	.319	.044	.006	.573	.000	.672	.110	.000	.004		.000	.165	.000	.000
		N	178	180	175	173	150	176	177	180	180	180	179	169	180	180	180	166	174	180	180
	Food_Communication	Correlation	.250**	.100	-.006	.003	.030	-.083	-.166*	.029	.052	.148	.101	-.035	.107	-.077	.400**	1.000	.270**	.284**	.288**
		Sig. (2-tailed)	.001	.200	.942	.971	.729	.291	.034	.709	.504	.057	.198	.659	.169	.325	.000	.	.001	.000	.000
		N	164	166	161	159	137	163	164	166	166	166	165	158	166	166	166	166	161	166	166
	Meals_HH_Skipped	Correlation	.144	-.094	-.081	-.149	.153	-.207**	-.097	.123	.033	.037	.128	.027	.186*	-.227**	.106	.270**	1.000	.105	.155
		Sig. (2-tailed)	.059	.215	.297	.053	.063	.007	.207	.107	.664	.632	.091	.736	.014	.003	.165	.001	.	.169	.041
		N	172	174	170	169	148	171	171	174	174	174	174	163	174	174	174	161	174	174	174
	Means_Communication_Access	Correlation	.052	.047	-.290**	-.258**	.145	-.168*	-.059	.178*	.059	.097	.030	-.034	.259**	-.223**	.323**	.284**	.105	1.000	.260**
		Sig. (2-tailed)	.491	.530	.000	.001	.077	.026	.432	.017	.430	.193	.695	.660	.000	.003	.000	.000	.169	.	.000
		N	178	180	175	173	150	176	177	180	180	180	179	169	180	180	180	166	174	180	180
	HH_Means_Transportation	Correlation	.012	.157*	-.197**	-.121	.020	-.078	-.024	.238**	.308**	.291**	-.209**	.030	.167*	-.044	.470**	.288**	.155*	.260**	1.000
		Sig. (2-tailed)	.872	.035	.009	.113	.804	.305	.756	.001	.000	.000	.005	.697	.025	.555	.000	.000	.041	.000	.
		N	178	180	175	173	150	176	177	180	180	180	179	169	180	180	180	166	174	180	180

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Correlation matrix table