LOCAL GOVERNMENT AND THE DELIVERY OF IMMUNIZATION SERVICE: A STUDY OF SELECTED LOCAL GOVERNMENTS IN KADUNA STATE, NIGERIA.

BY

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DECLARATION

I declare that this work is the Ph.D. dissertation thesis entitled **"Local Government and Service Delivery: A Study of Selected Local Government Councils in Kaduna State''** has been performed by me in the Department of Public Administration under the Supervision of Dr. S.B. Abdulkarim, Dr. M. K. Isa and Prof. A. Anyebe.

The information derived from the literature has been dully acknowledged in text and a list of References provided. No part of this work was previously presented for another Degree or Diploma at any University.

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CERTIFICATION

This work entitled **"Local Government and the Delivery of Immunization Service: A Study of Selected Local Governments in Kaduna State, Nigeria"**. By Ahmed, Idris Jamo meets the regulations governing the requirements for the awards of the Doctor of Philosophy (Ph.D. Public Administration) of Ahmadu Bello University Zaria, and is approved for its contribution to knowledge and literary presentation.

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DEDICATION

This study is dedicated to my late father Alhaji Ahmad Jamo and my mother, Hajiya Fatima Ahmad Jamo. May Allah (SWT) grant them Jannatul Firdaus, Amen.

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LIST OF ABBREVIATIONS

ASD	Alternative Services Delivery
ASDM	Alternative Service Delivery Model
BCC	Behavioural Change Communication
BCG	Tuberculosis
BCG	Bacillus Calmette Guerin (vaccine)
CBN	Central Bank of Nigeria
CBO	Community Based Organization
CHEW	Community Health Extension Worker
CHO	Community Health Officer
DPT	Diphtheria, Pertusis, Tetanus (vaccine)
DSDM	Decentralization Service Delivery Model
DHIS	District Health Information System
DSDM	Direct Service Delivery Model
DTWP	Pertussis/Whooping Cough
EHO	Environmental Health Officer
FMOH	Federal Ministry of Health
GDP	Gross Domestic Product
HDI	Human Development Index
IMCI	Integrated Management of Childhood Illness.
IMNCH	Integrated Maternal, Neonatal and Child Health
JICA	Japan Intervention Program
LG	Local Government

LGA	Local Government Authority (Area)
LGSD	Local Government Service Delivery
MDG	Millennium Development Goal
NCD	Non Communicable Disease
NDHS	National Demography and Health Survey
NGO	Non-Governmental Organization
NICS	National Immunization Council Survey
NPC	National Population Commission
NPHCDA	National Primary Health Care Development Agency
NPI	National Program on Immunization
OPV	Oral Polio Vaccine
OPV	Oral Polio Virus (vaccine)
PATHS	Partnership for Transforming Health Systems
PHC	Primary Health Care
PPP	Public Private Partnership
PSDM	Privatization Service Delivery Model
RI	Routine Immunization
SD	Service Delivery
SMOH	State Ministry of Health
TB	Tuberculosis
TT	Tetanus Toxoid
UNDP	United Nations Development Program
UNICEF	United Nations International Child Emergency Fund

VDC	Village Development Committee
VHW	Village (Voluntary) Health Worker
WDC	Ward Development Committee
WHO	World Health Organization
AFRO	African Regional Office
WHS	Ward Health System
WMHCP	Ward Minimum Health Care Package
DHIS	District Health Information System

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ABSTRACT

Immunization has proven to be one of the most significant and successful advances developed by human species in diseases prevention. Immunization is a cost-effective public health intervention aimed at reducing morbidity and mortality associated with infectious diseases. Over the years, substantial government and development partners' resources have been invested so as to reduce mortality rate. Though immunization coverage in Nigeria has increased, yet Kaduna state remains one of the areas in Northern Nigeria that still recorded higher mortality rate as a result of vaccines preventable diseases. The administration of immunization in Nigeria is the responsibility of the three tiers of government; the actual delivery of immunization is the responsibility of the Local Government (LG). Studies indicate that Local Governments (LGs) service provisions in Nigeria have been ineffective in spite of reform measures and increasing funding from the federation account. The purpose of this study is to find out the extent to which Local Governments in Kaduna State have been able to deliver immunization service to local communities and identify possible factors that contribute to low coverage in the state. To achieve this objective the study hypothesized that, Government efforts at immunization has produced positive outcome; the availability and competence of personnel affect the success of immunization program; the higher the level of funding and other support, the more likely the success of the immunization service delivery. Success of immunization delivery is a function of sociocultural factors; success of immunization delivery depends on effective management. Six LGs were selected from the three senatorial districts in the state. Both primary and secondary sources of data were utilized. In the case of primary data, interviews and focus group discussion (FGD) were conducted with women and health personnels to elicit their views on immunization services delivery, while questionnaires were administered to staff respondents on the outcome of immunization. Existing literature related to immunization especially journals, CBN statistical bulletin, conference proceedings and PhD theses as well as unpublished documents were reviewed. Data gathered were subjected to correlation test using SPSS software. The results indicated a high level of peoples' cooperation on the immunization exercise due to the increase of government and international organization' commitment on the eradication of six killer diseases in the state. The results further indicated strong and positive correlation between Government efforts at immunization and positive outcome, funding, availability and competence of personnel, effective management, socio-cultural factor and the success of immunization service delivery. The study suggested the need to increase the number of health personnel at the LG level and the level of funding of immunization so as to complement development partners' efforts.

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Local Governments are essentially created to deliver services at the grassroots level so as to ensure developments across all levels of society and these services cut across all parts of the country by bringing governed closer to the government. This division of governmental power simplifies governmental activities and serves as a viable incentive for good governance and development. It also serves as an effective avenue for delivering basic goods and services to local communities in faster, easier and efficient manner (Pradeep, 2011:4; Nwosu, 2011:118).

Local Government (LG), as an institution for grassroots participation, services delivery as well as agent of development in Nigeria, has over the years passed through series of changes since the introduction of the Native Authority system by the British Colonial Administration. During the colonial era, LGs in Nigeria were basically used as instruments for maintaining laws and order through the system known as 'Native Authority' (NA) (FGN, 1998:1). In 1921, the system became more significant all over the country and was sustained until 1950's when it began to take part actively in legislative functions (Hassan, 2002:1; Eboh, 2010). Throughout that period, preservation of colonial law and order was the main focus of colonial government rather than welfare service delivery.

In the Northern Nigeria, the N.A. system recorded full success partly due to the presence of highly centralized traditional authority. While in the then western region, the system recorded partial success partly due to the presence of a number of educated elites and the semi-centralized nature of the traditional institution available. The 1952, Local Government Law in the Western

Nigeria adopted English multy-tier system which encouraged the participation of educated elites in the Local Government Administration (Hassan, 2002:1). However, due to absence of centralized authority in the then Eastern region of Nigeria and in spite of the introduction of the Warrant chiefs, the indirect rule system was unsuccessful which led to its abolishment in 1928.

With the attainment of Nigeria's independence from the colonial government in 1960; the focus of the Local Governments gradually shifted from being an instrument of perpetuating colonial dominance and exploitation of the Native people through the preservation of colonial law and order to service delivery (Igbuzor, 2007:4). This shift was necessary because the country inherited serious developmental challenges. One of such challenges was the need to expand service delivery to people. To this extent, the governments in the then three regions through the NA system embarked on social welfare delivery services including health, roads, education, and agricultural development and etc.

Nevertheless, as a result of the unsatisfactory and poor performance of local governments particularly on services delivery in the pre-1976 era, the federal government of Nigeria made effort at reforming the system so as to recognize and to place them in order to occupy its rightful position (FGN: 1976 LG Reform). The reform recognized third tier status for LGs in the country also included the reform measures in the 1979 constitution. In spite of the reform, the LG performance in terms of service delivery is still unsatisfactory (Ohiani, 2004, Malhoho, 2012). Hence, many Local Governments in the country failed to justify their existence and many people were confronted with difficulties in accessing social services such as healthcare and agricultural services. To this end, many scholars acknowledged reasons behind the poor performance of Local Governments in service delivery. These include insufficient funding, lack of Local

Governments autonomy and mismanagement (Odoh, 1998:2; Ohiani, 2004:3). This situation led President Obasanjo in 2003 to inaugurate a committee to review the structure of the Local Governments in the country.

On the 25th of June 2003, Ciroma/Ndayako Technical Committee was inaugurated to review the structure of Local Government Councils in Nigeria. And the Committee reported that, "apart from corruption and mismanagement of public funds, Local Governments in Nigeria had not been guided by any coherent vision, principle or set of ideas in their policy formulation, implementation and even service delivery'' (FGN, 2004 as cited in Abubakar, 2008:7-8). This situation has posed serious challenge to the country's quest for development and effective Local Government service delivery at the grassroots level.

Also, on Monday, March 3, 2006, the federal government announced the position of the National Assembly Committee report on the review of the 1999 constitution. However, the committees after collecting public views found that the majority of Nigerians were in favor of an independent system of Local Government System. In 2012, LGs in the country had received greater attention when the National Assembly embarked an effort to pass a "LG autonomy Act", so as to ensure adequate services (including health) at the grassroots level (Okpo, 2012; Shedrack, 2012). In July 2013, the Senate of the Federal Republic of Nigeria resolved to maintain the status of LGs in the country as part of the state government and with state LGs joint account system as enshrined in the constitution.

The 1999 Constitution of the Federal Republic of Nigeria placed health care service delivery on the concurrent Legislative list. By this arrangement, each of the three tiers of Government is vested with the responsibilities of health care service delivery. The constitution further stipulated that the Federal, State and Local Governments shall support in a coordinated manner, a three-tier system of health care. They are as follows:

(a) Primary Health Care Local Governments

(b) Secondary Health Care State Governments

(c) Tertiary Health Care Federal Governments

The LG through the Primary Health Care system is mandated to provide general health services of preventive, curative and rehabilitative nature to the population as the entry point of the health care system. This implies that the provision of primary health care at this level (including immunization) is largely the responsibility of Local Governments with the support of state Ministries of Health and within the pivot of National health policy.

Immunization is provided mostly through the public health system with the three tiers of government (federal, state and Local Government) playing specific and sometimes duplicating functions. Among the responsibilities of the federal government include the setting up of the national health policies, coordinating and implementing of national health programs, evaluating and monitoring immunization in the country through the National Program on Immunization. The central government is also responsible for procuring vaccines and distributing them to zonal cold stores. Similarly the state government is responsible for distributing vaccines to Local Government central storage facilities and managing state health and other budgets. Based on the arrangement, the state also employs key officials responsible for immunization service provision and coordinates immunization activities within the state. While the actual implementation of routine immunization activities is done by the Local Government primary health care facilities (Feilden Battersby Analysts, 2005).

Immunization services in Nigeria are usually delivered through two main strategies namely Routine Immunization (RI) and Supplemental Immunization Activities (SIAs). RI is the regular provision of immunization services to infants through the administration of vaccines (antigens) in a scheduled plan program. The services are usually provided at fixed post at the community hospitals, clinics or health centers. RI services are also delivered to the population through Outreach, and Mobile strategies. SIAs are mass campaigns targeting all children in a defined age group with the objective of reaching a high proportion of susceptible individuals (REW, 2007).

In Nigeria, the National Program on Immunization (formerly Expanded Program on Immunization) targets eight main childhood diseases: tuberculosis; polio; pertussis; diphtheria; tetanus; measles; hepatitis B; and yellow fever (Feilden Battersby Analysts, 2005).

1.2 Research Problem

Given the importance of Local Government (LG) as enshrined in the Nigerian constitution and designed to be part and parcel of the federation, sections two and three of the 1999 constitution of Federal Republic of Nigeria placed the LG as the third tier of government in the country. While the Fourth Schedule of the 1979, 1991, and 1999 Federal Government Constitutions and section 7(5) listed and empowered the Councils to perform essential function of service delivery. To make them functions effectively, the percentage of the LG revenue from the federation account continues to increase from 10% to in 1989 to 20% in 1992, and finally to 20.60% in 2008.

In the past, most of the usual excuses raised by the LG councils in Nigeria were lack of autonomy and inadequate funding. Hence, with the 1976 and 2003 LG reforms and the eventual increase in LGs share from the federation statutory allocation and the increase in LGs' revenue under the present democratic dispensation, the expectation of many people was that such excuses supposed to have been resolved. Yet health and other services were often inadequate. National Health indicators in Nigeria are among the lowest in the world by almost all measurable indices (WHO, 2012; Jamo, 2013). Life expectancy in Nigeria as at the year 2012 was 48 years compared to 73 years in China and 83 years in Japan. Infant mortality rate was 114 per 1000, whereas less than five mortality rates were 269 per 1000 (WHO, 2012). In Nigeria, vaccine-preventable diseases account for approximately 22% of childhood deaths (amounting to over 200,000 deaths) per year. The maternal mortality rate was 1,100 deaths per 100,000 in contrast to 45 and 6 deaths per 100,000 in China and Japan respectively (WHO, 2012). One third of the world maternal death occurs in India and Nigeria with 20% and 14% respectively (WHO, 2012). In Nigeria, 52,000 women die every year and 150 pregnancy related cases with an average of death in every 10 minutes are recorded daily (UNICEP, 2012). This indicates poor performance of LGs and other tiers of government in immunization and disease prevention in the country leading to 72% of deaths due to communicable diseases. Though Nigeria is a signatory to all global immunization targets of reaching 80% DPT3 coverage in 80% districts in developing countries by the year 2005 and with MDG4 target of reducing child mortality by two-thirds by the year 2015 (NPI, 2007). Meeting this target is still questionable in spite of the series of past efforts.

Funding of immunization services is the collective responsibility of all the three tiers of government, private sector and development partners. In 2003 Nigeria expended $12,906,678,018 to immunization and with total health expenditure from all sources to $73,764,508. The projected cost of vaccines per LGA in 2012 was $194,697. From 2010 to 2013 alone, Nigeria has received a sum of $230,168,552 from the development partners (CHEDECO, 2013; PHC Reform, 2013; Uzochukwu, 2014). However this increasing funding did not correspond with the mortality rate and other health indicators in the country.

Everyone expected that the return of Nigeria to democratic rule would improve development through adequate healthcare services provision, yet studies have shown the contrary, Mortality rate as a result of VPDs is on the increase (WHO, 2012). The problem of the study is to examine the extent to which Local Governments in Kaduna state have been able to deliver immunization. To achieve this, this study attempts to answer the following questions:

1.3 Research Questions

i. What are the contributions of LGs' funding and other support to the success of immunization program?

ii. What are the effects of availability and competence of LGs' health personnel to success of immunization program?

iii. What are the effects of LGs' efforts on the outcome of immunization?

iv. What are the contributions of effective management at the LG level to the success of immunization?

v. What are the effects of socio-cultural factor to the success of LG immunization delivery?

1.4 Objectives of the Study

The main objective of the study is to review the immunization efforts of LGs in Kaduna state.

Other specific objectives include the following:

(i) to evaluate the contributions of LG funding and other support to the success of immunization program.

(ii) to ascertain the contributions of the availability and competence of LG health personnel to the success of immunization.

(iii) to examine the effects of LG efforts on the outcome of immunization program.

(iv) Determine the contribution of LG effective management to the success of immunization delivery

(v) to assess the effect of socio-cultural factor to the success of immunization delivery at the LG level.

1.5 Hypotheses of the Study

(i) The higher the level of funding and other support at the LG, the more likely the success of the immunization program

(ii) LG efforts at immunization has produced positive outcome.

(ii) The availability and competence of personnel at the LG level affect the success of immunization program.

(iii) LG efforts at immunization has produced positive outcome.

(iv) Success of immunization delivery depends on effective management at the LG level.

(v) Success of immunization delivery at the LG level is a function of sociocultural factors.

1.5.1 Significance of study

i. The study assists government to protect children from killer diseases (particularly VPDs) and also saves million lives and provides economic benefits of averting economic loss of billions of Naira and also lifts millions of Nigerians out of the vicious circle of poverty and illnesses. It serves as a policy guide to governments and international agencies with a method for mitigating poverty, poor health status in the country through effective immunization delivery.

ii. It guides government on cost effective strategy and health intervention to curtail mortality rate as a result of VPDs.
iii. It assists government, development agencies (including WHO, UNDP, UNICEF) to determine areas that require urgent attention for adequate healthcare delivery at the grassroots level.
iv. The work also serves as a model for assessing the impact of immunization on development of a particular area, using health service rather than HDI,GDP, or per capital income (as used by Przeworski, 1990 ; Przeworski and Lamungi, 2007; Pel, 1990; and Ohiani, 2004) which are very abstract at the grassroots level.
v. The study is also empirical using survey method including questionnaires and interviews to ascertain the extent to which LGs in Kaduna state delivers immunization services at the grassroots level. The study has filled this gap by providing empirical data in the body of existing literatures.

1.7 Scope and Limitation of the Study

At present, Kaduna state has 23 LGs; but, it will be difficult to study immunization service delivery in all the LGs in the state. To make this research easier and more representative, the scope of the study is limited to six LGs in Kaduna state. The justification behind the choice of the state is based on the reason that, the state is the second most populous state in the North-western Nigeria, and among the states with poor healthcare status in the country (NPC, 2006; NBS, 2008). Preliminary studies (Allo, 2008; Elah, 2012) have also indicated resistance to immunization in the state. Another reason is that even though immunization coverage in Nigeria had increased, yet Kaduna state remains one of the states in Nigeria that still recorded higher mortality rate of 74.9 per 1000 in 2014 as a result of vaccines preventable diseases.

The work covers a period of five years of the present democratic dispensation (2009-2014). The rationale behind the choice of this time frame is because the period represents the era when Local Government percentage of revenue from the federation account had risen to 20.60 percent.

Similarly, the period also corresponds to the age of high in flow of Local Government revenue from the federation account. Not only that, the period represents the democratic era when Local Government officials were enthusiastic to deliver services at the grassroots level but corresponds to the period of increasing resistance to immunization in the state. To this end, the time frame of the study (the democratic era of 2009-2014) represents period of special events on the Local Governments in the country. It is expected to have significant effect on Local Governments performance on service delivery.

Though Local Governments in Nigeria were created to perform a number of functions, this study is limited to service delivery with special reference to LGs performance in terms of immunization. Despite that, the three tiers of government and other partners are involved in delivering immunizations service, this work pay more emphasis on LG service delivery because the actual delivery of immunization service is shouldered on LG. In term of substance, the work only restricts itself in measuring performance of LG in healthcare service delivery particularly immunization. This is because healthcare service is among the indicators (eg life expectancy) for measuring presence or absence of development of modern societies and also means of achieving development (World Bank, 2012).

Study of this kind has to be conducted for a number of years and be made to cover a large area. However, we have restricted ourselves to Kaduna state in the North Western Nigeria so as to make an in depth study and to generate reliable data. Again, a research like this has to be conducted after every three or five years at interval so as to capture the annual updates of a number of facilities and strategies employed by different governments in delivering services. This work was conducted within a stipulated period lasting 2009-2014. Conducting a research especially of this type requires a lot of resources. Again, we have also faced the problem of generating primary data due to lack of information culture among our people. Usually research of this kind is perceived with suspicion especially during this time of crises and insecurity in the Nigeria.

Again, research related to finance, expenditure and executed projects are very difficult especially at the local level due to inaccurate records and at times researchers are deliberately frustrated in the name of bureaucracy and keeping the office secrets. To this extent, we faced the challenge of accessing official documents. Finally, healthcare service delivery is broad, we could not cover all. Thus, we restricted ourselves to immunization service delivery due to its importance to human survival needs and development.

1.8 Operational Definitions of the Key Variables

Introduction

The key variables in the study were operationalized below in such a way that they can be measured using measurable indicators. The theoretical framework for the study examined factors responsible for the level of service delivery. To this end, we have used government efforts, availability and competence of personnel, level of funding and other support, as independent variables while positive outcome and success of immunization program as dependent variables.

(i) Level of funding:

Funding has been defined by Ikya (2000) as the process of providing an institution, a project, organization e.t.c. with money to carry out its activities. Funding in this study refers to financial support for immunization at the Local Government level. "Funding" has been broken down into following measurable indicators: volume of funding of immunization, regular disbursement of fund for immunization, incentive for immunization

(ii) Other support:

Adequate sensitization

Success of immunization: Collins English Dictionary (2014) defined “success” as the favorable or prosperous termination of attempts or endeavors; the accomplishment of one's goals. It also implies the achieving of something desired, planned or attempted. It involves achieving what is intended to achieve. In this work “success of immunization” implies number of reported cases or outbreaks in a particular area, number of children dying in a particular area.

(iii) Availability and Competence of health personnel:

Personnel have been defined by Adamu (2007:1) as the people who work for an organization or armed forces. It is also refers to the department in a company that concerns with recruitment and training of people. “Personnel” as used in this study refer to categories of health personnel working in Primary health care department of Local Government. Availability and Competence of health personnel have been broken down into following measurable indicators: adequacy of health personnel, adequate training of health personnel.

(iv) Government effort :

Merriam Webster dictionary (2014) defined effort as the total work done to achieve a particular end. In this work government effort means, training, providing facilities, incentives, monitoring, advocacy, sensitization and other forms of encouragement to the people

(v) Positive outcome: Collins English Dictionary (2014) defined “outcome” as something that follows from an action, dispute, situation, etc; result; consequence. It implies a final product or end result; consequence; issue or a conclusion reached through a process of logical thinking. In this study "outcome" implies level of cooperation of people toward immunization

(vi) Socio-cultural factors: Sociocultural factors are the larger scale forces within cultures and societies that affect the thoughts, feelings and behaviors. Similarly, sociocultural factors refer to the social and cultural influences in the lives of the people such as the influence of family, peers, religion and culture on an individual's health. These factors can have a positive or negative impact on health and often determine differences between population groups. (www.hsc.csu.edu.au/.../1-1.../hoyp1_1_3_2.htm Social science). Sociocultural factors in this study implies, socially constructed belief on immunization, religious perception, cultural belief

(vi) Management: Millet (1984) defined management as the process of directing and facilitating the work of people (sic) organized in formal groups to achieve a desired goal. Nigro and Nigro (1980) defined management as determine what you want people to accomplish, to check periodically on how they are accomplishing it, and to develop methods by which they will perform more effectively. In the context of this work management implies, coordination of human and material resources, Supportive supervision, equipment calculation, budgeting and monitoring, assessment of injection and disposal safety.

1.9 Organization of the Study

Chapter one is the introduction of the whole study which contains background of the study, statement of the problem, research questions, objectives of the study, study hypotheses and operational definition.

Chapter two contains literature review and theoretical framework.

Chapter three contains historical background of LG administration in Nigeria, the chapter commenced with the Native authority system, post independent Local Government in Nigeria, Military and Local Government in Nigeria, 1976 Local Government reform, Local Governments in Nigeria in the Second Republic, Babangida Administration and Local Government in Nigeria, the chapter also covers LGs in Nigeria under the Third Republic.

Chapter four deals with method of Data collection, Sampling Technique, Population of the Study, Instrumentation and Reliability, and finally, Method of Data Analysis.

Again, Chapter five presents data and analyzes the research findings.

Finally, chapter six is the summary of findings; conclusion and the presentation of possible recommendations. This chapter deals with the introduction. The next chapter paid more emphasis on reviewing related literatures to the study and the theoretical framework of the study.

CHAPTER TWO

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

Chapter one discussed the background of the study, research problems and questions, objectives of the study, hypotheses, significance and the scope of the study. This chapter reviewed the existing related literature on the subject matter of our discussion. Efforts were made to review literature on the key variables of the work. Which include the position of Local Government under the Nigerian Constitution, decentralization and service delivery, finance and LG service delivery, Local Government and PHC service delivery and Immunization service delivery. The concluding part of this chapter discusses the theoretical framework that will guide the study.

2.2 Local Government

Local Government as a concept has attracted several definitions. Unlike other concepts, it has not generated controversy (Ighodalo and Sola, 2010). Appadorai (1975:287) defined LG as a government by a popular elected bodies charged with administrative and executive duties in matters concerning the inhabitants of a particular district or place. The definition restricted LG to government formed by a popular elected bodies charged with the responsibility of administering a particular area. Similar conception by the United Nation office for public Administration (1961:11) as cited in Ola (1984) views local government as ‘‘a political sub- division of the nation (or in a federal system, a state), which is constituted by law and has substantial control of local affairs including the power to exert labor for prescribed purpose. The governing body of such entity is elected or otherwise locally selected’’. This definition further identifies another feature of the LG to include power to exert labor at the local level. More elaborately, the guidelines for the 1976 local government reform define local government as a:

> Government at local level exercised through representative councils established by law to exercise specific powers within defined areas. These powers should give the council substantial control over local affairs as well as the staff and institutional and financial powers to initiate and direct the provision of services and to determine and implement projects so as to complement the activities of the state and federal government in their areas and to ensure, through the devolution of functions to these councils and through the active participation of the people and their traditional institutions that local initiative and response to local needs and condition are maximized (Local Government Reform, 1976).

The guidelines (1976:1) further specify the powers of Local Government as "Should give the council substantial control and financial powers to initiate and direct the provision of services and to determine and implement projects so as to complement the activities of the state and federal governments in their areas".

From the above definitions we can deduce the following:

i. Local Government officials are regularly elected or selected.
ii. Local Government must have a legal personality distinct from either a state or federal.
iii. Local Government must have specified power to perform a range of functions.
iv. Local Government must enjoy substantial autonomy.

Ola (1984:1) in a similar conception added that LG has the following features:

i. It is a sub- division of a nation (state or a nation-state).
ii. It can impose taxes and incur expenses.
iii. It exists within defined territory.
iv. It has its autonomous existence and legal identity.
v. It comprises elected members who run it.

In the context of this research, if we mention LG, we simply imply government created by law to perform some local functions.

2.3 Service Delivery

Service delivery as defined by the UNDP (1999) cited in Pradeep (2011:2) is a "system of institutional arrangements adopted by government to provide public goods and services to its citizens'. It further added that it is the specific institutional arrangements that critically influence the performance of public service delivery. In this work, service delivery implies a system of governmental provision of goods and services to its citizens (particularly at the local level).

2.3.1 Forms of Service Delivery

(i) **Direct Service Delivery Model (DSDM)**: In this model, "the central government legislates, enforces laws, hires staff, invests, produces and distributes services either directly from the central headquarters or through de-concentrated line agencies assumes full responsibility and is accountable not only for providing but also for delivering services"(Pradeep, 2011). It means the government controls total delivery including legislation, regulation, staff resources, financial resources, accountability and responsibility (UNDP, 1999), e. g health care delivery program and subsidy to low income family. DSDM is one in which the central government assumes full responsibility of delivering service to the beneficiaries.

(ii) **Privatization Service Delivery (PSDM)**: In this model, the government transfers the delivery of public services to private companies. In this case, government assumes no responsibility, accountability, budget or regulatory function except for monitoring the compliance of the company to legal codes (Paradeep, 2011; UNDP, 1999; Zubane, 2011). In a similar conception, Zubane (2011) views privatization as a systematic transfer of appropriate functions, activities or properties from the public to the private sector where service production and consumption can be regulated more efficiently by the market and price mechanisms. It involves systematic transfer of government properties, assets or government provision of a particular service to private sector, while government maintains regulatory responsibility, e.g. sale of public assets to private firms such as airways, telecommunication etc. In this form, government assumes no responsibility except for regulatory and supervisory role.

(iii) **Collaborations/Partnerships**: This form of collaboration service delivery otherwise known as partnerships. Partnerships are agreements between the government and the private organizations to render or provide services to the citizens on behalf of the government within specified time frame and budget for particular targets (Zubane, 2011). It involves a partnership between government and a private sector for delivering of a particular service to the public under a specified agreement. These agreements are reduced to formal and legal contracts which have penalties. The penalties could include the withholding of payments or the termination of contracts. Government makes sure that public funds are adequately managed so as to achieve better service delivery. Under PPPs, accountability for delivery of the public service is retained by the public sector whereas under privatization, accountability moves across to the private sector (the public sector might retain some regulatory price control). Under PPPs, there is no transfer of ownership and the public sector remains accountable. A service provider may be another public institution or parastartal where a Public-Public Partnership will be formed. The government can contract with a private company where a Public-Private Partnership can be formed and a non-governmental organization (NGO) or a community based organization will result into a Public-not for profit making organization partnership.

This relationship is formed when a government and the private sector agree to work cooperatively toward shared or compatible objectives (UNDP, 1999). The partnership usually specifies the purpose, nature, terms and conditions governing it, also finance, staffing and reporting. PPPs (otherwise known as P3) is among the important methods for service delivery to the public in faster and efficient manner. The PPPs are long-term contracts between the Public and Private sector. The main objective of the PPP is to ensure the delivery of well-maintained, cost effective public infrastructure or services by leveraging private sector expertise and transferring risk to the private sector (Zubane, 2011).

In this form of partnership, the public sector will pay after the completion of the project or when services have been completed. However, this is specified in the contract agreement. The private sector has to secure loans and put its capital at risk. Due to the risks involved, the private sector has to make sure that it fulfills all the contractual agreement so as to receive the return on their investment. Government, on the other hand inspects the project and after certifying its quality pay for the service rendered. Hence, government is responsible and accountable to the public/electorates who voted for them (Zubane, 2011).

(vi) **Public-Public Collaboration/Shared Service Delivery:** This occurs when government departments enter into contractual agreements in order to deliver a certain service to the public. This can take place between different levels of governments. For instance, the three levels of government can join together to provide a particular service. In this case the levels of government harness their resources together (both human and material). For instance one level of government may finance a particular project, while the other executes it, defending on the agreement. In this situation each level of government serves as a check against the other so as to improve accountability.

Public-public partnerships is one of the alternative service delivery model aimed at ensuring better coordination of services delivery, improve communication between the different organs of state, so as to reduce or eradicate replication of services and ensure better utilization of resources. Thus, these collaborations serve as a check among the collaboration partners and thus minimize fraud and corruption (Zubane, 2011).

The difference between collaboration/partnership and Public-public collaboration/Shared service delivery is that in the former is a form of collaboration between the government and private organization, while in the later is the partnership between different levels of government or departments. e.g. the delivery of immunization is a form collaboration between the three levels of government..

(v) **Public-Not for Profiting Making Organization Collaboration**: This is a contractual arrangement where a non-profit organization assumes responsibility for managing a public sector enterprise, program, service or function on commercial basis. The "profits" are usually returned to the enterprise for its development but terms and conditions may require some of the earned revenues to be returned to the government (UNDP, 1999). These collaborations were introduced out of a desire to meet a particular community's need and extending a helping hand to the needy. They are called 'not –for –profit organization' because they render services to the public not for profit (Zubane, 2011). In this form of collaboration, a clear guidelines or specifications are made about what is expected among the involved parties, for instance, United Nation self-help program on education, MDG, Japan intervention program (JICA), MDG Quick wins projects, Self-help projects, Grand aided project and soon.

The relationship between the Non–Governmental Organization and the clients is a different one; it is a “no- fee for service” type of relationship. NGOs are more flexible than government can respond quicker to changing circumstances and have more decentralized decision-making. They often have connections to local communities or experience of specific services which enable them to scale up or intensify their activities.

(vii) **Decentralization Service Delivery Model**: This is the most popular model in most countries in the world (Pradeep, 2011). Decentralization is based on subsidiary principles of governance; a rule where provision and delivery of services are devolved to the lowest governmental tier, local bodies, subject to economies of scale and capacity”. The rationale is that LG as a tier of government is closer to the people and is better positioned to match supply of a given service to citizens' demands, transforming citizens from service recipients to clients and ensuring citizens greater accountability for service quality.

Decentralization means transfer of power, authority, responsibilities and functions from the central government to local or sub national units of the government (Paradeep, 2011). A Similar conception by the UNDP (1999:3) conceptualizes the term as:

> The restructuring or reorganization of authority so that there is a system of co-responsibility between institutions of governance at the central, regional and local levels according to the principle of subsidiarity, thus increasing the overall quality and effectiveness of the system of governance, while increasing the authority and capacities of sub-national levels.

Decentralization has a tendency of improving good governance, greater local participation and initiatives, transparency and accountability. Though comprehensive, its emphasis was more on the advantage of decentralization. Similarly, Ekpo (2007) perceives decentralization as the transfer of political power from central Government to sub-National Governments. It serves as a means of improving the efficiency and responsiveness of the public sectors. By transferring decision making power to levels of government that are close to the beneficiaries, decentralization can give citizens greater influence over the level and types of government services they consume and greater ability to hold their officials accountable. Decentralization involves the transfer of authority from a higher level of government to a lower, delegation of decision making, placement of authority with responsibility allowing the greatest number of actions to be taken where most of the people reside, removal of functions from the center to the periphery, as well as a mode of operations involving wider participation of people in the whole range of decision making beginning from plan formulation to implementation (Paradeep, 2011).

2.3.2 Forms of Decentralization

Studies (UNDP, 1999; Pradeep, 2011; Ekpo, 2007) have indicated three major forms of decentralization, namely; devolution, de-concentration and delegation.

(a) Devolution: This is the autonomous lower-level units such as provincial, district and local authorities that are legally constituted as separate governing bodies (UNDP, 1999). This is when central government transfers authority to semi-autonomous local government bodies for decision-making, resourcing, administration and service delivery. In this form, the local authorities are not directly accountable to central government although they have to work within the statutory rules set by it. Although these can severely constrain the actions of local government, in principle, it remains primarily politically responsible to its electorate (Ekpo, 2007:3). The UNDP (1999:3) further identified the following as fundamental characteristics of devolution;

> First, local units of government are autonomous, independent and clearly perceived as separate levels of government over which central authorities exercise little or no direct control. Second, the local governments have clearly and legally recognized

> geographical boundaries within which they exercise authority and perform public functions. Third, local governments have corporate status and the power to secure resources to perform their functions. Fourth, devolution implies providing services that satisfy their needs and as governmental units over which they have some influence. Finally, devolution is an arrangement in which there are reciprocal, mutually beneficial and coordinate relationships between central and local governments.

(b) **Delegation:** This is the form of decentralization in which the responsibility for decision-making and service delivery is transferred by central governments to semi-autonomous organizations not wholly controlled by it but remained directly answerable to it for functions delegated to them. These organizations may include local government and parastartal, the private sector and NGOs (Ekpo, 2007:3). Equally, UNDP (1999:3) defines it as;

> Semi-autonomous lower-level units, such as urban or regional development corporations to whom aspects of governance are delegated (by the central government) through legislation or under contract… It involves the transfer of government decision-making and administrative authority and/or responsibility for carefully spelled out tasks to institutions and organizations that are either under government indirect control or semi-independent.

From the above definitions, delegation refers to transfer of powers or functions or responsibilities to organizations that are not under the direct control or command of central government ministries. Due to the importance attached to service delivery, emphasis is on additional way and it reduces weight on the traditional approaches of public service delivery. Because of the growing inefficiency of government services delivery, the traditional method of services delivery where government is the sole provider of services is getting another alternative.

2.3.3 Decentralization and Service Delivery

A study conducted by Quoc Viet (2009) as cited in Pradeep (2011:16) on Decentralization and Local Governance on Public Services Delivery in Daknong and Hau-giang Province in Vietnam shows a case study method and decentralization theory to analyze the impact of local governance on service delivery. The study found that, ‘decentralization varies greatly depending on circumstances and institutional quality of local governance’. The study further argued that, despite the fact that decentralization is very vital for certain services delivery; evidence from Vietnam indicated that public services were largely delivered through centralized services delivery due to the weakness and failure of the local governments. This finding indicates that though decentralization is very important for delivery of certain services, LGs performed below expectations. Findings of the study correspond to situations in Nigeria it is silent on immunization service delivery.

On the contrary, study of service delivery in Nigeria using Idah LG Area of Kogi state indicates that, the LG has averagely performed better in service delivery (Agba et-el, 2013). The study indicated that, factors that affect service delivery particularly in terms of timeliness, satisfaction, adequacy and effectiveness and insufficient funds; irregular payment of salaries and allowances, undue political interference by the higher level of authorities, divided loyalty, poor observance of principle of meritocracy in recruitment and promotion of staff as well as corruption. Of course, the study is relevant and explored services delivery problems at the local Government level but too narrow (using one LG in Kogi state) to make generalization to Nigeria.

A Related study by the World Bank (2006) as cited in Pradeep (2011:17) on India Rural Governments and Service Delivery, focuses on health, education, drinking water, sanitation, and employment programs covering four selected states (Kerala, Karnataka, West Bengal and Rajasthan) in India. The results revealed that lack of financial autonomy and specific laws defining roles of LGs in service delivery are the main reasons for poor LGs services delivery in India. It further added that, LGs services delivery in India largely failed due to lack of financial and administrative control. Of course, the study covered PHC service delivery in India and it corresponds to Agba et-el, (2013) study of Idah LG in Kogi state Nigeria.

Husain (2008) as cited in Pradeep (2011:18) study, on Service Delivery in Pakistan revealed that, the accessibility of policy-makers to citizens in Pakistan has increased after devolution and that local government elections were as competitive as national and provincial elections. Besides, Local government sector priorities are heavily tilted toward the provision of physical infrastructure; specifically roads, water and sanitation, including rural electrification at the expense of education and health. These findings indicated that services delivery particularly on physical infrastructures in Pakistan were more effective than centrally provided.

A similar study indicated that dissatisfaction with the centralized approaches to delivering local public services motivated many countries to decentralize responsibility for certain services to lower level of governments (Ahmad et-el, 2012). Evidence from the research proved that moving from a model of central provision to that of decentralization to local governments introduces a new relationship of accountability between national and local policymakers. Decentralization improves accountability, affordable, efficient and effective service delivery. Though the work has clearly provided an insight on the incentives to be derived from decentralization of services delivery to local level, it did not explain the effect of decentralization on mismanagement, local corruption especially in the developing countries like Nigeria.

From the above literature reviewed, most of the works have made general analyses of decentralization and services delivery.

2.4 Challenges of Local Government Service Delivery

In delivering services to local communities, Local Government faces a lot of challenges ranging from prudency in the management of resources, funding and autonomy issue. Though the effect of each challenge differs from LG to another, however these problems constitute the major obstacles to effective service delivery in Nigeria at the LG level.

2.4.1 Local Government Service Delivery and Prudent Management of Resources

Services delivery is determined by a lot of factors, among which include how resources are managed for effective service delivery. Because the availability of material resources alone would not ensure effective service delivery, what are critical and important are the personnel that are used to deliver the services. This is because it is the personnel that manage other resources and make service(s) delivered to the recipients. Several authors have explored the relationship between LG service delivery and management of resources.

Ekpo's (1998) empirical study interrogated the fiscal operations at the local level under the Nigerian fiscal federalism arrangement and tried to ascertain whether fiscal imbalances observed at both the federal and the state arms of government also exist at the local level. The study related poor service delivery and financial crises at the LG level due to inadequate accountability and proper monitoring of public funds by the LG personnel and officials. Of course management and accountability problem are among the serious challenges of service delivery at the local level. Hence, autonomy is very critical for effective service delivery.

A similar study by Ojo (2009) on efficient financial management for Local Government in Nigeria opined that, Local Governments in the country have performed below expectations in terms of service delivery due to poor fund management. The work explored approaches to tackle the growing problem of financial mismanagement that crippled effective service delivery at the Local Government level.

Ohiani's (2004) surveys of local governments and dividend of democracy in Nigeria, focuses on Bauchi state. He observed that, Local Governments generally in Nigeria did not meet the people's expectations in terms of provision of services such as health facilities, portable water and feeder roads to communities due to poor management of resources. The study has used Bauchi state as a case study to generalize the performance of local governments in Nigeria.

2.4.2 Local Government Funding and Service Delivery

Ohiani (2004) study of selected LGs in Northern Nigeria indicated that service delivery is one of the justifications for the existence of governments (at all levels) considering its vital importance to human existence, growth and development. The study establishes correlation between adequate funding and service delivery. Though finance is very critical for not only LGs performance but also for every government, other factors such as prudent management of resources and LGs autonomy e.t.c. are also important for effective LGs service delivery.

Uchnna's (2012) study of management of fund at the LG level revealed that, effective management of fund is a pre-requisite for the achievement of the aims and objectives of the 1976 local government reforms. The study relates the poor performance of the LGs in terms of service delivery to lack of financial discipline which emanates from lack of strict adherence to the revised financial memoranda.

Abdulkarim's (2001) study of assessment of management of Local Government in some selected states of the Northern Nigeria observed that, approximately ninety five percent of the local governments surveyed in all the states covered by the research (including Kano, Kaduna, and Jigawa) cited lack of fund and autonomy as the main reason for their inability to effectively deliver services. The research concluded that, finance allocated to the Local Governments principally from the federation account did not commensurate with the amount of responsibilities assigned to them. Therefore he was of the view that about ninety five percent (95%) of the Local Governments in different states surveyed cited finances as the main problem. The study is an in depth analysis of management of Local Governments in the country, however the conclusion of the study is no longer relevant now due to the increased funding from the federation account. What is needed now is prudent management of their resources, enhancement of internally generated revenue and increase LGs financial autonomy.

Contrary to Abdulkarim' findings, Central Bank of Nigeria's annual report and Statement of accounts for the year 2006 revealed that data on local government finances indicated that the fiscal operation of the 774 Local Government Councils recorded a surplus of N8.4 billion, compared with N9.2 billion in 2005.The surplus achieved was attributed to the increased revenue accruing to the local government councils in 2006. Supporting the above argument, Abba (2002:5) opined that:

> In 1997, all the local government councils received a gross allocation of N53 billion, from the Federation Account and about N66 billion in 1998, the figure was N116billion in 1999... In 2000, the LGs received a total of N244billion.This was more than 100% increase from 1999...This amounts to a 700% rise above the average monthly allocations for the month of January to May1999.

Again, Local Governments revenue in the country rose by 12.9 percent from N597.2 billion or 3.6 per cent of GDP in 2005, to 4.0 of GDP. This comprised allocations from the federation account (5550.8 billion or 81.7 per cent), the VAT pool account (75.9 billion or 0.9 per cent), internally generated revenue (N23.2 billion or 3.4 percent), the stabilization account (N6.1 billion or 0.9 per cent), grants and others (N14.8 billion or 2.2 per cent), and State government allocations (N3.4 billion or 0.5 per cent).Not only that, in 2006 the revenue increased from

N674.255.7billion and to N832.300.0million in 2007. In 2008, the total Local government revenue rose to N1, 387.871.3 trillion**.**

From the above evidence, everyone will expect that, if there is any problem at the Local Government level it is not that of funding considering the growing increase of LGs revenue all over the federation. Consequently, it is not the matter of what is allocated to LGs, but what reached their accounts. In fact, huge sums of funds have been transferred from the federation account, but large chunk of this fund was withheld by the state government in the name of joint account and joint project system. Several scholars have expressed concerns on the way and manner in which joint account is managed (Abubakar, 2008). Therefore, one fundamental area of concern is the question of Local Government autonomy.

2.4.3 Local Government Autonomy and Service Delivery

Among the ideas of federal order is to share powers among constituent units that make up a federation so that each is independent and have final jurisdiction on certain matters and also share common interest on the others. To this end, at least certain services would be more efficiently provided by one particular level of Government than the other. The constitution of the federal system usually specifies the powers of each level of government so that harmony and mutual cooperation in the administration of the whole system and the autonomy of the constituent units are maximized; such that no level of government or its power will be jeopardized.

In the Nigerian context, although there are constitutional provisions which specify the powers of each level of government, studies (including the1976 Local Government (LG) reform; Odoh, 2001; Abubakar, 2001; Abubakar, 2004; Adeyemo, 2005) show that Local Governments in the country are suffering from lack of autonomy despite the fact that autonomy is one of the prerequisite for smooth running of Local Government administration (Odoh, 2001), without which Local Government in the country could not perform its functions effectively as assigned by the constitution. It is against this background that, several efforts were made by the successive governments towards ensuring that Local Governments all over the federation enjoy autonomy without undue interference by the higher tiers of government (the states and central government), one of such efforts was the 1976 Local Government reform which made Local Government as the third tier of government together with the state and the federal governments, and the inclusion of the reform measures into the 1979 constitution which categorically stated that: “the system of local government by democratically elected local government councils is under this constitution guaranteed accordingly, the government of every state shall ensure their existence under a law which provide for their establishment, the structure, composition, finance and functions of such councils”. Not only that , the 1989 and the fourth schedule of the 1999 constitutions recognized Local Government as a third tier of government and categorically spelt out clearly areas of competence and jurisdictions of each level of government.

To substantiate this position and strengthen their financial autonomy so as to perform their constitutional responsibilities, Local Governments all over the federation were constitutionally accorded the privilege to receive funding from the federation account. Again, to make them financially independent, the funding continued to increase from 10% in 1989 to 15% in 1992 and 20.60 in 2008. However, in spite of all these constitutional and financial provisions, Local Governments are still unduly controlled by their state governments which rendered them as a mere department in the states.

Although, the 1999 Constitution of the Federal Republic of Nigeria establishes a federation with the three levels of government- federal, states and local, it also provides tax power for the different levels and revenue sharing arrangement with both vertical and horizontal dimension. To the extent that assigning tax power and financial autonomy have been very critical issues within the polity. The Local Government authorities have been complaining about inadequate share of revenue from the federation account, they have also been showing their dissatisfaction with the present state – Local Government joint account system. The dissatisfaction (including Abubakar, 2001; Usman, 2008) has its root in the constitution; for instance, section 162(2) stated that: ‘’ Each State shall maintain a special account to be called "State Joint Local Government Account" into which shall be paid all allocations to the local government councils of the State from the Federation Account and from the Government of the State.’’

The issue of LG autonomy has been a thorny issue in the political discourse of Nigeria (Masoud, n.d; Adeyemo, 2005; Odoh, 2004; Ngu, 2008; and Usman, 2004). For instance, Adeyemo (2005), in his study on local government autonomy opines that the quest for local government autonomy should be related to financial viability. Local Government autonomy should not be seen as making the local government a sovereign entity or a privilege of the chairman and councilors. Local Governments can only be meaningfully autonomous when they are accountable, responsible and responsive to popular demands. In this regard, Local Government will perform its responsibility for adequate provision of services at the grassroots level. The work appraised intergovernmental and fiscal relations in the country; problems associated of insufficient internally generated revenue and state interference into the constitutional responsibilities of local government and recommended improvement of local revenue and sufficient autonomy to perform their constitutional responsibilities.

Supporting the above view, Abubakar (2008) opines that deductions and extra- budgetary spending have limited LG exercising powers to expend expenditure and deliver services that are important to lives of the local people. He further cited an example of Kaduna State where about 76% of the total revenue from the federation account was deducted by the state government. The study further exposed that, apart from their constitutional responsibilities, LGs in the country assumes some financial responsibilities in support of the federal government and states agencies officials. Such agencies include the Nigerian Police Force, State Security Services and the Nigerian Army on special security duties, the National Drug Law enforcement Agency, the National Population Commission, the National Orientation Agency, the Independent Electoral Commission and the National Youth Service Corps Scheme etc. The work also related LGs poor performance in terms of service delivery to state interference in the LGs affair in form of joint-account and joint project system.

A Similar study by Odoh (2004) indicates that Local Government autonomy is a cardinal principle of local government. This is because without a measure of independence in the generation and control of their resources, they will not perform their function of service delivery and will end up as just de-concentrated entities. The study examines the vicissitude in Local Government autonomy using variables such as administrative control, finance and the democracy base of Local Government. The study found that Local Government experienced the high level of autonomy in this country between 1988 and 1993 with the relaxation of state control over the staffing, funding and administration of Local Government. The presidential system boosted this autonomy by increasing control over local budgets and checking executive excesses by the council. Irrespective of the shortfalls in this system, it provided the environment for autonomy especially with adequate financial backing and the removal of the burden of primary education.

The study added that ‘between 1993 and 1999, there was no coordinated policy on local government. The institution was largely used as instrument of legitimization of the sit-tight leader and most council worked for the success of such goal’. Elections were held and direct funding was done to sustain the financial autonomy of local governments. Decree No. 7 of 1997 also reinforced local governments. The study concluded that under the present dispensation, there is no much substantial Local Government autonomy. Whatever the military left for Local Governments has been eroded constitutionally and politically.

The work further pointed out the relevance of Local Government autonomy and its impact on services delivery and maintained that although Local Governments under the military in certain periods experienced reforms that limited their powers, Local Governments were better off during that period as compared to the present democratic dispensation and the fear is that given the trends of events, LGs autonomy in the country would be difficult.

Like Odoh (2004) Ngu (2008) opined, if Local Governments in the country are to perform their functions toward the attainment of adequate service delivery and socio economic development, they should be provided with the enabling democratic administrative machinery. The study added that despite the various reforms, constitutional provisions and the clamor for local government autonomy in the country, Local governments in Nigeria still operate not different from the British indirect rule system. The study maintained that to attain high level of democratic local governments in the country, there must be a corresponding increase in the level of Local Government autonomy and strict adherence to the constitutional provisions by all tiers of government. The study related the present lack of LGs performance in terms of service delivery under the present democratic dispensation to lack of autonomy. Though the LGs in Nigeria lack substantial autonomy, yet they are better off under the present dispensation in terms of their operation and number of services delivered to the local communities as argued by the author. Empirical studies (Jamo, 2013 e.t.c) indicated that some LGs had executed meaningful and viable projects which touched the lives of the people.

Usman's (2004) study of the effect of Local Government expenditure on service delivery in Nigeria opines that local government spending in Nigeria was devoted more to consumption (recurrent) rather than to investment (capital) expenditures for purposes of executing meaningful and viable projects which touches the lives of the people. The study presented a clear picture of the Nigerian LGs in the management of finance and observed strong, direct and positive correlation between LG expenditure and service delivery.

Igadalo (2012) reported that, Local Government service delivery is confronted with issues and challenges such as federal and state government's interventions in the constitutional apportioned responsibilities of local government. The study identifies lack of LG autonomy; inadequate internally generated revenue and lack of good governance are the main challenges to service delivery at the grassroots level.

Inhanlahimi and Ikeanyibe (2008) work delve into the factors responsible for poor performance of LGs in terms of service delivery at the grassroots level. The study found out that inadequate handling of corruption, inadequate finance and autonomy have posed some challenges for LGs' developmental efforts in the localities. Inadequate autonomy has been found to be the independent variable in the challenges. Other challenges include inadequate finances, weak intergovernmental relations, fledgling democracy and grand corruption. The study proved association between lack of autonomy, in adequate revenue, weak intergovernmental relations, fledgling democracy, corruption and service delivery at the grassroots level. The above literature reviews indicate correlation between LG autonomy and service delivery.

2.5 Local Government and Primary Healthcare (PHC) Service Delivery in Nigeria

Worker man and et-el (2012) in their research on PHC delivery (including immunization) in Australia observed that one third of all Australians live outside of its major cities. Access to health services and health outcomes were generally poorer in rural and remote areas relative to metropolitan areas. Inadequate evaluation of these initiatives has resulted in failure to garner knowledge, which would facilitate the establishment of evidence-based service models, sustain and systematize them over time and facilitate transfer of successful programs.

It is evident that not only in developing countries like Nigeria, access to healthcare facilities in Australia is significantly higher among urban dwellers than those at the rural areas. This scenario necessitates the introduction of new strategy to improve the situation which dictated the need for research to investigate the policy outcome.

Omoren et al (1988:77) study of problems of service delivery at the local level noted that, social services delivery in Nigeria including health have been neglected due to weakness of social policy at all levels of government and LG in particular, inadequate financing of social services and lack of mass participation. The study argues that in health sector, the federal government health scheme largely failed in its implementation due to non-involvement of the LGs. The study associated the failure of the previous health schemes in the country to improper involvement of grassroots officials, inadequate finance, lack of qualified health personnel, and poor involvement of the grassroots people as the main reason for in adequate health care delivery in Nigeria.

Abdulraheem et al (2012) study of primary healthcare and strategies for service delivery in Nigeria between 1987 and 2008 note that one of the hindrances to the development of health care (including immunization) delivery in Nigeria were insufficiency of medical health personnel as well as their uneven distribution, inadequate finance, overdependence of LG on state and federal, state and international agency for support, low level of community involvement, mismanagement. The study identified the current status and gaps in the rural communities to the absence of specialized medical services and concentration of medical personnel at the urban to the neglect of rural areas.

The study further constructed that some group of nomads, Fulani's and fisheries from the core Northern Nigeria, the migrants Tiv farmers in Benue State manifest satisfactory physical health, and increasing resistance to diseases or illness. The health or health related problems of nomads, migrant farmers and rural people include, high mortality and low average life expectancy due to lack of access to healthcare service and untrained health workers. The study concluded that the rural women and nomads are the most neglected. This study has exposed the situation faced by the rural communities in Nigeria and the health personnel attitudes in those communities.

Ojifo's (2008) similar study examined the primary healthcare delivery (including immunization) in Owan East and West LGAs of Edo state with emphasis on the impact of personnel and equipment inadequacies in primary health centers. Empirical evidence revealed that there are 30 primary health centers in the area. Four doctors serviced these centers which were inadequate to meet the primary health care needs of the population. Only few centers were adequately equipped with medical equipments. The implication of this inadequacy has led to several people suffering from different sicknesses and diseases and sometime death. The study recommended that the federal government should take full responsibility of PHC delivery in Nigeria since PH center is the closest and the cheapest means of obtaining healthcare especially among the vast majority of the nation's population. He added that, for the LGs to remain as the operators of PHC the federal government must increase financing to LG.

The result of the research indicates over concentration of health personnel at the urban center at the detriment of the rural areas and recommended that the FG should take over PHC service delivery program. This recommendation seemed to have caused more problem to the grassroots people than solving it, because of the fact that in spite of the failure of the LG to provide adequate PHC service, local provision is far better and more affordable to the local people because of their closeness and being more responsive to local demands.

In a similar study, Adeyemo (2005) analyzes Local Government performance in healthcare delivery service (including immunization) in Nigeria using Ile Ife LG as a case study. The work traced the historical antecedent of health service delivery since colonial era and the major contradictions in the management of PHC implementation. The findings of the study portrayed shortage of qualified personnel and finance, inadequate transportation facilities, inaccessibility to communities, lack of maintenance culture, political instability and high degree of leadership turn over. Indeed the study proved evidence of PHC service delivery problems in Ile Ife LG and also proven that for sustainability of health care service delivery at the grassroots, increase financial allocation, community mobilization, improvement of health care education, policy consistency and provision of qualified health worker are necessary.

Olayin and Lawanson (2010) in their study on Health Expenditure and Health Status in Northern and Southern Nigeria, which they used the National Health Accounts (NHA) framework to investigate the differences in the Northern and Southern regions' patterns of health financial flows, and the implication for healthcare delivery outcomes in the region. The study was based on the federal structure of governance in the country which has shaped both health financing and delivery in Nigeria with all the three tiers of government involved in the health care delivery organization, management and financing. The study found out that health care financing in both Northern and Southern Nigeria was heavily dependent on the household and the proportional share by the household is disproportionately against the North because of the higher poverty incidence in the region. The results further exposed the dominance of the public providers as more prominent in the North, where more than 71% of health services are spent in public facilities while both the public and private facilities in the South receive approximately equal share of the health spending in the region.

The policy implications of the research indicated the fragile health insurance scheme in the country and that it should be strengthened through broadening of its coverage to both formal and informal sectors of the economy and that government should bring health issue to the fore by increasing resource allocation to health.

The study used comparative analysis of the health expenditure and service delivery in the northern and the southern states of Nigeria. It has also provided differential of the patterns of expenditure on health in the two regions and related the differential to the rate of poverty in the region. However, factors such as the amount of revenues received from the federation account, the number of the population and the needs of the two regions would have also been taken into consideration.

A comparative study by Oyekale and Eluwa (2010) investigated the health care utilization and the health insurance of the households in Irewole Local Government area of Osun state. The study discovered that, the state of the Nigerian health system is dysfunctional and grossly under-funded with per capita expenditure of US$9.44. Consequently, Nigeria still has one of the worst health indices in the world and sadly account for 10% of the world's maternal death in the child birth. The findings indicated the general ratings of the conditions of healthcare service delivery in Irewole local government where very low and awareness about NHIS was low. Though, inadequate funding is one of the problems of effective health care service delivery. Other factors such as inadequate qualified health personnel and other factors are very important.

Khemani's (2012) study of decentralization and health care service delivery in Nigeria observed that evidence of limited accountability at local levels, specifically reflected in the non-payment of salaries of health workers, which cannot be explained by appealing to lack of resources available to local governments but due to lack of accountability at the local level. The study further investigated whether correlation exists between insufficient provision of health services and insufficient resources. Khemani's report indicates lack of accountability at the local level as the main constraint for decentralization of PHC service delivery at the grassroots level and rejected the previous findings that insufficient provision of health care services were due to insufficient resources.

The studies of Khemani (2012) and that of Olayin and Lawanson (2010), though relevant to explain the real health situation in Nigeria, their analyses lay more emphasis on analyzing general health condition in the country, without really dealing with a particular health issues at a particular area. On the other hand, Oyekale and Oluwa's (2010) study though empirical at the local level, it concentrated at the southern part of the country.

Lawanson's (2010) study of service delivery in Nigeria and the role of state and LG in health care service provision observed that although the state and LG are assigned responsibility for the delivery of basic public services, they are not equipped with adequate revenue resources to fulfill their expenditure obligation because the bulk of government revenues is retained by the federal government. The study drew data from field work undertaken in six states and 12 LGAs to determine the impact of the federal arrangements on the basic service delivery including primary health care, primary education, portable water and sanitation, local roads linking communities to health facilities etc. The work utilized both questionnaires and interview to elicit responses from each tier of government. The work revealed that the federal government recognizes the primary responsibilities for delivering these services rest with the states and LGs and appears to distrust their capacity and will to do so effectively. However, it chooses to treat certain sectors such as the primary health and education as national priorities and intervene extensively in delivery largely through direct investment in infrastructure. More so, the study dealt with decentralization and service delivery including PHC but did not capture immunization in particular, hence, this work left us with another gap.

Kajang (2004) acknowledged the challenges of healthcare service delivery in Nigeria as the capitalist nature of the Nigerian economy which is reflected in the weak structure in health services that has serious implication on health care service delivery in the country. The study related poor performance of the health sector to the capitalist nature of the economy without due consideration of other factors.

Khemani (2005) study of LG accountability and healthcare services delivery (including immunization) in 30LGs in Kogi and Lagos States observed that LGs in Nigeria received considerable revenue under the present democratic dispensation partly due to the oil price boom. The results indicated a correlation between nonpayment of staff salaries and LG revenues or budgeted spending on staff salaries. Further regression analysis of the study showed that per capital LG revenues and per facility LG spending on health personnel are not able to explain variation in nonpayment of salaries across LGs. Hence, nonpayment of salaries cannot be explained by lack of resources available to LG. Rather evidence are related to the general problem of accountability at the LG level in the use of public resources that are transferred from higher tiers of government and about to which local citizens may not be well informed since they are not the taxpayers.

On the contrary, Habibi et al (2001) as cited in Shah et-al (2012:3) examined the impact of devolution on social sector outcomes in Argentina for the period 1970-94. They opined that fiscal decentralization had a positive impact on delivery of education and health services as well as reducing intra-regional disparities indicated association between effective service delivery and decentralization in Argentina. Despite the fact that the study is relevant, emphasis was on education, general healthcare service delivery, yet it is silent on immunization service delivery in particular.

2.5 Challenges of Immunization in Nigeria

Immunization is a cost-effective public health intervention aim at reducing morbidity and mortality associated with infectious disease. In spite its importance, success of immunization service delivery in Nigeria has not been without challenges. These challenges include: socio-cultural, funding, personnel and management.

2.5.1 Socio-cultural challenge and the success of immunization in Nigeria

Over the years, Nigeria's immunization coverage had been low. This poor performance has corresponding increase in childhood mortality and mobility from VPDs. Though there are variations between states and geopolitical zones, child immunization coverage in Kaduna state was low. The state has been a risk and endemic in spite of the effectiveness of the vaccines in the prevention of the VPDs. Full compliance by parents has been a problem to successful implementation of the program in spite of the fact that immunization is cost-effective health intervention for reducing child morbidity and mortality occurring from VPDs. In view of the above, the federal, State, L.G and the development partners continue to join efforts to device strategies to increase immunization coverage in the country. Socially constructed belief on immunization has been a serious problem immunization delivery in Nigeria. This section reviewed literatures on socio-cultural factors that affect immunization delivery in Nigeria.

Ejenbi (2013) noted that, children under five years in the Northern Nigeria are faced with adverse effects of such illness and continue to pose serious threat to provision of healthcare delivery service in the country. In response to this, concerted efforts have been put in place since 1989 to reduce the problem of infant morbidity and mortality in Nigeria mainly through routine immunization and supplemental campaigns (door to door). In spite of a 99% reduction in poliomyelitis prevalence worldwide, Nigeria still accounts for the highest prevalence of circulating wild polio virus in the world and the country is among the ten countries in the world with vaccine coverage below 50 percent. This empirical evidence proved that ethnic group, religion, occupation were associated with immunization status of the under-fives. Multivariate analysis (binary logistic regression) of the data however, showed that mothers' educational attainment may not significantly influence immunization status of the under-fives, as much as household monthly income. While the study is relevant and captured the state of immunization in the northern states of Nigeria, the study left us with gap in empirical study on immunization in Kaduna state in particular.

The results of a similar study in the southern Nigeria indicated that immunization coverage rates in Nigeria have remained very poor, in spite of the numerous programs and strategies, specifically designed to improve coverage. Most respondents in the urban center (Yenagoa, the capital of Bayelsa State) were a significantly younger, better educated, and had fewer numbers of children. The results further indicated significant higher immunization status of children in the rural community (Ondewari, a rural, riverine community) better (11.46%) than those in the urban (47.04%) community (Itimi et-el, 2012).

On the other hand, the study proved higher dropout rate in the rural community (with a DPT dropout rate of 77.34 %,) than the (12.39%) in the urban community. Most reasons for the urban dwellers were due to lack of motivation, relocation (11.34%) and the effects of rumor about childhood immunization (17.23%). For the rural communities reasons advanced were mostly health facility related, and the absence of the vaccinator (20.46%) and non availability of vaccines (26.64%). The finding is contrary to the expectation that women in the urban areas would be better informed and educated. Hence, the tendency for higher immunization coverage would be higher than those in the rural communities. The result proved that the suspicion on immunization is not only in the Northern Nigeria but also in the Southern part of the country. The result is contrary to similar studies conducted in Nigeria and Australia.

A Similar study observed non availability of vaccines, long distances, unknown immunization sites, fear of adverse reactions from vaccines, rumors, lack of trust in immunization and mother not having time for immunization as the main reasons for poor immunization coverage in Nigeria (Edokwe, 2013). Though these reasons are valid or common to places, they are uncommon to many other places as observed by Aina (2013). There is no doubt that frightening reports related to immunization seem to have to contribute fear to immunization service delivery in developing countries and Nigeria in particular. Evidence to this claim showed that, 30% to 50% of injections produced in developing countries are associated with significant morbidity, mortality and socioeconomic loss (Musa, n.d). This result did not only uncover the usual practices of unsafe vaccination injections in developing countries but exposed another threat to the near success of eradication of polio and control of other communicable diseases as evidenced by the eradication of smallpox.

Allo (2008) study opined that, resistance to the efforts in Northern Nigeria by some religious leaders who held the belief that the vaccine contained contraceptive agents and other contaminants with which the Western world hoped to control population growth is among the main reasons and challenging constrain for effective immunization in the Nigeria . This has led to the suspension of the immunization program in some states in Northern Nigeria, such as Kano State in 2003 until July 2004. The findings of the study generalized the challenges of immunization without considering other factors such as lack of professionals, accessibility to some remote areas and other logistic problems as opined by other researcher.

Gidado et-al (2010) note that, immunization is proven tool and cost-effective public health intervention for reducing morbidity and mortality associated with infectious diseases. RI in Bungudu Zamfara State indicated poor coverage which was associated to low level of education and the belief that the immunization can cause infertility. Correlation between level of education and the knowledge of RI was established. The findings also coincided with similar study results in northern India, Istanbul Turkey and that of Edo State in Nigeria.

Misau (2006) research using cross-sectional study of three hundred and forty children between ages of 12 and 23 months to asses factors influencing childhoods immunization in Misau LG of Bauchi state observed that, only 44.3% of children studied were fully immunized with all antigens. BCG had the highest coverage, while DPT has the lowest. 9.8% of the respondents mentioned "non-availability" as their reason for non-compliance. However, 39.5% of the respondents cited long distance, 33.9% of the respondents said "not necessary" on why their child had not been immunized, whereas 25.8% said "husband did not approve for it". This indicated the existence of socially constructed belief on immunization in Misau LG of Bauchi state.

Muhammad's (2005) study of factors affecting routing childhood immunization in Gwale Local Government Kano State utilized a sample of 300 children 12-23 months age (using WHO/EPI cluster sampling technique). Data was obtained from both interview and questionnaires administered. The research revealed that majority of the respondents were aware of the existence of RI services in the Local Government area, 79% of the respondents knew VPDs, 66.3% believed that immunizations were preventive services and 67.3% accept that their children should be immunized. Only 30.3% of the children were fully immunized, 47.7% were partially immunized, while 22% were not immunized at all. Among the reasons for not been immunized were illiteracy (45.3%), wrong perception (with 18.3%) saying it was against religion, while (36.4%) were discouraged by their husbands. The study concluded that here are many cultural and religion beliefs, some of which negatively affect immunization services in the state.

From the above findings, it is clear that despite the fact that majority of the services were available and affordable, findings of the investigation showed that immunization coverage in Gwale Local Government was very low. This showed that significant number of the respondents did not receive immunization. Only 6.3% have good knowledge of children immunization. Majority of them are civil servant and those with tertiary education knowledge. While significant proportion of the respondents rejected immunization due to misconception and influence of others including husband.

Similar study of Goa as cited in Muhammad (2005) indicated that children with high birth order, Muslims religion, those residing in rural areas, children with low parent education, socio-economic status and those from large families had significantly low immunization coverage level compared to children with other group. Trend analysis of the study showed that, improvement in immunization status with improvement in parent education, socio-economic status and decreasing family size. These results corresponded with the findings of Kabir et al as cited in Muhammad (2005) study in Panshekara Kano state which showed positive correlation between mother's education and immunization coverage. On the contrary, Musa Study as cited in Muhammad (2005) indicated socio-economic status of parents was the major reason for poor immunization coverage in Ilorin Kwara state.

NIC Report of 2003 as cited in Muhammad (2005) indicated that, fewer than 1 out of 6 children aged 12-23 month were fully immunized. The study further indicated significant differences of immunization coverage between Muslims and Christians minorities, urban and rural dwellers in the state. The report further indicated that in Jigawa state inaccessibility and inadequacy of functional health facilities were found to be the major factors for poor immunization coverage in the state rather than religion or culture.

Similar study by Nath et al in India as cited in Muhammad (2005) showed that, low socio-economic status (10.8), Muslim Religion (4.3) higher birth (4.3) order, delivery of birth at home (3.6)and belonging to family (2.1) increased the risk of non-immunization significantly. The study further revealed that literacy status of the mother had no significant independent bearing on the immunization status of the child. On the contrary Kargil study in India as cited in Muhammad (2005) found that immunization coverage of infants from economically advantage and highly educated mothers was lower than in their less privileged counterparts. The study proved negative attitude of educated mothers towards immunization.

Awodele et al (2010) study in Lagos state indicated that 77% of the respondent mothers strongly agreed that seeking medical help is the best treatment option for children with paralytic poliomyelitis, not spiritual and witches. The results of the study established that no association exists between religion and participation or compliance in child immunization. This is contrary to previous studies in other parts of the country.

In the same vein, Raji and Ndikom (2013) study as cited as cited in Dalhatu (2015) indicated that religious belief had no effect on 98% of the respondents on their decision towards child immunization and even some mothers disagreed with the notion that a mother’s occupation constitutes an obstacle to their participation and compliance in child immunization.

The studies above indicated correlation between socially constructed beliefs on immunization in some parts of Nigeria, none of the literature reviewed had similar emphasis in Kaduna state. This study provided has filled such gap.

2.5.2 Management and Success of Immunization in Nigeria

Shen et al (2015) study of challenges and opportunities of routing immunization in developing world observed that, vaccine, cold chain and logistics management as the main challenge of routing immunization delivery in most developing countries (including Nigeria). The study further cautioned the need for additional management capacity to maintain higher volume of new vaccines. The study emphasized on management of cold chain and logistics in developing countries. Apart from being too general the study lacks empirical evidence to buttress its argument.

Ita et al (2012) study on perception of the rural mothers and psychological fear of side reaction in some high risk areas of the northern Nigeria indicated that, there was relatively high immunization coverage, availability of health facilities, and delivery by trained personnel is associated with full immunization. Fear of side reaction was one of the reasons of immunization failure (Dalhatu et al, 2015). The study indicated proper management of personnel and logistics as the reason for the success of immunization. Fear of side reaction on the other hand was considered for its failure. Though the study utilized questionnaires to obtain data, interview would have been a better tool for gathering information on psychological reaction especially among rural women in the northern Nigeria where literacy among that group is very low.

2.5.3 Availability of Health Personnel and the Success of Immunization in Nigeria

CHEDOC, (2011) Study examined Nigeria's success and remarkable progress on immunization coverage in recent years. The study suggested that it was due to active collaboration with development partners and other stakeholders. The study further related poor health and status in Nigeria to poor PHC infrastructure, lack of morale by the PHC workers and loss of confidence in the health service by the community.

A similar empirical investigation by (Oluadare, 2009) listed ignorance and social cost of access to the services, the quality of the immunization service, availability to the remote areas, health personnel commitment, and consistent availability as reasons that account for the low coverage of immunization in Ekiti state in the southern Nigeria. These findings proved similar results to that of other studies in other parts of the country, except that fear or suspicion on the immunization in the area is either low or absence.

Similar study of statewide assessment on Routine Immunization System in Bauchi and Sokoto States in the Northern Nigeria revealed that approximately 57,063 and 42,510 infants were immunized with DPT3 in Bauchi and Sokoto States respectively. In both states, a shortage of qualified personnel and a mal-distribution of existing staff were observed. Only 44% and 40% of the health personnel were professionals in Bauchi and Sokoto states respectively. Shortage of facilities and irregular schedule for the distribution of vaccine and vaccination supplies in the two states were noticed. Thus the results indicated inadequacy of health (professionals) personnel and other facilities for effective RI in Sokoto and Bauchi states while evidence of Kaduna state is still either not available or none.

A Study indicated that the tendency of socio-economic status of women is likely to improve when status of their children is improved (Aina, 2013). Of course this correlation may not only exist among Hausa women in Kaduna state of Northern Nigeria as observed by the author, but also to many communities because of the fact that if the health status of children are improved, the resources that are spend on health would be used for other economic benefit.

Abdulraheem et-el (2011) study cautioned that for immunization program in Nigeria to be successful, a target of 95% immunization coverage is necessary for the sustained control of vaccine preventable diseases. Again, partial immunization coverage against vaccine preventable diseases in the rural areas is among the significant public health in Nigeria. The research utilized mothers of children within one year of age as the study subjects using a cross-sectional study design. The immunization card was utilized to check for completeness and correctness of immunization schedule and also for identifying the appropriate use of all available opportunities for immunization. About two third (62.8%) of the children were not fully immunized by one year of age, 33.4% had experienced a missed opportunity for immunization and 36.4% were partially and incorrectly immunized. The study further revealed that parents objection, disagreement or concern about immunization safety (38.8%), long distance walking (17.5%) and long waiting time at the health facility (15.2%) are the most common reasons for partial immunization. Though the study research on some aspects of immunization, it is too general to reflect on the real immunization status in the country Nigeria.

While Path (2003) study indicated that routine immunization in Nigeria are either no longer available or irregular; limited resources for health services and gaps in vaccine storage and distribution added to the challenges of immunization coverage. The study cautioned that for meaningful success on RI in Nigeria, efforts should be on strengthening vaccine storage, vaccine delivery, and waste management, building health workers' skills in vaccine management, improving systems for delivering supplies to health centers and communities and improving access to immunization for all populations in the region, including difficult-to-reach families living in remote areas. The study explored the state of RI in Nigeria including the main problem associated with the program and provided feasible solution to the problem.

Babalola and Lawan (2009) study examined the predictors of Bacille Calmette-Guérin (BCG) immunization status among infants in the four states (Jigawa, Katsina, Yobe and Zamfara) of northern Nigeria using a behavioral ecological model. The research illustrated that, only 37.3 percent of the children had received BCG vaccine. And that BCG immunization status in northern Nigeria is influenced by factors, including child's characteristics, parental or household factors, community characteristics, vaccine supply and the policy environment. At the child's level, place of birth and ownership of an immunization card are the two most significant predictors. The parental and household predictors of BCG immunization status include maternal use of antenatal care, maternal knowledge about immunization, and maternal exposure to child health information, social influence and paternal approval of immunization. Both the regularity of vaccine supplied to the health facility and the state of residence are associated independently with BCG immunization status.

Elah (2012) study of polio immunization in Kaduna, Katsina and eight other states observed that, immunization coverage in the Northern Nigeria was among the lowest in the world. This poor coverage was due to ineffective and deteriorating health care services, lack of investment in personnel, facilities and drugs. Other factors include poor management of the existing resources, lack of confidence and trust by the public in the health services resulting from the poor state of the facilities and low standards of delivery. Though relevant, emphasis was more on polio rather than five killer diseases such as measles etc.

Sadoli and Eregie (2009) study of timelines in receiving and the completion rates of immunization schedule in India indicated that, about 30% of children presented after 4 weeks of age for their first immunization; 18.9 – 65% of the children were delayed in receiving various vaccines compared to recommended ages for receiving the vaccines. Only 44% were fully immunized. Findings of the study indicated poor quality immunization service delivery in India. Mukherjee (2004) study of vaccine wastage during immunization in India revealed that thirteen booths reported wastage in nineteen or more unopened vials. Nineteen reported wastage of nine or more vials during the use because of color change on the vaccine vial monitor (VVM), indicating poor cold chain maintenance at the immunization site. The study reported wastage of total of thirteen booths of nine or more unopened vials whereas nineteen booths reported wastage of nine or more vials during use because of the color changes on VVM. This showed that substantial vaccines were wasted during and before immunization process in India due improper cold chain maintenance. Indeed this situation is common to most developing countries including Nigeria due to inadequate facilities.

2.6 Immunization Standards

For immunization to achieve its aim of reducing morbidity and mortality rates, at least certain standards must be met. These standards usually serve as criteria for measuring effectiveness of immunization service delivery. The standards are of different categories including human resource management, availability of equipments and storage requirements.

To maintain optimum standard for immunization, the REW (2007) identified the following requirements in relation to human resource management:

a) It is important to maintain data base of all qualified health personnel as well as other staff.
b) There should be at least one health worker qualified to give injections per health facility.
c) In areas where there ware shortage of trained vaccinators, effort should be made to deploy trained vaccinators from other institutions to support those areas during the plan immunization sessions.

d) There should be a continuous reorientation of staff during supportive supervision.

These requirements indicated that at least certain number of qualified and trained health personnel should be available.

The Nigerian Polio Eradication Emergency Plan (2012) in the same vein set out the following strategies to achieve immunization standard. These include important micro plan so as to achieve larger coverage, trained and supervised vaccinators teams, addressing the problem of team shortages and remuneration issues, adequate logistics support and giving more attention to independent monitors.

Similarly the United States Public Health Services (1992) recommended the following standard for immunization and endorsed by the American Academy of Paediatric Advisory Committee and others to include availability of vaccines, assessment of Vaccination Status, effective Communication about Vaccine Benefits and Risks, Proper Storage and Administration of Vaccines and Documentation of Vaccinations, implementation of Strategies to Improve Vaccination Coverage.

However at the global level the WHO set the quality standard and the minimum criteria to be met which include ensuring the safety and quality of vaccines and monitoring the extent to which a given licensed vaccine meets those standards. The WHO's Expert Committee on Biological standardization achieves these objectives through the national regulatory authority of a particular country (WHO, 2013).

2.7 Experience of Immunization in India

Bigham and Hoefer (2001) study of the risk and benefits of immunization on Measles, Poliomyelitis, Rubella, haemophilus, influenza type B diseases in British Colombia indicated that average incidence of reported cases of Vaccines – Associated Adverse Events (VAAES) decreased 90 to 100% over a 5 year period after implementing the universal immunization program. Unlike in many developing countries, study of Musa (n.d) indicated that immunization has been associated with significant morbidity, mortality and socioeconomic loss.

Panda (2003) study on the role of the sex composition of surviving older siblings on gender differences in childhood nutrients and immunization in India indicated that neglect of selected sex and birth-order combinations operates differentially for girls and boys. Both the boys and the girls that were born after multiple same-sex siblings experience poor outcome. However, boys who were born after multiple daughters have the best possible outcomes. The findings of the study proved correlation between gender differences and possible outcome of childhood nutrients and immunization.

Walson et al (2006) study aimed at investigating the prevalence of measles immunization determined by serology in the sample of children in the two communities of Chicago. The result indicated that children from the two communities (85% and 90%) had serologic measles immunity. The results also proved that measles is still among killer diseases in Chicago.

The study of morbidity and mortality in India indicated that, since 1988 the global incidence of polio has decreased by 99%. India remained a polio endemic country with 1,600 outbreak cases in 2002. Since then the government of India had accelerated polio eradication through increase in the number and quality of supplementary polio eradication activities (SIAs) which reduced the number of cases to 225 in 2003, 134 in 2004 and 18 in 2005. The study revealed that immunization is one of the basic strategies used by the Indian government to reduce prevalence of polio in the country.

Avis et al (2007) study of Immunization in Saskatoon City in Canada between 1999-2002 indicated significant disparities in areas that are socio-economically disadvantaged having lower rates of total, complete and up-to-date immunization up take compared to areas with higher economic advantage. The results indicated correlation between socio-economic advantage of mothers and completion of immunization in Canada. The findings of the study were similar to that of Aina (2013) in Kaduna state of Nigeria.

Kumar and Mohanty (2011) study of immunization Coverage between 1992 and 2006 in Bihar and Gujur India indicated substantial increase in partial immunization in many states and low coverage in full immunization. They further noted, mother's education, standard of living, mass media exposure and availability of health card were the determinant predicators for full immunization coverage irrespective of time. This result is contrary to that of Itimi et-el, (2012) in the Southern Nigeria.

John (1984) study of prospects and problems of control of poliomyelitis in India showed that in spite of the increasing rates of poliomyelitis in India, oral vaccination (OPV) has been proven effective for controlling outbreaks. The introduction of oral vaccination in the routing minimization has not successfully controlled poliomyelitis in India due to inappropriate immunization strategy and low rates of antibodies to vaccine virus. The study further revealed that though injectable polio vaccines were found to be highly effective, they are inadequate and costly.

2.8 Theoretical Framework: Theory of Local Government

This section concentrates on theoretical framework on the justification for the existence of Local Governments. .i.e. articulating the functional responsibilities that Local Governments are supposed to perform. In this regard, Adeyemo, (2010) identified three schools of thoughts, they are:

i. The Democratic participatory school
ii. The Efficiency services school and;
iii. The Developmental school

(i) The Democratic School

Advocates of democratic school of thought(Mill, 1964; Mechanize, 1964; Alex-de-Tocqueville, David Bulfer; Keith Lucas, and James Bryce) hold that, Local Government function to bring about democracy and to afford opportunities for political participation among the citizens as well as to educate and socialize him politically i.e. Local Governments exists primarily as political institution with the responsibilities of fostering representative and participatory democracy at the local level (Ola, 1984; Adeyemo 2010). In this conception, LGs essentially emerged to perform the sensitization function in the art of politics. {Mackenzie (1964) as cited in Gboyenga (2007)}. However, the point is not that local government always provides a training ground for the higher levels of government. However, a tendency exists in many democracies for a good number of parliamentarians, whether at state or national level, have benefited from a political education at the local government levels. The core of the argument of the democratic participatory school is that local government must continue to be a buttress of democracy. To do this, it must continue to inculcate these ideals of democracy and participation (Ola, 1984).

From the above we can deduce the following principles of the Democratic participatory theory:

a) LG primarily exists to promote democracy through people's participation at the grassroots level.
b) LG performs the functions of socializing and educating people politically
c) LG serves as a training ground for future politician

(ii) The Efficiency Services School

In reaction to democratic participatory school of thought, several scholars have criticized this view, stating that what is central and more important to LG functionality is that profounded by the efficiency services school is that the essential function of LG is not the bringing about democracy or creating a base for political participation. Rather they argued, ‘‘LG exists to provide services, and it must be judged…by its success in creating services up to a standard measured by a national inspectorate. LG because of its closeness to an area can provide certain services more efficiently than the central government. These services should be allocated to it and should form the main functions (Mackenzie, 1954 as cited in Ola 1984). Supporting this view, Sharpe (1970) as cited in Ola(1984), suggested that, the efficient performance of these services are so compelling that, if local government did not exist, something that would have to be created in its place. LG because of its closeness to an area Local Government can provide certain services far more efficiently than central or state government. These services should therefore be allocated to Local Government.

From the foregoing, the following principles could be noted:

a) The school is a reaction to democratic school of thought
b) LG exists to provide basic essential services and as such, it will be judged on the scale of

efficiency on how best these services are provided.

c) because of its closeness to the people of an area, LG can provide certain services far more efficiently than both the federal and the state governments

(iii) The Developmental School

The developmental school on the other hand emphasized on how Local Governments in the developing countries could be 'an effective agent for better life, an improved means of a better living, socially and economically, and a means to better share in the national wealth' (Adeyemo, 2010). From the above we can deduce the following principles:

a) LGs were basically created to provide accelerated development at the grass root levels
b) LG can serve as an effective tool for improving better life

Supporting the above positions Adeyemo (2010) noted that the 1976 Local Government reforms categorically identified specific objectives of the Local Governments and sum up the ideas of the above schools of thought as follows:

i. Activities by devolving or delegating them to local representatives' bodies
ii. To facilitate the exercise of democratic self-government closet to the LG levels of our society, and to encourage the initiatives and leadership potentials
iii. To mobilize human and material resources through the involvement of the members of the public in their local development; and
iv. To provide two channels of communication between local communities and government (both states and federal) (local government reform 1976).

Adeyemo (2010) further maintained that,

> None of the three schools of thought is irrelevant to the success or failure of National Health Services delivery. Essentially, Primary Health Care Services Delivery aimed at enhancing of democratic mass participation of all and sundry at the grassroot levels. Efficiency – Services School fits in the health services of the people while effort is aimed at the overall development of every individual since health is wealth. Theoretically speaking therefore, Local Government is expected to enhance achievement of democratic ideals, political participation, protective services and infrastructural services like provision and maintenance of health facilities and institutions (Adeyemo, 2010: 3).

However, for the purpose of this study the researcher has chosen efficiency services school as a theoretical framework for the study. This is because though provision of health care service in Nigeria is under the concurrent legislative list, but the primary health care service delivery including the actual delivery of immunization service is shouldered on LG because of its closeness to the grassroots communities and the expectation that it would be better and efficiently provided by the local authorities.

Local governments were therefore designed to reflect at least some cultural diversity of the people. To perform their functions effectively and deliver services successfully, the 1976 LG reforms placed LGs as a third tier status in the Nigerian federation and made to receive funding from the federation account. To ensure effective management, available and competent personnel at the grassroots level, LGs were empowered to recruit and train certain category of personnel.

For immunization to be efficiently and effectively delivered to the local communities, collaboration or partnership and Public-Public Collaboration or Shared Service Delivery models were considered as the best strategies. As presented in the literature review, collaboration partnership is formed when a government and the private sector agree to work cooperatively toward shared or compatible objectives. In the Nigerian context as well as Kaduna state in particular, mutual collaborations between government and development partners were enhanced, as such this partnership has produced positive outcome. This form of alternative service delivery model enhances accountability and effective management.

Even though the actual delivery of immunization is the responsibility of LGs, however the three tiers of government takes part in the immunization service delivery in form of Public-Public Collaboration. Public-Public Collaboration/Shared Service Delivery is the partnership between different levels of government or departments. e.g. the delivery of immunization is a form collaboration between the three levels of government. This strategy has yielded positive outcome in terms of accountability, division of responsibilities, increasing coverage, reducing mortality rate, effective management of funding, personnel and breaking the cultural barriers. In terms of funding of immunization all the three tiers of government finances immunization.

The federal government is responsible for setting up of the national health policies, coordinating and implementing of national health programs, evaluating and monitoring immunization in the country through the National Program on Immunization. The central government is also responsible for buying vaccines and allocating them to zonal cold stores. The state government is liable for distributing vaccines to Local Government central storage facilities and managing state health and other budgets. The state also takes part in coordinating immunization within its jurisdiction. At the lower level, the LG deliver the immunization to grass roots communities. By this arrangement, each level of government participates in the delivery of immunization. It can be proved that success of immunization service delivery is the product of Public-Public collaboration between the three levels of government and collaboration with development partners. These arrangements have reasonably tackled the problems of shortages of funding, availability and competency of health personnel. It had also enhanced management of human and material resources, government effort at immunization and finally break up the cultural barriers that hinders the success of immunization in Kaduna state. This chapter discussed literature review and theoretical framework of the study, the next chapter is the methodology of data collection.

CHAPTER THREE

RESEACH METHODOLOGY

3.1 Introduction

This chapter discussed the research design, method and the instrument of data collection, population and sample size of the study. The chapter also highlighted sampling techniques and method of data analysis and instruments used in the course of this study.

3.2 The Research Design

In the course of this research, the survey research method was used. In this regard, sample from the subset of the main population was utilized. There was effort to make sure that our sample fully possesses the qualities of representation so as to reduce the rate of sampling error. The researcher used the survey method to find out the level of Local Government performance in delivering immunization service in Kaduna state. To this end, funding, service delivery strategy, quality of personnel and government efforts are variables used to investigate their effects on the success of immunization at the Local Government level.

3.3 The Population of the Study

This section presents population of the study and the composition of sample population per LG.

The survey conducted covered six LGs: two from each of the three senatorial districts within Kaduna state. The LGs are as follows: Sabon Gari, Giwa, Kauru, Jema'a, Kaduna North and Kubau LGs. The total population of the six Local Governments according to 2006 census was 1661780. The breakdown is as follows:

Table 3.1 LGs Population and Senatorial Districts

S/NO	LGs	Category of LG	Population	Senatorial Districts
1	S/Gari	Urban	286,871	Northern
2	Kaduna North	Urban	357,694	Northern
3	Giwa	Semi Urban	286,427	Central
4	Kubau	Rural	282,045	Central
5	Jema'a	Semi Urban	278,735	Southern
6	Kauru	Rural	170,008	Southern
	Total		1661780	

Source: National Population Commission 2006.

Table 3.1 above indicates that, Kaduna North and Sabon Gari LG have the highest population with 357,694 and 286,871 respectively, followed by Giwa LG with population of 286, 427 from the central senatorial district. Kauru LG has the least population of 170,008 from Southern senatorial district. The rationale behind the selection of the sampled population was to make our sample more representative of the cultural and religious diversity of the state. Effort was also made to represent rural and urban LGs in the sample. The tables 3.1 above also indicates that the survey conducted covered two LGs from each senatorial district within the state making a total of six LGs.

Table 3.2 Composition of the Sampled Population administered with questionnaires per LG.

Institution	Total Population	Number of sample per LG.
Kaduna North Local Govt.	357,694	86
Sabon Gari Local Government	286,871	69
Giwa Local Government	286,427	69
Kubau Local Government	282,045	68
Kauru Local Government	170,008	41
Jema'a Local Government	278,735	67
Total	**1661780**	**400**

Source: Researcher's computation, June 2015.

Table 3.2 presents composition of population and sampled per LG. The table revealed that, out of 400 staff respondents, 86 were sampled from Kaduna North LG, while 69 were sampled from Sabon Gari LG. Whereas 69 respondents were also chosen from Kubau LG. The table also indicates that 41 and 67 respondents were chosen from Kauru and Jema'a LGs respectively. This indicates that Giwa has the highest sample staff respondents, followed by Sabon Gari and Kauru LGs respectively.

Table 3.3 Composition of Sampled Population interviewed and Focus group discussion (FGDs) per LG and organization.

Institution	**Number of sampled population per LG and organization**
Kaduna Local Government	10
Jema'a Local Government	10
Kubau Local Government	10
Giwa Local Government	10
S/Gari Local Government	10
Kauru Local Government	10
Kaduna state ministry of health	
Kaduna state primary health care agency	2
Kaduna state ministry for LGs	2
Parents	2
Total	**66**

Source: Researchers' survey, 2015.

The table 3.3 above indicates that at least ten respondents were contacted in each LG. Another two respondents from Kaduna state Ministry of Health, Kaduna state Primary Health Care agency, Kaduna state ministry for LGs were contacted. Other 10 staff respondents were selected from Giwa, Kauru and S/Gari LGs each for focus group discussion (FGDs).

3.4 Justification for the Choice of the Sampled Local Governments

Each Local Government is sampled from the different senatorial district to ensure at least moderate representation is achieved. Attempt was also made to represent rural and urban Local Governments in our sample. Again, we have sampled the LGs in this regard so as to ensure that geographical, religious, and cultural background of the population is moderately represented in the sample.

3.5 Sample Size

To determine the sample size of the population for the study, Yamane's (1967; 886) formula as expressed by Israel (1992;1 – 10) was used as demonstrated below:

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

Where n = Sample size,

N = Total population= 1661780

e = Level of significance (95%)2 =(0.0025)

n = 1661780 divide by 1+1661780 (0.0025)

n= 743306 divide by 743307(0.0025)

1661780 divide by 4154.4525= 399

To obtain sample size per each LG:

S/Gari: 286,871 divide by 1661780 multiply by 399 = 69

Giwa LG: 286,427 divide by 1661780multiply by 399 = 69

Kauru: 170008 divide by 1661780 multiply by 399 = 41

Kaduna North: 357694 divide by 1661780 multiply by 399 = 86

Kubau : 282045 divide by 1661780 multiply by 399 = 67

Jema'a : 278735 divide by 1661780 multiply by 399 = 67

LGs	Pop	Sample per LG
Kd/ North	357,694	=86.1= 86
Jema'a	278,735	=67.1=67
Kubau	282,045	=67.8=68
S/Gari	286,871	=68.9=69
Giwa	286,427	=68.9=69
Kauru	170,008	=40.9=41
	743306	
	1661780	

3.6 Sampling Technique

In sampling the state, purposive or judgmental sampling technique was utilized. The choice of Kaduna was important due to under five mortality rates in the state, which we considered important to our research. The technique was also used to select health personnel since we consider them important in our investigation. According to Odoh (1984:48), this technique is used "based on the researcher's judgment especially where he considers a particular category of people relevant to his problem and therefore purposely include them in his sample".

The Simple random sampling technique was also adopted to draw the sample from women. The justification for using the method is based on the fact that the parent population is known to us (Odoh, 1984: 43). Since each element has a chance of being included in our sample, we are assured that using this plan, sampling error will be minimized. We used this technique so as to ensure that each element within the population has equal chance of being represented and to make sure that each element has an equal probability of being represented. Stratified sampling method was also utilized to draw a sample of health personnel in the three LGs.

3.7 Method and Instruments of Data Collection

In the course of this study, data was drawn from both primary and secondary sources.

3.7.1 (i) Primary Source

3.7.2 (a) Questionnaires: Questionnaires were designed to elicit responses from health personnel. The researcher used both open and close ended questionnaires so as to give respondents chance to go beyond the options in the questionnaires and express themselves in the questionnaires. The questionnaire consists of two sections; the first contain the personal data of the respondents including gender, age, marital status, educational qualification. The second section however consists of questions related to (health personnel responses on) immunization service delivery at the local level. The questions were in form multiple choices and close ended questions. We have used this method because it is easy to score and facilitate completion of questionnaires. Open ended questions were also utilized so as to give room for further details and also give respondents chance to go beyond the options and to express themselves in the questionnaires.

Questions with regards to funding, availability and competency of health personnel, management and socio-cultural factors to the success of immunization. We have also asked questions on the effect of government effort on the outcome of immunization. Questionnares were administered to staff respondents (health personnels) by our research assistants who had assited in both administring of the questionnares and recording the information.

3.7.3 (b) Non Participant Observation

In order to bridge the gap between the construct or the theoretical stage and empirical or testing stage, observation method was employed. To this extent, we went to the field and observed the level of Local Government performance in immunization service delivery in the areas under study so as to complement or ascertain the result of our interviews and questionnaires. The research is empirical and has adopted personal inspection and observation. We embarked on a tour of health facilities in the state with the assistance of PHC personnel. We utilized this method so as to come out with objective and consistent result that can lead us to conclusive inferences. It also helps the researcher to solve his research problem and to test the validity of the hypotheses. The method was also utilized so as to obtain a realistic account of the authenticity of the situation acquired from the previous studies elsewhere and other theoretical examinations (secondary data).

3.7.4 (c) Oral Interview

a) The researcher conducted oral interviews with members of the public (parents) so as to ascertain their views on the Local Government on immunization service delivery in their respective Local Governments. We solicited this information because they are the recipients of immunization service delivery. Questions were designed to obtain answers pertinent to the research questions which include contributions of socio-cultural factor to the success of immunization, effect of government effort on the outcome of immunization, in this regard structured/standardized type of interview were used. We used oral interview because not all the respondents could read questions in the questionnares.

b) Focus group discussions (FGDs) were also organized with the health personnels to confirm what we obtained from the questionnaires. We used this method so as to give chance to respondents to express themselves beyond their responses in the questionnateres.

Table 3. 4 Schedule Plan for Questionnaires Administration, Interviews and Focus Group Discussion (FGD) in the six LGs

Task/ Purpose	Site/Location	Time frame
Questionnaire administration	S/Gari	March to April
	Giwa	March to April
	Kauru	March to April
Interviews and Facilities Survey		
	S/Gari	May to June
	Giwa	May to June
	Kauru	May to June
Interviews and Facilities Survey		
	Kubau	Feb 2014
	Kaduna North	Feb 2014
	Jema'a	Feb 2014
Questionnaire administration		
	Kubau	April 2014
	Kaduna North	April 2014
	Jema'a	April 2014

Source: Researchers' Survey 2014.

(e) Administration of Questionnaire

A total of 399 questionnaires were administered to respondents (health personnel) to ascertain their views on Local Government performance in terms of immunization service delivery.

3.8 Secondary Data

In order to complement the primary source, the researcher used secondary data including books, journals, CBN statistical bulletins, conference proceedings, PhD thesis and journals, government documents, as well as unpublished materials including LG reports, cold chain inventory etc. In this regard, the study reviewed literature related to the study.

3.9 Method of Data Analyses

The data were analyzed qualitatively and quantitatively. Data gathered were analyzed using simple percentages. Quantitative data drown from the questionnares were analyzed using SPSS software. Correlation test were also made to test correlation between variables.

The researcher used correlation analyses to explain relationship between variables. It is used to understand whether the relationship is positive or negative and the strength of relationship. We have chosen statistical correlation because it is a powerful tool that provides this vital infomation. Statistical correlation is measured by what is called coefficient of correlation (r). Its numerical value ranges from +1.0 to -1.0. It provides an indication of the strength of relationship between variables.

In a situation where $r > 0$, it indicates positive relationship, when $r < 0$ it indicates negative relationship, when $r = 0$ it indicates no relationship (or that the variables are independent and not related). However if $r = +1.0$ it describes a perfect positive correlation and when $r = -1.0$ it describes a perfect negative correlation. Closer the coefficients are to +1.0 and -1.0, greater is the strength of the relationship between the variables. These relationships were presented in the table below:

Table 3.5 Correlation coefficient and strength of relationship

Value of r	Strength of relationship
-1.0 to -0.5 or 1.0 to 0.5	Strong
-0.5 to -0.3 or 0.3 to 0.5	Moderate
-0.3 to -0.1 or 0.1 to 0.3	Weak
-0.1 to 0.1	None or very weak

Source: Explorable.com://explorable.com/statistical-correlation, 2015

In this study, descriptive and inferential statistics were used to analyze quantitative data (particularly questionnares responses). In the case of descriptive statistics, simple percentage was utilized. In the case of inferential statistics Correlation analysis was utilized to analyze data. For qualitative data, especially information extracted from interviews and focus group discursion were presented in explanatory form.

Chapter three presented methods of data collection and analyses, the next chapter presented historical background of Local Governments in Nigeria, development of PHC in Nigeria, history of immunization in Nigeria, previous efforts on immunization in Nigeria and National immunization policy in Nigeria.

CHAPTER FOUR

HISTORICAL DEVELOPMENT OF LGS IN NIGERIA, KADUNA STATE AND IMMUNIZATION

4.1 Introduction

The chapter presented historical background of LGs in Nigeria from colonial to post independence. Efforts were made to describe the functions of LGs in Nigeria, development of PHC in Nigeria, history of immunization in Nigeria, previous efforts on immunization in Nigeria and National immunization policy in Nigeria.

4.2 Evolution and Development of Local Government in Nigeria

Governance itself emerged with the evolution of family as an institution. As society developed and become more complex, so does governance also developed and became better organized that we have division of responsibilities at various units. Local government therefore has been as old as mankind on earth. The institution evolved when group of people came and organized themselves for the purpose of law and order and for the attainment of common goals. To this extent, one can conclude that, local government as an institution is dynamic, complex and a universal phenomenon without which there could be no society (Jamo, 2006). Hence, Local Government is one of the oldest human institutions on earth (Ahmad: 2012:1).

4.3 Pre-Colonial Administration and the emergence of Local Government System in Nigeria

The perception of the western world is that the contemporary local government system in Nigeria was first introduced by the colonialists when the pre-colonial Nigerian societies were in the state of anarchy (state of nature), living without any form of governance or leadership. In contrast to this notion is the claim by African scholars that contemporary Nigerian formation is a conglomeration of many ethnic groups ranging from tribal communities, city states, village republics and kingdoms or empires which organized themselves in form of their own system of government independent from one another before the arrival of the colonialists.

Before the advent of colonial administration, Nigerian people have developed their indigenous form of administrative system across their different entities (political systems) (Ola, 1984:20; Gboyega, 1987:13). These forms of administrative systems were later developed and modified by colonial government in form of what is known as "indirect rule system" where native people were administered through their traditional rulers. It was through this form of administration that the modern local government system emerged and developed in Nigeria. During the colonial period, the British ruled the whole country with two form of administration. The first was the crown colony system (mainly in Lagos) and the protectorate system which operated in the North and other parts of the South. Under the crown colony system, the British administered and exercised direct control over the territory and the protectorates were administered indirectly through their traditional authorities.

The history of local government system in Nigeria can be traced to the colonial days. Contact with Europeans by the people of Nigerian area, according to Igbuzor (2007), dates back to the fifteenth century. It was not until 1861 before the first step were taken to establish British administration. The British administered the area through the indirect rule system. Under the system, the native people were administered through their traditional authorities. This led to the establishment of Native Authority system between 1890s and 1930s. The main function of the native authorities was to maintain law and order.

The indirect rule system as opined by Ola (1986) was basically rested on the native authority system and comprised the following interrelated components:

a) The Resident officials who were appointed by the British.

b) The Native Authority headed by the indigenous chief who enjoyed some legitimacy in the indigenous political and administrative system.

c) The Native Treasury and

d) Native Court.

The colonial administration in Nigeria recorded different degree of successes. These differences were largely due to the different systems of administration across the different areas. For instance, the system recorded full success in northern Nigeria; this was due to the existence of highly centralized administrative system with well-established taxation system which coincided with highly developed legal system (Jamo 2006).

At the center was the *Sultan who* resided at Sokoto, the capital of the *Caliphate*. The *Caliph* enjoyed some forms of legitimacy and control over the whole region. The Emir (*Sarki* in Hausa) was in-charge of the Emirate (*Gari* in Hausa). The emirate was divided into districts for easy administration; each district was headed by a district head (*Hakimi* in Hausa). Besides, each district contained many villages headed by a head or (*Dagaci* in Hausa). The village was also divided into many wards (*Anguwanni* in Hausa). Hence, the Hausa-Fulani pre-colonial traditional administration was full of constitutional division of governmental powers between center and subordinate units.

To utilize the advantage of this highly established system, the colonial governments make ordinances to guide the activities of the native authorities. For instance, according to Owotokun (2005) ‘’the first local administration ordinance was the native administrative ordinance N0. 4 of

1916”. These local administrations according to him were used in the Eastern and Western part of the country while the Indirect Rule was introduced in the rest of the North.

There was the Native Authority, Native Revenue Ordinance and the Native Courts ordinance. The ordinance empowered the Governor General, Sir Fredrick Luggard, to appoint NA for any area for local administration (FGN, 1998:1). The Native Authority system served as an instrument used by the Colonial Government through the Native council of traditional rulers in an advisory manner. The pre-colonial Nigerian states did not all have traditional institutions upon which native authorities could succeed on the same scale. The native authority ordinance makes the traditional ruler as the sole guardian of his domain. Hence there were no traditional rulers, warrant chiefs were appointed to facilitate the indirect rule system. There was the judicial council which administered justice on a wide range of cases such as land disputes, offences against the State and other criminal offences. However, this was subject to the provincial court which was presided over by the provincial residents (Williams, 2003).

Because of the absence of centralized traditional authorities in Southern Nigeria, it necessitated the first reforms in 1930s and 1940s which led to the establishment of chiefs-in-council and chiefs-and-council in place of the Sole Native Authorities. The Chief-in-Council is made up of the chief and members of his council. The chief presides at all meetings and acts in accordance with the majority of opinion in the council. If he disagrees with the council, he would take whatever action he thought best and informed the Governor of the region. On the other hand, in the Chief-and-Council, the chief has no power to act against the decision or advice of the council. Under this order, representatives of missionaries and British trading interest were selected to serve in the NAs. Non-inclusion of the educated elites in the process of appointment of nominated members by the colonial government further aggravated agitation for reforms in the NAs.

The Richard Constitution that came in force in 1946 restructured the country into three regions; this has tremendous impact on LG system in Nigeria. The new structure gave the regions some level of autonomy over their LG. For instance, as from 1948 the Eastern Regional House of Assembly set up a committee to advise the regional government on the reform of the LG. This has led to the LG law which introduced three tier system of LG in the Eastern region. In the Northern region, however the process of reforming the LG system began in 1952 when a commission of enquiry into the NA system was put in place. Again, this resulted in the Native Authority law in 1954 which brought slight changes in the system of LG administration in the region. Similarly, the Western Regional House of Assembly passed the law in 1952 that adopted representative LG system in the region. (FGN, 1998:2).

Furthermore, in the years 1950-55, the first largely elected local government council based on the British Whitehall model emerged in Lagos, the former Eastern and the Western regions. Traditional rulers constituted not more than 25 percent of the councils in the then Western region and Lagos. But, in Northern Nigeria, there were gradual changes. The legal framework for local government was provided by the Eastern region local government ordinance of 1950, the Western region local government law of 1952 and the 1954 Native Authority law in Northern Nigeria. During this period, the councils were given a wider range of functions including primary education, health, police, and judiciary etc. The councils as Igbuzo (2007) observed, enjoyed a great measure of autonomy in financial, personnel and general administrative matters. It can therefore be said that 'the 1950s was the era of pupilage for councils in modern local government throughout Nigeria'. Again, as part of the process of decolonization, the first elected local government council based on the British Whitehall model was first conducted in Lagos and the former Eastern and Western regions between 1950 and 55.

4.3.1 The Period between 1960 and 1966

The military that took over power in 1966 led to the radical changes in the system of LG administration in the regions and the states that later replaced them. These changes did not enhance the control that the state governments had over LGs (Masoud,n.d4). The local constabulary, courts and prisons were integrated into the national police, judicial and prison services (FGN,1998:2). The states continued to determine power, structures and functions of the LGs. For instance, the existing LGs in the South-Eastern and East central were abolished and replaced by Development Administration. Under the new system, development councils were introduced in place of LGCs without executive and legislative authority. Not only that the local administration were established in the South-East in place of LGCs. In the western region, council manager was introduced in 1973 (Masoud, n.d:4).

As a result of the nationalistic demands after the Second World War, the colonial authorities were forced to introduce reforms. The most important realization was the need to make the Native Authorities instruments of social development. Efforts were then made to widen its membership to accommodate representatives. It was the Labor Government in Britain that saw the need to introduce democratic reforms in its African territories so that major reforms which introduced election principle were crucial as it allocated certain percentage of native authority council membership to elected or selected representative.

Williams (2003:1), concluded that all through the period of colonialism, the indirect rule system encouraged native authorities to function as an instrument for grassroots development. With the introduction of elective principle, a more efficient administrative system was put in place and the elites became more active in the political and administrative arena even though traditional rulers functioned in the background.

Between1960 and 1966, there was a decline in the status and responsibilities of local authorities. In the former Western region, the Local Government (Amendment) law of 1960 abolished the powers of councils to levy education and generate rates on the basis of needs. In Lagos, there was high rate of default in the payment of property rates including government institutions; this resulted in the fall of local council revenue. The situation in the Eastern Nigeria was similar to the Western Nigeria before the outbreak of the civil war in 1967. In Northern Nigeria, there were gradual changes in the structure of the councils with increasing numbers of elected or appointed non-traditional office holders becoming members of local authorities. The result was that the local authorities had a stable administration which enabled them to assume responsibility with some degree of success for more complex services like primary education. Between 1969 and 1971, some state governments introduced some changes in the structure of their councils (Igbuzo, 2007).

This trend continued until 1976 when the military government made certain reform in the local administration. An advisory committee was set up to examine the boundaries of existing Native Authorities, their functions sand powers. A committee was set up to advice on devolution of authority from the provincial system of administration. The committee recommended the replacement of the term ‘Native Authority’ with that of Local Government and the splitting of and regrouping of the former native authorities. Resident administrators were then appointed. This further reduced the status of the traditional rulers in the new local government system (Williams, 2003:1).

3.3.2 Local Government in Nigeria between 1976 and 1985

As a result of unsatisfactory performance of Local Government in the pre-1976 era, and the need to improve the LG administration in the country, the federal government embarked on reform to recognize Local Government so as to occupy its rightful position as a third tier of government in the federation. This was stated by Major General Shehu Musa Yar'adua:

> In embarking on these reforms, the Federal Military government was essentially motivated by the necessity to stabilize and rationale government at the local. This most of the necessity entails the decentralization of some significant functions of the state government to local levels in order to harness local resources for rapid development. The Federal Military Government has therefore decided to recognize local government as the third tier of governmental activity in the federation. Local government should precisely be what government implies i.e. government at the grassroots or local level (Local Government Reforms, 1976).

In fact, the period 1976 to 1979, under the military administration of Murtala/Obasanjo, marked a watershed in the Nigeria local government administration. The period accorded Local Government special position in the Nigerian body polity and brought uniform system of government as single tier structure all over the country. This uniformity was conceptualized according to Owotokun, (2005). In terms of:

a) The function of Local Governments.

b) The structure of the Local Governments.

c) The financial resources of the Local Governments.

d) The places of the traditional institutions in the Local Governments.

e) The relationships with the State Government and

f) Law enforcement.

In terms of functions, Local Government all over the country experienced uniform responsibilities which were later enshrined in the 1979 constitution. Apart from that, Local

Governments all over the federation also experienced uniformity in term of their structure. For the first time, local governments in the country were departmentalized, while administrative wing of the council was headed by a civil servant as Secretary to the Local Governments.

Not only that, the uniform system of LG administration was restored (FGN, 1998:3). In a nutshell, the 1976 Local Government reform granted the Local Government autonomy in the area of funding, administration, area of inter-governmental relation and above all, brought a uniform local government system in the country. To make the reform successful, the LGs according to Masud (n.d, 8) were placed on a stable financial equilibrium (FGN, 1998:4) as:

> First, all the debts of the LGs were written off to give them a clean financial slate to take off from. Second, the government decided that the LGs in each state should receive statutory allocations from their states revenues and from the Federation Account. In 1976, FG allocated N250 million to the LGs to start off the scheme. Similarly huge sums were allocated (sic) installmentally from the federation account until 1981 when the Revenue Allocation Act, 1981 provided that the allocation should be ten percent irrespective of the federation account and state's total revenue.

Again, the reform measures were also debated in the Constituent Assembly in 1978 (Igbuzor, 2007:4) and the developmental role of LG were reaffirmed in section 7, sub section 3 of the 1979 constitution such that:

> It shall be the duty of a local government council within the State to participate in economic planning and development of the area referred to in subsection (2) of this section and to this end an economic planning board shall be established by a law enacted by the House of Assembly of the State.

The democratic period of 1979 to 1983 that followed according to Masoud (n.d:8) did not witness Local Government election; rather sole administrators were maintained till 1984. However, the second republic (1979-1983) witnessed violation of many guidelines of the 1976

LG reforms due to the pressure of politics in the following respects:

(i) Suspension of the LG officials.

(ii) Creation of the new LGs without following the due process of the law

(iii) Irregular transfer of ten percent of states revenues to LGs

(iv) Interference in the LGs revenues by the states

In view of the above, the Federal Military Government appointed a 20-man committee headed by Alhaji Ibrahim Dasuki to review the system of LG administration after the abolition of all the newly created LGs by the civilian administration. The committee in its recommendations suggested the endorsement of the main functions assigned to LGs in the 1976. Hence, LGs should concentrate their effort on limited service delivery. The committee also insisted that the state governments' statutory contributions to LGs and to desist from encroachment over the LGs revenues.

4.3.4 The Period between 1985 and 1991

This period according to Odoh (2004), represents the era of massive state control over local government councils in Nigeria. The control was usually in terms of funding and functions. The period (1984) witnessed the inauguration of the Dasuki committee to examine the reasons behind difficulties in the implementation of the 1976 Local Government reforms. To this end, the committee came out with the following:

a) Evidence of existence more problems related to the functioning roles of the LGs.
b) Recommended multipurpose structure.
c) Improvement of the internal sources of revenue.

When General Ibrahim Babangida came into power in 1985, he inherited Dasuki report, which recommended the caretaker committee system for Local Government and reduced the numbers of councilors with the view to lowering the cost of governance at the local level and the improvement of the internal sources of revenue of the councils. Elections were conducted between 1987 and 1989 at the LG level. The LGs administration in Nigeria also witnessed the following changes:

(i) Abolition of the Ministry for Local Governments and replacement by the department of Local Government.

(ii) Budgetary restrictions and delays were minimized.

(iii) Direct funding of Local Government from the federation account and abolition of State Local Government joint account.

(iv) Local Government statutory allocation was increased from 10%to 15% and later to 20%.

(v) Transferring the responsibility of primary education to primary education Board. (Transfer of some primary health care functions together with institutions, personnel and funds to Local Governments).

(vi) Special take off allocation to Local Government.

(vii) Special provision for protection of Local Governments in section 7 of the 1999 constitution.

(viii) Adoption of Presidential system of government at the Local Government level which accorded local government some autonomy.

(ix) Complementing rural development effort of Local Government and formation of Directorate of Foods, Roads and Rural Infrastructure (DFRRI) and Directorate for Social Mobilization (MAMSER) (Odoh, 2004).

With the inception of the administration of General Sani Abacha, the state joint account for Local

Government was discontinued in 1990, and the system of direct allocation from the federation account began. In addition, Local Government revenue percentage from the federation account was increased from 15 to 19 and to 20%. Despite these achievements, the then federal government continued to interfere in the activities of the local government council by directing the council to support governmental programs and other form of interventions by the state. Other form of interference included the freezing of accounts of some Local Government councils and sacking of Chairmen of some Local Governments.

4.3.5 The Period between 1999 and 2012

This trend continued till 1999 when the country returned to another civil administration. With his inception in office, President Obasanjo in 2003 intended to review the present structure of the Local Government in the country. According to him, 'the need to review the present structure of governance at local level has been informed by three disturbing trends'. These trends according to him include:

a) The non-performance or gross under performance of Local Governments.

b) The high cost of governments and near prohibitive costs of electioneering campaigns to individual political contestants in Nigeria.

c) Atomization and continual fragmentation of local councils including impractical divisions of towns and cities into unworkable mini Local Governments.

The President further announced the setting up of technical committee with the following terms of reference to:

I. Examine the problem of inefficiency and high cost of governance with a view to reducing costs and wastage at the three tiers of government.

II. Review performance of Local Government within the last four years and consider the disability or otherwise of retaining the local government as a third tier of government. In that regards, to consider among other options, the adoption of modified version of the pre-1976 local government system of government.

III. Examine the high cost of electioneering campaign in the country and consider among other options, the desirability of whether political parties rather than individual office seekers should canvas for votes in election, and

IV. Consider any other matter, which in the opinion of the technical committee are germane to the goal of efficient structure of governance in Nigeria (Igbuzo, 2009:6). The committee finally after its investigation handed over its reports to the president.

The 1999 constitution of the Federal Republic of Nigeria granted Local Government a third tier status. The constitution also made a provision for state-local government joint account system where funds from the federation account were paid. The constitution also clearly outlined the functions of the Local Government in the paragraph of the first schedule. Paragraph two of the same constitution also listed some functions to be performed by the local government concurrently with the state. Even though the constitution clearly spelt out jurisdictions for each federating units, Local Governments in the country have long been subjected to serious state control which rendered them ineffective and lacks non-performance.

In view of this, on Monday March 3rd 2006, the National Assembly Committee on the review of the 1999 constitution, after collecting public views found that, the majority of Nigerians were in favor of an independent system of Local Government. It is important to note that one of the important problems for effective LG administration in the country is lack of autonomy. Though Local Governments constitute the third tier of government as enshrined in the 1999 Constitution, they have largely operated as appendages of the State Governments. This is usually through the joint account and joint project system which makes it very difficult for LGs to spend expenditure on priority interest unless it falls on the interest of their respective State Governments.

To address this, three bills were sponsored seeking Local Governments' autonomy. The bills were proposed to amend Section 79(162) of the 1999 Constitution on the provision of political and financial independence for local government administration in the country, and also to amend Section 7, 313 and Section 162 of the 1999 Constitution so as to ensure effective and efficient operations of the Local Government councils in Nigeria. This was intended for social, economic and political development and for other matters connected. The bills basically aim at correcting the ambiguity in certain sections of the Constitution, and clearly establishing four-year tenure for Local Government chairmen (Shedrack, 2012; Ekpo, 2012). However, the Senate of the National Assembly after its deliberations maintained the status of the LGs as a third tiers of government in the federation. The deliberation also maintained the state and LG joint account system and the functions of the LGs as enshrined in the 1999 constitutions. The constitution specified the functions of LGs as follows:

a. Consideration and making of recommendations to the state commission on economic planning or any similar body on economic development of the State, particularly in so far as the area of authority of the Council and of the State are affected;

b. Collection of rate and radio and television licenses;

c. Establishment and maintenance of cemeteries, burial grounds and homes for the destitute or in firm;

d. Licensing of bicycles, trucks (other than mechanically propelled trucks), canoes, wheel barrows and carts;

e. Establishment, maintenance and regulation of markets, motor parks and public conveniences;

f. Construction and maintenance of roads, streets, drains and other public highways, including parks, open spaces, or such public facilities as may be prescribed from time to time by the House of Assembly of a State;

g. Naming of roads 'and streets and numbering of houses;

h. Provision and maintenance of public conveniences and refuse disposal;

i. Registration of births, deaths and marriages;

j. Assessment of privately-owned houses or tenements for the purpose of levying such rates as may be prescribed by the House of Assembly of a state; and,

k. Control and regulation of:

    i. out-door advertising and hoarding,

    ii. Movement and keeping of pets of all descriptions,

    iii. Shops and kiosks,

    iv. Restaurants and other places for sale of food to the public, and laundries.

The local government councils also work hand- in-hand with State governments on issues such as:

a. The provision and maintenance of primary education;

b. The development of agriculture and natural resources other than the exploitation of minerals, and

c. The provision and maintenance of health services.

It is clear that since before the advent of colonial authorities in Nigeria, the native people had their own traditional forms of governance, however the colonial government modified these form of governance to what was known as native authority system. The 1976 LGs reforms brought a watershed in LG administration. The reform measures placed LG as a third tier of government and to receive share from the federation account. This trend continued until 2003 when president Obasanjo set up a committee to review LG administration in Nigeria. In 2014 the Senate of the National Assembly after its deliberations maintained the status of the LGs as a third tiers of government in the federation.

4.4 Components and Objectives of Primary Health Care (PHC)

The term Primary Health Care (PHC) was derived in 1978 from the World Health Organization declaration of Alma Ata- integrating the strategy of existing models of Primary Care (PC) in developed countries as a level of first contact services into a broader strategy for health development (Martin, 2006:1). The concept of PHC was formulated by the 134 countries that met at the Alma Ata conference in Russia on 12th September 1978 organized under the support of the World Health Organization (WHO) and the United Nations Children Fund (UNICEF).

Primary Health Care (PHC) aspires to and promotes equitable health and human development. This required the adjustment of health services towards prevention and promotion strategies.

This can be achieved by assigning appropriate functions to each level of government, integrating personal and public health services, focusing on families and communities, using accurate data in planning and decision-making; and creating an institutional framework with incentives to improve the quality of services. Again, the WHO (1978) specified the objectives of PHC as follows:

a. To make health services accessible and available to everyone wherever they live or work.
b. To tackle the health problems causing the highest mortality and morbidity at a cost that the community can afford.
c. To ensure that whatever technology is used must be within the ability of the community to use effectively and maintained.
d. To ensure that in implementing health program. The community must be fully involved in planning the delivery and evaluation of the services in the spirit of self-reliance.

In sum, PHC is essentially aimed:

(i) To promote health
(ii) To prevent disease
(iii) To cure disease
(iv) To rehabilitate i.e. help people live full; normal lives after an illness or disability.

To achieve the above objectives, the following are set up to be the basic components of PHC:

i. Education concerning prevailing health problems and the methods of preventing and controlling them;
ii. Promotion of food supply and proper nutrition;
iii. Adequate supply of safe water and basic sanitation;
iv. Maternal and child health care including family planning;

v. Immunization against the major infectious diseases;

vi. Prevention and control of locally endemic diseases;

vii. Appropriate treatment of common diseases and inquiries;

viii. Provision of essential drugs;

ix. Community mental health care; and

x. Dental Health Care (WHO and UNICEF, 1978).

From the above it is clear that immunization against child killer diseases is one of the core basic components of PHC. In compliance with this objective, Nigeria is a signatory to all global immunization targets reaching 80% DPT3 coverage in 80% districts in developing countries by the year 2005 as set by international bodies including World Health Assembly (WHA), Global Alliance for Vaccines and Immunization (GAVI), United Nations General Assembly Special Session (UNGASS) Global Immunization Vision and Strategy (GIVS) and Task Force on Immunization (TFI) with the aim of making sure that all eligible children benefit from immunization (REW, 2007). This effort is in line with the country's attempt to reduce the less than five mortality rate by two-thirds between 1990 and 2015 (MDG 4)

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4.6 Development of Primary HealthCare in Nigeria

Public healthcare delivery in Nigeria can be traced to colonial administration during which medical service was set up to give free medical service to the colonial army and civil servants. The services were not available to the indigenes. The then colonial government established hospitals to provide medical services to British Army in Nigeria. To this end, in 1900 Governor

Lord Lugard established medical center at the then military headquarter at Lokoja. For civilians, the St. Margaret's Hospital was the first hospital built in Calabar in 1889.

The period of World War I (1914-1918) which coincided with the period of amalgamation of the northern and the southern protectorates has led to the establishment of several military health care facilities which ware later transformed to government health centers and general hospitals. From colonial to present day Nigeria, Nigeria has witnessed series of Development plans. These are:

a) The First Colonial Development plan from 1945- 1955 (Decade of Development)
b) The Second Colonial Development plan from 1956- 1962
c) The First National Development Plan from 1962- 1968
d) The Second National Development Plan from 1970- 1975
e) The Third National Development Plan from 1975- 1980
f) The Fourth National Development Plan from 1981- 1985
g) Nigeria's Five year Strategic Plan from 2004 - 2008 All of these plans formulated goals for nationwide health care services.

The period between 1952 and 1954 witness transfer of control of medical services from central to the then three regional governments. Apart from the central federal Ministry, the regional governments set up their own Ministries (Emuakpor, 2010).

Health care service delivery during the period of independence (1960) was primarily curative rather than preventive. Measles remained the greatest killer of children. Health care services concentrated at the urban centers with more than 50% access to health care services at the detriment of the rural areas with an estimated 10-15%.

The 1999 Constitution of the Federal Republic of Nigeria placed health on the concurrent Legislative list. By this arrangement, each of the three tiers of Government is vested with the responsibilities of health care service delivery. The constitution further stipulated that the Federal, State and Local Governments shall support in a coordinated manner, a three-tier system of health care. They are as follows:

(a) Primary Health Care Local Governments

(b) Secondary Health Care State Governments

(c) Tertiary Health Care Federal Governments

The LG through the Primary Health Care system is mandated to provide general health services of preventive, curative and rehabilitative nature to the population as the entry point of the health care system. This implies that the provision of primary health care at this level (including immunization) is largely the responsibility of Local Governments with the support of state Ministries of Health and within the pivot of National health policy.

Immunization services in Nigeria are usually delivered through two main strategies namely routine immunization (RI) and supplemental immunization activities (SIAs). RI is the regular provision of immunization services to infants through the administration of vaccines (antigens) in a scheduled plan program. The services are usually provided at fixed post at the community hospitals, clinics or health centers. RI services are also delivered to the population through Outreach, and Mobile strategies (REW, 2007). SIAs are mass campaigns targeting all children in a defined age group with the objective of reaching a high proportion of susceptible individuals.

4.7 History of Immunization

Before the advent of modern immunization, six killer diseases remained an endemic challenge to children survival and development worldwide. Development of vaccine can be traced to experiment conducted by Edward Janner in 1796. Initially, Janner noticed that some dairymaids seemed protected from small fox if they had already been infected by much less dangerous virus caused by cowfox. To test his assumption, Janner conducted an experiment by scratching the arm of an 8 year old boy called James Phipps using material from a cowfox sore in one of these diary maids. Janner repeated the same experiment but this time with some added small amount of smallpox into the same child with the expectation of immunizing the same child from smallpox infection. The result proved positive.

After 100 years later, Louis Pasteur MD experiment proved that disease could be prevented by infecting humans with weakened jams. In 1885, Pasteur successfully used vaccines to prevent rabbies. Jonas Saclk MD and Albert Sabin developed a polio vaccine. The discovery reduced child mortality worldwide. In 1991, polio virus was officially announced eliminated from the U.S and countries in the Southern Hemisphere much so that small fox was eradicated from the world. In 1988, only one case of diphtheria was reported and no case was reported in 2000 which claimed 12,230 lives in 1020 alone.

4.8 History of Immunization in Nigeria

Nigeria is a signatory to the declaration on the survival, protection of children as articulated at the 49th World Health Assembly in 1988 which was later reinforced by the world summit for children held in New York City in 1990. Among the declaration established at the summit were the challenges of global immunization (NPHCDA, 2009). In compliance with the summit agenda, the Nigerian government through the Federal Ministry of Health made effort to pursue an active support on immunization program in the country.

Expanded program on immunization (EPI) under the premises of WHO in Nigeria can be traced to 1979 and later restructured in 1997 so as to ensure effectiveness of immunization service delivery in the country. The main aim was to immunize 0-2 year old (and pregnant women) and achieve above 85% coverage and to integrate immunization into routine activities of all PHCs. To reduce infant morbidity and mortality rate, immunization against preventable diseases including Tuberculosis, Poliomyelitis, Diphtheria, Tetanus, Measles, and Whooping cough were given more emphasis. To ensure government commitment, the name was changed to National Program on Immunization (NPI) so as to nationalize the program and it became a parastartal under the federal ministry of health established by decree 12 of 1997 (NPHDA, 2013; Ahmad n.d).

In May 2007, NPI was merged with National Primary Health Care Development Agency (NPHCDA) and mandated with the task of controlling through the provision of vaccines and immunization guidelines the occurrence of the following diseases: Tuberculosis, Poliomyelitis, Diptheria, Pertussis, Neonatal Tetanus, Measles, Yellow Fever, Hepatitis B, Haemophilus influenzae type Cerebro-Spinal Meningitis (CSM), Pneumococcus, Rotavirus, Human Papilloma Virus (HPV) and other vaccine-preventable diseases as epidemiological evidence may deem necessary (NPHDA,2013).

The NPI scheme is implemented through the three tiers of government at the center of the federal government managed policies and financed under the federal ministry of health (and WHO when there is outbreak of a disease). The federal government is also responsible for the provision of potent vaccines free to all Nigerian population at risk of preventable diseases through the NPHCDA and other tiers of government and stakeholders (NPHCDA, 2013). The state is saddled with coordination and supervision; whereas the LG is saddled with the real immunization service delivery because of their closeness to the grassroots citizen (Ahmad n.d).

Immunization in Nigeria reached its peak between 1980 and 1990 before it started declining in the subsequent years. The success in the Northern zones was due to the routine immunization and increasing women awareness on immunization program (Salako et-al, 2013).

At the center there is a national coordinator with the assistance of sub-coordinators at states and LGs levels so as to ensure smooth implementation through communication channel for effective feedback. Although the program has not yet reached 100% coverage, there is remarkable improvement from 15% in 1979 to 80% in 2007 and to the present 95% in 2013.

Table 4.1: Wild Poliovirus (WPV) cases 2012-2013

Total cases	**Year-to-date 2013**	**Year-to-date 2012**	**Total in 2012**
Globally	192	123	223
- in endemic countries	71	118	217
- in non-endemic countries	121	5	6

Case breakdown by country

Countries	**Year-to-date 2013**				**Year-to-date 2012**				**Total in 2012**	**Date of most recent case**
	WPV	**WP V3**	**W1W 3**	**Total**	**WP V1**	**WPV 3**	**W1 W3**	**Total**		
Pakistan	24			24	26	2	1	29	58	13-Jul-13
Afghanistan	4			4	17			17	37	23-Jul-13
Nigeria	43			43	57	15		72	122	23-Jul-13
Chad					5			5	5	14-Jun-12
Ethiopia	1			1					0	10-Jul-13
Kenya	12			12					0	14-Jul-13
Somalia	108			108					0	10-Jul-13
Niger									1	15-Nov-12
Total	**192**	**0**	**0**	**192**	**105**	**17**	**1**	**123**	**223**	
Total in endemic countries	**71**	**0**	**0**	**71**	**100**	**17**	**1**	**118**	**217**	
Total outbreak	**121**	**0**	**0**	**121**	**5**	**0**	**0**	**5**	**6**	

Source: WHO as of 21 August 2012 for 2012 data and 20 August 2013 for 2013 data, available also from The Global Polio Eradication Initiative.

The table above shows that Nigeria remains the second largest country with high rate of reported cases of polio virus; the country recorded total of 43 WPV1 cases in 2013.

The National immunization coverage in 2001 was 28% and declined to 12.7% in 2003. In 2008 the coverage increased to 28% while those without any immunization were 29%. South east of Nigeria recorded the highest number of immunized children with 43%; whereas the North western zone recorded the least with 6%. Significant variation over the years was recorded in the urban centers and lower in the rural areas with 16% (Edokwe, 2013). This shows that the country is still below 50% coverage.

The most recent WPV1 case in the country had onset of paralysis on 23 July (from Borno State). Nearly half of all WPV1 cases in the country in 2014 were from Borno and Yobe states with35% of children in these states remain under-immunized. Followed by Kano, Jigawa and Katsina and Kaduna states were the most high risk states where fewer than 20% of children remained under-immunized.

4.9 Previous Efforts in Immunization by the Government Religious Bodies and NGOs

In 1974 the World Health Organization (WHO) launched the Expanded Program on Immunization with the main goal of protecting children against childhood killer diseases by one year. The Nigerian government in compliance to that goal in 1979 initiated its EPI. The subsequent years (1980-1990) marked an era of remarkable progress in immunization coverage until the RI coverage started declining in the 1990s due to the collapse of the Primary Health Care system, poor funding by governments and lack of political commitment and ownership.

In 1996, Nigeria's EPI program was revitalized with a renewed government ownership and oversight which led to an increase in immunization coverage. Immunization surveys conducted in the country in 2003 and 2006 indicated poor coverage of all antigens below 50%.

Immunization services in Nigeria are usually delivered through two main strategies namely routine immunization (RI) and supplemental immunization activities (SIAs). RI is the regular provision of immunization services to infants through the administration of vaccines (antigens) in a scheduled plan program. The services are usually provided at fixed post at the community hospitals, clinics or health centers. SIAs are mass campaigns targeting all children in a defined age group with the objective of reaching a high proportion of susceptible individuals.

The national health policy provides free vaccines to all eligible age groups in Nigeria. It also provides supports to states and LGAs on immunization service delivery while establishing standards and guidelines for injection safety and waste disposal as well as cold chain and logistic managements. To achieve a wider coverage, the Nigerian government has also adopted series of approaches. These include: the Ward Heath System (WHS) and the Reaching Every Ward (REW) strategy, an adaptation of the WHO-AFRO Reaching Every District (RED).

4.10 National Policy on Immunization

To provide adequate healthcare service to the people at the grassroots level, the government of Nigeria established national policy on immunization with the main aim of developing and promoting immunization program which is geared towards reduction of childhood morbidity and mortality through adequate immunization coverage of all at-risk population. In pursuance of this objective, the federal government in collaboration with other tiers of government pursued strategies to:

i. Improve and sustain routine immunization coverage of all antigens to 90% by the year 2020 in line with the National vision.

ii. Achieve through quality supplemental activities, interruption of polio transmission by the end of 2009 and total eradication by the end of 2013.

iii. Eliminate mental and neo-natal tetanus by the end of 2010.

The federal government through the FMH in conjunction with NPHCDA shall also annually plan to detect, control and eliminate the occurrence of outbreaks of CSM, Measles, Yellow fever and any other VPDs in all parts of the country. To achieve these objectives, the national immunization policy categorized the following as targeted groups as eligible for immunization. They include:

i. Eligible children 0–11 months

ii. Eligible children 0-59 months

iii. Women of child bearing age 15–49 years

iv. Other at-risk groups especially in the out-break situations and those traveling to endemic areas.

iv. International travelers

4.10.1 Recommended Vaccines for Routine Immunization

To make routine immunization effective, the policy identified the following vaccines:

i. Bacille-Calmette Guerin (BCG) ii. Oral Poliomyelitis Vaccine (OPV) iii. Diphtheria, Pertussis, Tetanus (DPT) Vaccine iv. Measles Vaccine v. Tetanus Toxoid vi. Yellow Fever Vaccine

vii. Hepatitis B Vaccine viii Cerebrospinal Meningitis (CSM) Vaccine ix. Vitamin A

4.10.2 Supplemental/ Catch–up Campaigns Vaccines

To complement routing immunization effort, the following vaccines were recommended for campaign vaccines:

i. Oral Polio Vaccine (for polio eradication) ii. Tetanus Toxoid (for maternal and neo-natal tetanus elimination) iii. Measles vaccine (for accelerated measles campaign).

4.10.3 Vaccines for Out-Break Control and Special Groups

i. CSM Vaccine (for control of CSM out break and travellers to endemic areas) ii. Yellow fever vaccine.

4.10.4 Supplemental Immunization Activities (SIAs)/ Catch-up Campaigns

SIAs/Catch-up campaigns (IPDs, LIDs, Child Health Week etc) shall be planned and carried out regularly based on the needs and result of survey coverage. The SIAs activities shall be planned and executed yearly until the goals/objectives are met.

4.10.5 Immunization Facilities/Centers

The National Primary Health Care Development Agency shall make the provision of potent vaccines to all designated government (PHC centers, secondary and tertiary institutions) and collaborating private health institutions.

4.10.6 Private Sector Involvement

In order to increase and facilitate private health facilities participation, Government shall:-

1. Supply free vaccines to all collaborating private health facilities
2. Support individuals and organizations operating private health facilities in underserved population with the provision of minimum cold-chain equipment to ensure delivery of potent vaccines.
3. Make available all data tools (registers, tally sheets, child health and personal health cards etc.) to private facilities for proper documentation of vaccination.
4. Encourage institutions who so desire, to print cards with their institutional activity to do

so using NPHCDA prototype.

5. Enforce regular statistical returns preceding collection of vaccines.

6. Support regular capacity building to all service providers at all levels.

4.11 Financing Immunization by the Government and Development partners in Nigeria

The three tiers of government (Federal, State and LG) shall be responsible for funding of immunization services. The policy further stated the following sources of funds for the financing of immunization services on a sustainable basis:

i. Statutory budgetary allocation from the Federal, State and Local Government Areas.

ii. Promotion of private sector funds mobilization, e.g. Nigerian Immunization Fund (NIF) managed by reputable financial institutions in Nigeria and the involvement of established NGOs, Rotary International and non-traditional immunization partners in the organized private sector.

iii. External donors: development partners e.g. World Bank, European Commission, United States Agency for International Development (USAID), Canadian Agency for International Development (CIDA), Japan International Cooperation Agency (JICA) U.K., Department for International Development (DFID), World Health Organization (WHO), the United Nations Children's Fund (UNICEF), Global Alliance for Vaccines and Immunizations (GAVI) and friendly foreign governments.

iv. Promotion of innovative ways for community participation to enhance community ownership of the immunization program.

4.12 Human Resources and Immunization Service Delivery in Nigeria

Study (NPHCDA, 2001as cited in WMHCP, 2007) indicated a greater variation for the senior PHC staff in Nigeria. For instance, for the medical officers of health, the South West zone has a ratio of 1:164,110 compared to the North West zone, which has a ratio of 1:480,313. In the same area, for the PHC health personnel notably the community health officer (CHO), the North Central zone has a ratio of 1:20,494 compared to the South East zone with a ratio of 1:59,679*)*. This indicates that staffing levels vary between health cadres. The study further indicated that PHC technical support staffs are in short supply. In general it was estimated that less than 50% of the LGAs had laboratory technicians, 40% had medical records officers and 20 dental assistants. The survey concluded that the rural areas had junior and less qualified staff as compared to the urban health facilities, which had high concentration of senior PHC staff.

To improve health care service delivery at the grassroots level the WMHCP indicated that the LGA, with support from the state, federal and Partners, will be responsible for training and re-training of health workers.

4.13 Minimum requirements for Immunization standard in Nigeria

Table 4.2 : WMHCP Minimum Required number of health personnel for Health Post, Clinic and Health center

(a) Health Post

1 trained VHW
1 trained TBA

(b) Primary Health Clinic

2 Community Health Extension Workers
4 Junior Community Health Extension Workers

(c) **Primary Health Centre *(Ward Health Centre)***

1 Community Health Officer (CHO)
1 Community Health Extension Workers (CHEWS)
1 CHEW is responsible for statistics
1 CHEW is responsible for Drugs
1 CHEW is responsible for Equipment
6 JCHEW
3 Nurse/Midwives
1 Medical Assistant (optional)

Where available, a Medical Records Officer should be in charge of Statistics and a Pharmacy Technician in charge of drugs. Where available a medical officer or an orientated NYSC doctor should work from the ward Health Centre. In addition, at the Ward level there should be an active Ward Councilor and a functional Ward Development Committee.

(d) PHC Department (at the LGA Secretariat)

Functional LGA PHC Management Committee
1 MOH as PHC Coordinator/Director.
1 Administrative Officer.
3 CHOs as Assistant PHC Coordinators.
1 Nurse/Midwife
2 - 3 EHO
2 CHEWs
2 JCHEWS

Table 4.4: Health Manpower for Ward Health System in Nigeria

No	THRUST	Responsible Bodies
01	Undertaking human resources audit and determine optimal staffing requirements for the ward health system	NPHCDA, FMOH, SMOH, LGA, WDC
02	Establishing an effect monitoring and supervisory system.	WDC, LGA, NPHCDA
03	Developing modalities to encourage the selection of indigenous community members for training as community health workers and their recruitment.	LGA, SMOH, WDC, NPHCDA
04	Facilitating the provision of incentives for volunteer workers.	WDC, LGA

Source: (WMHCP, 2007)

4.13.1 Training Requirements

The National immunization policy provided that:

1. All health workers including those in the private sector shall be trained and to understand the principles of injection safety.

2. There should be a provision for in-service training of currently existing health workers.

3. Formal training curricula for physicians, pharmacists, nurses and other categories of health professionals should be revised to include appropriate instruction and materials on injection safety.

4. Government shall ensure continuous training in relevant areas for health workers

4.13.2 Acceptable Equipment for Injections

To improve safer injection, the policy identified the following types of equipments as acceptable for injections:

(a) **Auto-disable Disposable Syringes (Plastic)**

These syringes are considered as the safest and easiest injection equipment:

I. All injectable vaccines should be administered using Auto-disable syringes.

II. The Federal government shall ensure the provision and availability of acceptable equipment for injection.(AD syringes and safety boxes)

III. The provision of safety boxes for disposal of used syringes shall be mandatory.

4.13.3 Disposal and Destruction of Used Injection Equipment

For safe disposal of injection equipment, the policy provided the following:

I. All used injection equipment must be safely disposed.

II. All disposable syringes and needles, including auto-disable equipment, should be disposed immediately after use in a designated safety box or sharps puncture-proof container.

III. The needle should not be recapped or removed from the syringe; the whole combination should be inserted into the safety box directly after use.

IV. A system for tracking the distribution, utilization and destruction of injection equipment should be introduced.

V. Additional waste from injections (cap, syringe packaging, cotton wool) should be disposed appropriately away from harm.

4.13.4 Methods of Disposal

The method of choice for destruction of filled safety boxes as instructed by the policy is incineration, preferably in an appropriate high-temperature incinerator (> 800°C). If such an incinerator is unavailable, a low-temperature incinerator (300-400°C) may be used.

Alternatively, appropriate burn and bury method should be used to destroy filled safety boxes (limited to area with no surrounding population). Residue from incineration (oxidized needles, vials, etc.) should be safely removed and properly buried in an appropriate pit.

4.13.5 Management of immunization

In order to ensure effective immunization, it is essential that, trained and competent personnel at all levels of the health system are identified to monitor and manage injection safety issue, including the safe disposal and destruction of used injection equipment. Management issues include health staff training and supportive supervision of practices, equipment requirement calculation, budgeting and monitoring. There shall be a regular assessment of the status of injection and disposal safety in order to identify the problems and the areas to be improved upon (introduction of new equipment and technologies like auto-disable syringes and incinerators).

4.13.6 Public Awareness

The NDHS (2003) as cited in WMHCP, (2007) indicated that approximately 46.1% females and 30.5% males respectively had received no education. Health seeking behavior in any population is dependent on a wide range of socio-economic factors that influence knowledge, attitudes and practices. In many cases, morbidity and mortality are the result of ignorance, poverty and cultural practices that reduce the scope for independent decision making within the population. In addition, there are many taboos and misconceptions about causes and management of disease or ill health. The health education program is designed to promote community and individual participation and responsibility for health.

At ward/community level, the program will include training all categories of health workers especially health educators and community based health workers (JCHEW, VHW, TBA) on IEC strategies. The health workers at this level will work closely with LGAs, States and other agencies to develop and disseminate relevant health messages.

The National immunization policy further stressed that the public has a right and responsibility to know about injection safety issues. Health workers are expected to inform their clients of the need for injection safety and the consequences of unsafe injections. The Ministry of Health with collaboration with other concerned ministries (e.g., the Ministry of Environment) shall accept the role of an advocate for promoting injection safety issues within the country and identify priority target groups and strategies for dissemination of messages.

4.14 Minimum Package for Health Education and Community Mobilization

Based on the above targets the following minimum package for health education and community mobilization is proposed:

I. At least two (2) Health workers and two (2) members of the VDC/WDC per ward are trained as Health Educators.

II. Every facility to have relevant I.E.C materials conspicuously displayed with cultural acceptable language and graphics.

III. A logistic vehicle or motor cycle with public address system to be available at LGA level for the purpose of health education.

Table 4.5: Health education and Community Mobilization

No	THRUST	Responsible Bodies
01	Determination of IEC requirements at the community level	LGA, WDC, FMOH, NPHCDA, FMOI, NOA
02	Development and implementation of comprehensive IEC strategies at ward level	WDC, LGA, NPHCDA
03	Production and logistics for dissemination of IEC materials	WDC, LGA, NPHCDA, FMOH
04	Promoting community mobilization through IEC campaigns	LGA, WDC, VHC, NOA, NGO, FBO,
05	Capacity building of Health workers and other stakeholders on health promotion and communication and counselling skills	LGA, FMOH, NPHCDA, NGOs
06	Advocacy	LGA, FMOH, NPHCDA,SMOH

Source: WMHCP, (2007)

To fulfill the basic requirement of health education and community mobilization, the table 4.3 above indicates that it is the responsibilities of the three tiers of government and other NGOs to achieve those requirements.

4.14 Minimum requirement for PHC service delivery by the National Primary Health Care Agency (NPHCA)

At the ward level, the package provided that the WDC will be responsible for community mobilization, facilitating defaulter tracing and maintaining records of immunized children. In addition, health workers at this level will work closely with the WDC to implement routine immunization as well as maintaining necessary PHCMIS records and regularly make data returns to the LGA as part of the national health information system. In addition routine monitoring and supervision would be ensured at all levels.

Table 4.6 Basic Immunization requirements

No.	THRUST	Responsible Bodies
01	Determination of resources and need for routine immunization at LGA and Ward levels.	LGA, NPHCDA
02	Improvement in community mobilization, awareness and participation in defaulter tracing	WDC, CBO, LGA
03	Ensuring availability of cold chain equipment at all levels	NPI, NPHCDA, SMOH, LGA, WDC.
04	Facilitating adequate logistics for routine immunization	NPI, NPHCDA, SMOH, LGA, WDC.
05	Capacity building of health workers on cold chains maintenance	LGA, NPHCDA
06	Establishment of functional outreach sites	WDC, LGA, NPHCDA
07	Establishing functional primary health care management information system (PHCMIS) at ward level.	WDC, LGA, SMOH, FMOH, NPHCDA
08	Ensuring availability of child health cards	LGA, WDC, Partners

Source: WMHCP, (2007)

The table 4.4 above indicate that successful immunization program depend on collaboration efforts by all the tiers of government.

The following are the basic requirements of cold chain and logistic materials at LGA, Ward and Health facilities level:

Table 4.7 Basic Requirements of Cold Chain and Logistic Materials at LGA, Ward and Health

ITEM	No.	REMARKS
LGA LEVEL		
Motor cycles	3	Proper maintenance required
Bicycles	10	Proper maintenance required
Ice-line refrigerators	1	Provision of stabilizer paramount
Deep freezers	1	Provision of stabilizer paramount
Solar refrigerators	2	Proper maintenance required
Vaccine carriers	20	Proper maintenance required
Ice-packs	200	Proper maintenance required
Thermometers	2/refrigerator	
Megaphones	5	
WARD LEVEL		
Motor cycle	1	Proper maintenance required
Solar refrigerator	1	Proper maintenance required
Vaccine carriers	10	Proper maintenance required
Ice packs	100	Proper maintenance required
Thermometers	2	
Megaphones	2	
Ledgers	2	
HEALTH FACILITY LEVEL		
Solar refrigerator	1	Proper maintenance required
Cold box	1	Proper maintenance required
Vaccine carriers	5	Proper maintenance required
Ice packs	20	Proper maintenance required
Thermometers	2	
Mega phones	1	
Ledgers	1	

4.15 The Minimum Health Package for Child Survival

The Minimum Health Package for Child Survival proposed standard for immunization in Nigeria. These include:

To have at least 60% of Health workers trained on IMCI in each Ward: the training is to pay particular attention to new born care and the need for prompt referral.

To have at least 30 trained and functional Community Resources Persons (CORPs) per Ward.

Each LGA to have adequate cold chain equipment {Deep freezers, cold boxes, vaccine carriers, ice-packs, constant electricity supply, alternative source of power supply}.

1. All facilities to have vaccine carriers and ice packs
2. Each LGA to have at least a designated motor vehicle or boat as appropriate; and each ward to have designated motorcycle as appropriate for distribution of Vaccines.
3. Every under-five child to be provided with a child health card.
4. Essential drugs including ORT (low osmolar) sachets, Zinc tablets and appropriate antibiotics to be available at all health facilities.

Table 4.8 Work Schedule for Immunization

No.	THRUST	Responsible Bodies
01	Determination of resources and need for routine immunization at LGA and Ward levels.	LGA, NPHCDA
02	Improvement in community mobilization, awareness and participation in defaulter tracing	WDC, CBO, LGA
03	Ensuring availability of cold chain equipment at all levels	NPI, NPHCDA, SMOH, LGA, WDC.
04	Facilitating adequate logistics for routine immunization	NPI, NPHCDA, SMOH, LGA, WDC.
05	Capacity building of health workers on cold chains maintenance	LGA, NPHCDA
06	Establishment of functional outreach sites	WDC, LGA, NPHCDA
07	Establishing functional primary health care management information system (PHCMIS) at ward level.	WDC, LGA, SMOH, FMOH, NPHCDA
08	Ensuring availability of child health cards	LGA, WDC, Partners

Source: NHP (2007)

The package further noted the following:

(i) The PHCMIS is part of the National Health Management Information System. It is an integral part of the monitoring and evaluation of the system.

(ii) The child health cards are used for growth monitoring, and immunization. Mothers are to be encouraged to keep their child health cards as precious document just the same way they keep their children's birth certificates.

(iii) The wards have some capacity for immunization. However, areas of deficiency need to be identified and corrective measures implemented before cold chains and outreach services are put in place.

(iv) An IEC strategy has to be in place while health personnel regularly conduct health/nutrition education in facilities and communities.

4.16 Policy Guide Lines for LGA Level Immunization Service Delivery

Immunization service delivery is one of the most important mechanisms for child health services in every health facility (public/private). The main aim of immunization is to reduce the burden of Vaccine Preventable Diseases (VPDs), and children mortality rate and to improve the status of child health in Nigeria. The LGA is mandated to deliver immunization service delivery through the wards and health facilities under its domain.

(a) Ward Level:

At the ward level, the national immunization policy provided that:

(i) There should be a Ward Development committee with membership drawn from key stakeholders. (ii) Every Ward are to carry out a comprehensive yearly assessment preceding the formulation of a Ward micro plan for PHC services.(iii) Every Ward are responsible to conduct regular on -the -job training for health workers including mandatory IPC training. (iv) Every

Ward should conduct mandatory bi-annual refresher courses of all health workers using approved immunization-training modules. (v) Every LGA should ensure self-sufficiency in qualified health personnel who should be motivated to provide quality immunization services.

Similarly, the NPHCA, (2007) package provided that the WDC will be responsible for community mobilization, facilitating defaulter tracing and maintaining records of immunized children. In addition, health workers at this level will work closely with the WDC to implement routine immunization as well as maintaining necessary PHCMIS records and regularly make data returns to the LGA as part of the national health information system. In addition routine monitoring and supervision would be ensured at all levels.

4.17 Immunization Service Delivery

Every health facility (public or private) must conduct immunization sessions at least once a week using fixed and/or outreaches. LGAs should conduct mobile services regularly. Not only that, the policy provided that weekly immunization sessions should be used as a window for integration and delivery of child health services e.g. malaria, growth monitoring and nutrition.

The policy again stipulated that there should be a community mobilization prior to the scheduled immunization sessions. Apart from that, LG should also provide IEC materials for caregivers and the community to consistently create and increase in demand. There should also be a proper provision of required logistics support for effective implementation of immunization services in all health facilities. LGAs' shall ensure provision of availability of adequate potent vaccines at all health facilities (public and private). It should promote regular supportive supervision and conduct monthly review meetings. It should promote community representation and participation in all review meetings. It should ensure the use of AD syringes and the implementation of the safe injection and waste management practices. It should strengthen routine immunization and improve coverage, suitable incentives to be given to all children who are fully immunized.

4.18 Monitoring, Evaluation and Surveillance of immunization in Nigeria.

The National policy on immunization stipulated that, LGA should establish monitoring and surveillance activities in every community. These activities include, identifying and reporting occurrences, and/or outbreaks of any VPDs to the nearest health facility, ward head, local health committee or PHC department. Regular sensitizations of the communities are to be carried out to sustain the monitoring and surveillance established systems. A feedback system should be established between the PHC department and the community as well as the health facilities. This implies that all actions taken on such reports should be fed back to the communities. The policy also stipulated that all health facilities should collate monthly immunization service activities and submit through the Ward to the LGA authority. Such monthly evaluation data should be reviewed and used for improved planning and implementation. The PHC coordinator and LGA – Immunization officer (LIO) and their team members should randomly check immunization records at health facilities on regular basis.

4.19 Financing Immunization at the LGA level.

The National immunization policy provided that, it is mandatory that every LGA has an adequate budgetary provision for delivery of regular immunization service. Community financial contribution should be encouraged and transparently managed. Allocation of appropriate imprest should be given to every health facility in each LGA for immunization service delivery. Yearly budgets should be made available for PHC with immunization budgetary allocations clearly defined and timely release of budgetary allocation should be made for successful achievement of the program. Each LGA must establish a Child Health Co-ordination Committee (CHCC) to coordinate in advisory capacity, management and financial matters.

4.20 LGA PHC Management Committee (LPMC).

The policy further identified the following as members of coordinating committee for immunization and child health care services delivery. Members should include the followings: (1). The Chairman of LGA Chairman (2). Supervisory Councilor for Health (3). LGA Secretary (Head of Administration) (4). LGA PHC Coordinator (Secretary) (5). Representative of CH training institutions. (6). Principal School of Health Technology (7). Representative of Health-related occupational groups/associations. (8). The Chief (most senior) Community Health Officer in the LGA. (9). The Community Development Officer of the LGA. (10). The Medical Officer i/c of the secondary health facility (11).Chairman of Ward Development Committee(12). Representative of Traditional rulers /Ward Head.(13).Representative of International Organizations with PHC programs in the LGA. (14). Heads of other Health-Related Departments in the LGA (education, Agriculture, works etc) (15). Representatives of NGOs.(16). Representative of Women/Youth groups. (17). Representative of Religious groups.

4.21 Terms of Reference of the LGA PHC Management Committee (As relates to Immunization):

1. To ensure the implementation of LGA immunization policy
2. LGA monthly child health report to be presented regularly.
3. To Reports evaluated by sub-committee and channeled for planning and implementation progress.
4. Responsible for resource mobilization.
5. To encourage health competition amongst Wards.
6. To reward best performing Wards using coverage and reduced disease occurrence as indicators
7. To ensure that LGA social mobilization committee function and impact on service

delivery demand.

8. To forward quarterly reports to State (SMOH) and Zonal NPHCDA Offices.

4.22 Immunization in Nigeria

Globally, 27m children do not receive routine immunization which resulted in the deaths of 2 million children every year (Abdulkarim, 2011). In Nigeria, child immunization remained low over the last decade. Evidence from the National Immunization Council Survey (NICS) in 2003 indicates that the DPT3 coverage was only 80%, with discrepancies from 8.8% in the North Western Nigeria compared with 45.9% in the South East. This has significantly increased the rate of preventable diseases as a results low routine immunization (NPI, 2007). The results of the 2006 National Immunization Coverage Survey (NICS) placed a national immunization coverage rate of 18.1 percent, ranging from 29.9 percent in the south-west zone to 6.2 percent in the north-west zone. Equally, there are significant regional variations in the coverage of *Bacille Calmette-Guérin* (BCG) vaccine coverage which prevents tuberculosis, from 53.1 percent in the south to 20.5 percent in the north-west (NICS Study Group, 2007).

In spite of the increasing DPT3 coverage from 29% in 2000 to 99% in 2010, one million children still failed to receive all their required vaccines in 2011. Though there is remarkable achievements of 99% reducing poliomyelitis globally, Nigeria still account for the highest prevalence of circulating wild polio virus. The country is among the ten countries with less than 50% vaccines coverage (Abdulkarim, 2011).

Nigeria is a signatory to all global immunization targets of reaching 80% DPT3 coverage in 80% districts in developing countries by the year 2005 and with MDG4 target of reducing child mortality by two-thirds by the year 2015(NPI, 2007); yet meeting these targets even beyond 2015 is still questionable. Immunization is an important component of primary health care and in routine immunization programs, virtually all vaccines, except oral polio vaccine, is administered parenterally (by injection). Study of vaccines and immunization in Nigeria proved that vaccines against six childhood killer diseases are the most important vaccines to public health (Abdulkarim, 2011). Yet, diseases preventable by vaccine account for the deaths of a quarter of the 800,000 child deaths in Nigeria every year.

4.23 Functions of Local Government in relation to immunization

(i) Coordinating PHC activities in the LGA

(ii) Approves budget for PHC.

(iii) Institute planning for RI and other PHC activities

(iv) Carries out supervision and monitoring of RI and other PHC activities

(v) Undertake resource mobilization and allocation to RI

(vi) Coordinate mobilization for RI in the LGA

(vii) Monitor progress of RI in the LGA

(viii) Conduct periodic evaluation of impact of RI to state level

(ix) Provide monthly reports of RI to the state level.

(x) Represent the LGA in all health related issues (REW, 2007).

4.24 Process of Collating Immunization Data at Ward and LGA Level

At health facility level, problems encountered in the last immunization session are identified and discussed. Such problems are aggregated and discussed at the ward level. Possible solutions are offered by the village health committee and Ward health committee. The problems at that level are carefully examined whether they affect all areas or only some areas. Data collected from health facilities are collated into monthly Ward/LGA summary form by health facility and by Wards respectively. At that level, data are examined to ensure consistency. After completion the entire data from all health facilities the data are submitted to the state. The Ward focal parson follows up the health facilities to ensure that data are carefully submitted on time. After that, the data then carefully analyze by the Ward focal parson/LGA immunization officer. At that level, causes of problems encountered are identified, discoursed and institute appropriate solutions.

4.25 Functions of the Local Government Immunization unit

The immunization unit is headed by the Assistant HOD PHC Department. Local Government Immunization officer (LGIO) and is responsible for the delivery of immunization service in the Local Government. The immunization unit performs the following functions:

I. Collection of vaccines
II. Storage of vaccines
III. Maintenance of cold chain facilities and other equipments
IV. Distribution of vaccines to all health facilities in the LG.
V. Collection and collation of all data related to immunization
VI. Analyzing data related to immunization.
VII. Supervision of immunization service delivery in the LG.
VIII. On the job training of health personnel

In addition the immunization unit in collaboration with state government supervises and train health personnel responsible for immunization service delivery. The unit also collect equipments from the state through State Primary Health Care Agency (SPHCA) and submit the collated immunization data to the Agency.

4.26 Structure of the immunization unit

Local Government immunization officer (LGIO) is the overseer of immunization at the Local Government Area Level. The LGIO is assisted by the cold chain officer (CCO) who is in charge and overseer of the cold-chain equipments (see appendix xiiv). Bellow the CCO is the assistant

CCO who assists the CCO in the discharge of the cold chain services. Next to assistant CCO are the attendants who assist the assistant CCO in the maintenance of generators and other equipments.

4.27 Immunization service at the Local Government in Kaduna State

In preparation for campaign immunization, two set of trainings are usually conducted. The first is at the LGA level while the second is the ward level training. At the LGA training, participants of the training include all the ward focal parsons and their deputies are trained on the conduct of immunization. If there is a new vaccine or any other strategy, such developments are usually raised and discussed at the training ground.

At the Local Government level, there are many health facilities that rendered routing immunization. Each health facility renders its immunization on a particular fixed day of a week depending on the schedule plan for the health facility. Social mobilization activities are also carried out at all the tiers of government. At the L.G. level it is carried out through media, mega phone town announcers, meeting with community leaders, community dialogue and sensitization meeting.

At the ward level, the participants include the vaccinators, recorders ward head(s) or their deputies as the case may be. The ward head(s) are usually requested to submit the names of suitable candidates for the appointment as vaccinators in their wards. Participants are also trained at the ward level on the conduct of immunization and new strategy or development as the case may be. After the training, the lists of the qualified Adhoc staff are placed at the center.

Micro plan is usually organized for four consecutive days of the exercise. After the training, each supervisor is allocated with the list of vaccinators under his supervision and each vaccinator would be issued with a tally sheet for computing the number of immunized and unimmunized people in their local areas. The daily results are usually compile and submitted to supervisor for compilation. However each supervisor would submit the tally sheets under his supervision to ward focal person. The ward focal parsons would submit their results to LGA immunization officer (LGIO) during their meeting. Issues of non-compliance are raised and discussed at the LG meeting. After the meeting, results are submitted to State Primary Health Care Agency (SPHCA). This process is repeated for the remaining of the three days. After the compilation exercise, WHO usually fix a day for payment of the participants.

There are usually micro plan to involve all the communities so as to avoid missing settlements. The L.G. ensures that, all the supervisors, vaccinations, recorder and crowd controller are fully trained and that logistics need are adequately provided so as to meet the requirement of all vaccination posts and other health facilities within its catchment areas. Each ward calculates the status of all cold chain equipments within its jurisdiction so as to determine the short falls. At each ward level, social mobilization work plan are organized to include all missed settlement.
L.G. focal persons with state official are trained at the micro planning level before the commencement of IPDs so as to update their knowledge and ensure accurate planning. At this stage, the focal persons would be train adequately by their supervisors. At the ward level, the vaccinators and recorders would also be train adequately. At this level, training checklists are used to assess the quality of training. Independent monitors are usually trained accordingly. After all these process, selections are made to ensure that merit and due process are strictly followed.

After that, deployment of personnel would be made to places of their assignment. The personnel usually include the following State Technical Facilitator (STF), PHC coordinator, cold chain officer (CCO), focal persons, team supervisors, independent monitors, town announces, Qur'anic teachers, vaccinator and community leaders, Fulani Ardos, JNI and CAN representatives.

At the implementation stage, a number of health personnels are posted to go round house to house and administer immunization. Team supervisors report daily at takeoff point to collect vaccines and other materials. They also super-see the activities of fixed posts and house to house immunization. Daily compilation of data at the settlement and ward levels is done and taken to L.G.A for further compilation. At the Local Government level, data are usually reviewed; analyzed and necessary corrections are made. Issues regarding non-compliance are usually raised and addressed at this stage.

Monitoring and supervision are usually conducted in all the settlements. Independent and intensive monitors usually monitor the implementation exercise. All the monitors are usually issued with monitoring and supervision tools for assessing the quality of IPDs and inadequacies.

A daily review of meeting are usually conducted throughout the implementation days (4 days) with the purpose of reviewing , analyzing data and observation or mistaken discovered in the field during the exercise. Issues related to non-compliance, shortages of materials are being discussed and addressed. Areas that need more interventions, reimbursement of materials are usually debated and talked at this stage. The review meeting is usually chaired by the PHC coordinator while, focal persons and all the monitors attends as members. The results after being scrutinized by the Local Government would be sent to state ministry of health and State Primary Health Care Agency for further necessary action

CHAPTER FIVE

5. 0 DATA PRESENTATION AND ANALYSIS

5.1 Introduction

Efforts in this chapter were made on presentation and analyzing (quantitatively and qualitatively) the data drown from questionnaires, interviews and observation. Hypotheses were tested using correlation analyses. The chapter is divided into four sections. The first contain the respondents' profile. The second is the test of hypotheses and analyses. The third and the last is discursion of the major findings.

5.2. Respondents Profile

Efforts in this section were made to provide classification of the respondents based on gender, age distribution, level of education and marital status.

5.2.1 Classification of Respondents According to Gender

This classification enabled us to determine number of male and female respondents in our study. Table 5.1 below provides classification and the number of respondents based on gender.

Table 5.1. Classification of Respondents According to Gender

Gender	Kaduna North	Sabon Gari	Giwa	Kubau	Jema'a	Kauru	Total
Male	52(13%)	46(11.5%)	48(12%)	47(11.7%)	25(6%)	24(6%)	242(60%)
Female	34(8.5%)	23(6.5)	21(5%)	21(5%)	42(10.5%)	17(4%)	158(40%)
Total	86(21.5%)	69(17%)	69(17%)	68(17%)	67(16.7%)	41(10%)	400(100%)

Source: Researchers' Survey, 2014.

Table 5.1 above provides a total number of respondents surveyed in the six local governments according to their gender. The figure indicates that out of total number of 400 (100%) respondents administered with questionnaires 158 representing 40 % are female, while 242 of the respondents representing 60% are male.

5.2.2 Classification of Respondents Based on Age Distribution

To obtain data based on age distribution of the respondents, staff respondents were requested to indicate their age bracket.

Table 5.2: Distribution of the respondents based on Age distribution

Age range	**Total**
18-30	48(12%)
31-40	182(45.5%)
41-50	164(41%)
51 and above	6(1.5%)
Total	400(100%)

Source: Researchers' Survey, 2015.

Table 5.2 above indicates that age group or range between 31-40 years was the most dominant, followed by 18-30 and 41-50 years age brackets respectively. It reveals that the youth constitute the dominant workforce for the health department in all the six local governments.

5.2.3 Classification of Respondents According Level of Education

To obtain the data from the respondents based on the level of education, health personnel were asked to indicate their educational qualification.

Table 5.3 Classification of Respondent According to Level of Education

Level of Education	**Staff Resp.**
Junior Health Attendant	Nil
Senior Health Attendant	58(14.5%)
CHEW/AHT/MLT/Pham Tech	282(70.5%)
CHO/EHO/NURSE	54(13.5%)
Post Graduate	6(1.5)
Total	400(100%)

Source: Researcher's Survey, 2015.

Table 5.3 above indicates that the majority of the staff respondents obtained a CHEW/AHT/MLT/Pham Tech equivalent, 282(70.5%) followed by CHO/EHO/NURSING OFFICER equivalent with 54(13.5%), then Senior Health attendant equivalent. This indicates that staff respondents with intermediate certificate CHEW/AHT/MLT/Pham Tech equivalent are in the majority of the staff of health department followed by those that obtained other certificates. This proved that staff respondents cut across different level of education.

5.2.4 Classification of Respondents Based on Marital Status

Respondents were asked to indicate their marital status. The responses are illustrated below:

Table 5.4 Classification of Respondents Based on Marital Status

Marital status	Staff Respondents. For K/North LG	Staff Respondents For S/Gari LG	Staff Respondents For Giwa LG	Staff Respondents For Kubau LG	Staff Respondents For Jema'a LG	Staff Respondents For Kauru LG	Total
Single	14(3.5%)	8(2%)	6(1.5%)	4(1%)	17(4.25%)	11(2.7%)	60(15%)
Married	52 (13%)	51(12.7%)	63(15.7%)	64(16%)	50(12.5%)	30(7.5%)	340(85%)
Divorced	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Total	86(21.5%)	69(17%)	69(17%)	68(17%)	67(16.7%)	41(10%)	400(100%)

Source: Researchers' Survey, 2015.

From the table 5.4 above, 340(85%) out of 400 of the respondents are married, while 60 of the respondents representing15 % are single.

5.3 Test of Hypothesis Number One

Contributions of funding and other support to the success of the immunization program

Funding is very critical to the success of any program. To this extent, the study hypothesized that the higher the level of funding enjoyed, the more likely the success of the immunization program. Questions related to funding and successes of immunization program were asked. Funding as a variable was operationalized into volume of funding, regular disbursement and incentive(s). Staff respondents were requested to react to the questions.

Funding and other support are among the very critical and important variables in determining the success of a program. In this regard the study hypothesized that "the higher the level of funding and other support at the LG, the more likely the success of the immunization program". Staff respondents were asked questions related to the hypothesis. The table below indicates the level of government financial support to immunization program in Nigeria. Funding was operationalized in terms of volume of funding, regular disbursement and incentives for immunization for immunization. While, success of immunization was operationalized in terms declining rate of reported cases or outbreaks and the number of children dying.

WHO/UNICEF - Joint Reporting Form - Financial Indicators1
Indicator 6470: Government expenditures on vaccines 2006-13
Indicator 6480: Total expenditures (all sources) on vaccines 2010-13
Indicator 6490: % Government expenditures on vaccines over total 2006-13
Indicator 6500: Government expenditures on routine immunization 2006-13
Indicator 6510: Total expenditures (all sources) on routine immunization 2010-13
Indicator 6520: % Government expenditures on routine immunization over total 2006-13.

Table 5.5 Nigeria Financial report (in US$) for immunization from 2006 to 2013

Variables	2006	2007	2008	2009	2010	2011	2012	2013
Gross National Income (US$) per capita (Atlas)1	840	970	1,160	1,160	1,460	1,710	2,490	2,760
Surviving Infants2	5,177,961	5,310,729	5,446,901	5,583,074	5,722,651	5,865,717	6,012,360	6,162,669
Total Population2	143,314,909	147,187,353	151,208,080	155,381,020	159,707,780	164,192,9 25	168,833,776	173,615,345
National DTP3 Coverage3	40	42	53	63	54	45	41	N/A
General Government Expenditureon Health (GGEH)4 US$ per Capita	2,880,524,390 $20	3,941,953,034 $27	4,918,533,893 $33	3,609,734,676 $23	3,353,229,741 $21	4,741,687, 764 $29	4,961,065,37 0$29	N/A N/A
Government Expenditures on Vaccines - US$ (JRF6470)3 US$ per Surviving Infant	26,133,100 $5	N/A N/A	21,000,000 $4	11,920,800 $2	14,400,000 $3	N/A N/A	N/A N/A	40,629,508 $7
All Source Expenditures on Vaccines - US$ (JRF 6480)3 US$ per Surviving Infant	[Indicator not incorporated until 2010]				20,290,900 $4	N/A N/A	N/A N/A	73,764,508$12
Reported % Govt. Expenditures on Vaccines (JRF 6490)3	100	N/A	90	74	71	N/A	N/A	55
Government Expenditures on Routine Immunization - US$ (JRF 6500)3US$ per Surviving Infant	89,599,000 $17	N/A N/A	N/A N/A	N/A N/A	23,825,400 $4	N/A N/A	N/A N/A	N/A N/A
All Source Expenditures on Routine Immunization - US$ (JRF 6510)3US$ per Surviving Infant	[Indicator not incorporated until 2010]				26,836,300 $5	N/A N/A	N/A N/A	N/A N/A
Reported % Government Expenditures on Routine Immunization (JRF 6520)3	87	N/A	70	N/A	89	N/A	N/A	N/A

Source: Feedback on Financial Indicators 6470-6520, WHO/UNICEF - Joint Reporting Form (JRF), 2015.

The table 5.5 above presents Nigerian government expenditure on immunization from 2006 to 2013. Available data indicates that Nigerian government expenditures on vaccine kept on fluctuating over the years. In 2006 Nigeria spent $26,133,100. The figure dropped to $21,000,000 and $11,920,800 in 2008 and 2009 respectively. The figure appreciated to $14,400,000 in 2011 and finally reached $40,629,508 in 2013. These figures represent 100% and 90% of the total expenditures on vaccine in the years 2006 and 2008 respectively. The percentage declined to 74% and 71% in 2009 and 2010 respectively. The percentage finally decreased to 55% in 2013.

On the routing immunization, available data indicates that the Nigerian government spent $89,599,000 and $23,825,400 in 2006 and 2010 respectively. This compared to the total percentage of government expenditures of 87%, 70% and 89% in 2006, 2008 and 2010 respectively. Total expenditures of routing immunization from all sources in 2010 amounted $26,836,300. To complement the government financial support to immunization and that of the development partners, the table below shows the details.

Table 5.6 Funding of immunization by the development partners to Kaduna state (2009-2014)

S/ No	Funding organization	Funding Purpose	Amount per round	2009	2010	2011	2012	2013	2014
				Times 10	Times 9	Times 9	Times 10	Times10	Times 8
1	WHO	Training of health Personnel, monitoring of immunization and pluses.	N120 M	N1200M	N9600 M	N9600M	N1200M	N12000 M	N960 M
2	Centre for Disease Control (CDC)	Training of health Personnel and supervision of immunization	N500,000	N5M	N4500,000.	N4500,000.	N5M	N5M	N4M
3	Rotary international	Supervision of immunization	N200,000	N2M	N1800,000	N45,00,000	N2M	2M	1600000

Source: Kaduna state primary Healthcare Agency, 2015.

The table 5.1 above indicates that from 2009 to 2014 WHO has been supporting immunization in Kaduna state in form of financing training of health personnel, monitoring of immunization and pluses in Kaduna state for One Hundred and Twenty Million Naira (N120) per each round. Similarly Centre for Disease Control (CDC) has been supporting immunization with Five Hundred Thousand Naira (N500, 000) per each round in form of training of health personnel and supervision of immunization. The Rotary International also has been supporting immunization with Two Hundred Thousand Naira (N200, 000) for supervision of immunization.

Table 5.7 Funding support by WHO for the December, 2009-2014 Sub-National Immunization Plus Days (SNIPDS) Campaign in Kaduna State

S/N	LGs	Allocation in Naira(N)	2009	2010	2011	2012	2013	2014	
1	Giwa	N2,817,550	Times10	Times 9	Times 9	Times 10	Times10	Times 8	
			N2,817,5500	N253579500	N253579500	N2,817,5500	N2,817,5500	N22540400	
2	Jema'a	N1,143,250	N1,143,2500	N1028920	N1028920	1,143,2500	1,143,2500	9146000	
3	K/North	N2,976,700	N2,976,7000	26790300	26790300	N2,976,7000	N2,976,7000	23813600	
4	Kauru	N1,108,750	N1,108,7500	N9978750	N9978750	N1,108,7500	1,108,7500	23813600	
5	Kubau	N3,222,700	N3,222,7000	3,222,7000	N3,222,7000	N3,222,7000	3,222,7000	25781600	
6	S/Gari	N2,330,050	N2,330,0500	N2,330,0500	N20970450	N2,330,0500	N2,330,0500	18640400	

Source: Kaduna state primary Healthcare Agency, 2015.

Table 5.7 above Table indicates that Kubau and K/North LGs have received the highest contribution by the WHO of N3, 222,700 and N2, 976,700 respectively per round. The Giwa and S/Gari LGs have received a total of N2, 817,550 and N2, 330,050 respectively. Jema’a and Kauru had received the least support of N1, 143,250 and N1, 108,750 respectively per each round.

Table 5.8 Local Government budgets for Immunization in Kaduna State from 2009 to 2014

LG	Year	Proposed Estimate	Actual	Total Budget for PHC Dept.	RI	IPDs	NIDs	CC activities
LG/ S/Gari	2009	95,872,970	50,978,458					
K/ North		150,245,600						
Kauru				69,653,200	400,000		500,000	
Kubau				64,500,000	12000000		500,000	
Jema'a				55,731,492			500,000	
Giwa								
S/Gari	2010			49000000	8000000			
K/ North								
Kauru				49,600,000	16000000	40,000		
Kubau	-	-	-	115,100,000		8000000	5,500,000	
Jema'a	-	-	-	51,574,000		10000000		
Giwa		84,072,000				10000000		
LG/ S/Gari	2011							
K/ North								
Kauru								
Kubau				85000000	8000000			
Jema'a				48,600,000	8000000			
Giwa				90,500,000	8000000			
S/Gari	2012			372,226,012				
K/ North								
Kauru				106,178,947				
Kubau								
Giwa								
Jema'a								
S/Gari	2013			495,888,839				
K/ North								
Kauru				449,310,319				
Giwa								
Kubau								
Jema'a								
S/Gari	2014			154,875,483	24,575,483			
K/ North				375,442,805	35000000		3000000	
Kauru				351,959,345	35000000		3000000	500,000
Kubau	-	-	-	154,875,483	24,515,483	35000000		
Jema'a	-	-	-	295,478,797	15000,000	35,000,000	300,000	
Giwa	-	-	-					

Source: Kaduna state Ministry for LGs, (2015).

Table 5.8 above indicates that Eight Million Naira (N8000, 000), has been the usual allocation for RI support to the six LGs in the state from 2009 and 2011; except for Kubau Local Government which had budgeted a sum of sixteen million naira (N16000,000). The total allocation for RI support increased to fifteen million (N15000, 000) in 2014 which is the least and to thirty five million naira (35000, 000) as the case of Kaduna North and Kauru LGs respectively. For IPDs support a total of N4M budgeted by the Kauru LG in 2010, while Jema'a and Giwa LGs allocated N10M each, whereas Kubau budgeted Eight Million Naira (N8000, 000) for the program. The budget figure for Kubau and Jema'a appreciated to Thirty Five

Million Naira (N35, 000,000) each in 2014. The above data represent LGs budgets in Kaduna state while the table below represents staff respondents' views on funding of immunization. To collaborate what the LGs had budgeted and what was provided with the views of the staff respondents in relation to funding of immunization.

Table 5.9 Funding and Immunization service delivery

S/N	VARIABLES	RESPONSES	LOCAL GOVERNMENTS						
			K/North	S/Gari	Kubau	Giwa	Jema'a	Kauru	Total
1	Was the volume of funding for immunization adequate?	Yes	35(9%)	31(8%)	23(6%)	27(7%)	32(8%)	16(4%)	164(41%)
		No	51(13%)	38(9.5%)	46(11.5%)	41(10.25%)	35(8.7%)	25(6.25%)	236(59%)
		Total	86(21.5%)	69(17%)	69(17%)	68(17%)	67(16.7%)	41(10%)	400(100%)
2	Was there regular disbursement of fund for immunization in your district?	Yes	52(13%)	45(45%)	48(12%)	46(12%)	46(12%)	30(7.5%)	267(67%)
		No	34(8.5%)	24(6%)	21(5.2%)	22(5.5%)	21(5.2%)	11(2.7%)	133(33%)
		Total	86(21.5%)	69(17%)	69(17%)	68(17%)	67(16.7%)	41(10%)	400(100%)
3	Was there incentive for immunization in your district	Yes	46(11.5%)	45(11.2%)	48(12%)	46(11.5%)	46(11.5%)	30(7.5%)	261(65.2%)
		No	40(10%)	24(6%)	21(5.2%)	22(5.5%)	21(5.2%)	11(2.7%)	139(34.7%)
		Total	86(%)	69(%)	69(%)	68(%)	67(%)	41(%)	400(100%)

Source: Researchers survey, 2015

From the above, it reveals than the majority of 267 of 400 representing 67%% of the respondents agreed that funding for immunization was adequate in their districts or communities. While 236 respondents (59%) did not agree that the volume of funding was adequate. This prove that though government and other donor agencies donate adequate funding for immunization in the six local governments studied in the state. The respondents testified that funding for immunization during the period under study was inadequate.

Item No 2 of the table indicates responses on the disbursement of fund for immunization in the three local governments studied. Respondents were asked whether there was regular disbursement of fund for immunization. Whereas 133(33%) did not agree that there was regular disbursement of fund for immunization within the period under study.

Item No. 3 on table above indicates responses on the pattern of incentive(s) for immunization in the six LGs studied. The results indicate that 261 of the respondents (65%) testified that there was incentive for immunization. 139(35%) did not agree that there was incentive for immunization in their districts.

Table 5.10 Immunization Coverage for six LGs in Kaduna State from 2009 to 2014

2014

S/No	LGA	Total Pop	0-11mths	Surviving Infants	Preg W	BCG	OPV3	Penta 3	Measles	YF	TT2+	BCG	OPV3	Penta 3	Measles	YF	TT2+
1	Jema'a	353,093	14,124	12,725	17,655	12024	10203	10825	9497	9956	9998	94	80	85	75	78	57
2	Kaduna-North	453,116	18,125	16,330	22,656	21086	17393	17345	14728	14336	19159	129	107	106	90	88	85
3	Kubau	357,286	14,291	12,877	17,864	22224	14043	12299	16829	16295	18533	173	109	96	131	127	104
4	Giwa	362,837	14,513	13,077	18,142	21707	15423	14815	15812	15216	20805	166	118	113	121	116	115
	Kauru	215,362	8,614	7,762	10,768	7103	6216	6474	5985	6087	7072	92	80	83	77	78	66
6	S/Gari	363,400	14,536	13,097	18,170	16308	12293	12385	11019	10820	14607	125	94	95	84	83	80

2013

S/N	LGAS	BCG			DPT1	DPT3		DP3 DOR	OPV 3		MEASLES		TT2+		
		Target POP	No. Imm	% Coverage		No. Imm	% Coverage		No. Imm	% Coverage	No. Imm	% Coverage	Target POP	No. Imm	% Coverage
1	JEMA'A	12355	8,828	71	9,627	7,824	63	19	8,021	65	10,882	88	17140	10,547	62
2	K/NORTH	15855	19,199	121	19,707	14,420	91	27	14,652	92	17,811	112	21996	26,638	121
3	KUBAU	12502	12,162	97	17,462	10,333	83	41	10,761	86	13,121	105	17344	13,988	81
4	Giwa	12696	15,582	123	16,482	14,163	112	14	14,505	114	15,996	126	17613	20,267	115
5	Kauru	7536	8,942	119	9,872	8,253	110	16	8,038	107	9,701	129	10454	8,364	80
6	S/GariI	12715	14,101	111	14,899	10,823	85	27	10,471	82	14,445	114	17641	18,208	103
2012															
1	JEMA'A	11995	12,996	108	7,540	5,073	42	33	7,876	66	10,636	89	16641	9,956	60
2	K/NORTH	15393	21,537	140	15,244	7,698	50	50	10,202	66	14,623	95	21355	16,172	76
3	KUBAU	12137	15,588	128	10,776	5,532	46	49	10,919	90	11,640	96	16839	10,573	63
4	Giwa	12326	20,269	164	10,848	6,536	53	40	13,331	108	13,677	111	17100	13,445	79
5	Kauru	7316	8,432	115	5,133	3,827	52	25	5,712	78	5,668	77	10150	4,911	48
6	S/Gari	12345	15,980	129	9,993	5,180	42	48	10,842	88	13,146	106	17127	12,694	74
2011															
	JEMA'A	11646	5,759	49	7,581	5,608	48	26	8,234	71	19,519	168	16157	5,476	34
2	K/NORTH	14945	6,826	46	7,785	5,471	37	30	4,682	31	8,731	58	20733	8,245	40

3	KUBAU	11784	7,042	60	8,386	6,914	59	18	8,848	75	20,708	176	16348	5,381	33
4	GIWA	11967	6,369	53	8,685	7,721	65	11	6,485	54	32,669	273	16602	7,817	47
5	Kauru	7103	2,789	39	5,400	4,331	61	20	3,696	52	5,335	75	9854	3,719	38
6	S/Gari	11986	6,970	58	8,158	6,834	57	16	5,548	46	22,494	188	16628	10,153	61

2010

S/N	LGAS	BCG			DPT 1	DPT-3			Unimmunized	Drop Out Rate	OPV3			Measles			TT2+		
		Target Pop	No. Imm	% Coverage	No. Imm	Target Pop	No. Imm	% Coverage			Target Pop	No. Imm	% Coverage	Target Pop	No. Imm	% Coverage	Target Pop	No. Imm	% Coverage
1	GIWA	11,618	10,932	94	13,125	11,618	9063	78	2,556	31	11,618	8,406	72	11,618	9,101	78	16119	14,881	92
2	JEMA'A	11,306	10,561	93	11,486	11,306	8939	79	2,368	22	11,306	6,513	58	11,306	8,899	79	15686	8,755	56
3	K/NORTH	14,509	16,639	115	13,869	14,509	11695	81	2,814	16	14,509	9,783	67	14,509	12,527	86	20129	19,392	96
4	KAURU	6,896	7,219	105	7,997	6,896	6991	101	(95)	13	6,896	5,631	82	6,896	6,353	92	9567	7,756	81
5	KUBAU	11,441	11,052	97	10,755	11,441	8699	76	2,742	19	11,441	8,879	78	11,441	8,809	77	15872	11,291	71
6	S/GARI	11,636	11,062	95	11,388	11,636	8727	75	2,909	23	11,636	7,759	67	11,636	8,472	73	16144	12,725	79

2009

S/N	LGAS	BCG			DPT-3			OPV 3			MEASLES			TT2+		
		Target Pop	No. Imm	% Coverage	Target Pop	No. Imm	% Coverage	Target Pop	No. Imm	% Coverage	Target Pop	No. Imm	% Coverage	Target Pop	No. Imm	% Coverage
1	GIWA	11,280	8,122	72	11,280	5,752	51	11,280	6,277	56	11,280	5,693	50	15649	10,025	64
2	JEMA'A	10,977	8,032	73	10,977	5,373	49	10,977	4,482	41	10,977	6,235	57	15229	6,142	40
3	K/NORTH	14,087	18,699	133	14,087	11,270	80	14,087	9,613	68	14,087	10,452	74	19543	21,926	112
4	KAURU	6,695	5,598	84	6,695	4,696	70	6,695	4,591	69	6,695	4,085	61	9289	5,204	56
5	KUBAU	11,107	12,336	111	11,107	8,296	75	11,107	8,415	76	11,107	8,920	80	15410	10,166	66
6	S/GARI	11,298	8,499	75	11,298	6,733	60	11,298	5,554	49	11,298	7,143	63	15674	7,095	45

Source: Kaduna state primary Health care Agency and Kaduna state Ministry of Health, 2015

Table 5.2 above shows that in 2014 Kubau LG had the highest BCG coverage with 173% followed by Giwa and K/North with 166% and 129% respectively. S/Gari had the least with 125% followed by Jema'a and Kauru LGs respectively. In the case of OPV3 Giwa and Kubau had the highest percentage of 118 and 109 respectively, followed by K/North and S/Gari with 107% and 94% respectively. Kauru and Jema'a LG had the least coverage of 80% each. In the case of measles coverage, Kubau LG had the highest with 131% followed by Giwa and K/North with 121% and 90% respectively. Kauru and Jema'a had the least measles immunization coverage of 77% and 75% respectively. The Table also shows that in 2011 S/Gari and Giwa LGs had the highest TT2 coverage of 61% and 47% respectively followed by the K/North and Kauru LGs with 40% and 38% respectively. Jema'a and Kubau LGs had the least percentage of 34% and 33% respectively. In the case of DP3 coverage Giwa and Kauru had the highest coverage followed by Kubau and S/Gari LGs with 59% and 57%. Jema'a and K/North have the least coverage of 48% and 37% respectively. The table also reveals that the 2010 K/North had the highest coverage for Measles, OPV3, and DP3 with 92%, 82% and 101% respectively. These followed by Giwa with 78%, 72% and 72% respectively. Finally the 2009 immunization coverage among the LGs studied indicates that Kaduna North LG had the highest immunization coverage followed by Kubau and Giwa LGs respectively. Kauru, S/Gari and Jema'a had the least coverage respectively.

Table 5.11 Responses on the Success of Immunization

S/N	VARIABLES	RESPONSES	LOCAL GOVERNMENTS						
			S/Gari	Giwa	K/North	Kubau	Kauru	Jema'a	Total
1.	Are there reported cases or outbreaks in your district/community?	Yes	24(6%)	29(7.2%)	22(5.5%)	29(7.2%)	29(7.5%)	24(6%)	157(34%)
		No	62(15.5%)	40(10%)	67(16.7%)	39(9.7%)	40(10%)	17(4.2%)	265(66%)
		Total	86(21.5%)	69(17%)	69(17%)	68(17%)	67(16.7%)	41(10%)	400(100%)
2.	Are there children dying in your district/community than before?	Yes	21(5%)	13(3%)	21(5%)	14(4%)	21(3%)	14(4%)	104(26%)
		No	65(11%)	56(14%)	45(11%)	54(14%)	46(%)	30(%)	296(74%)
		Total	86(21.5%)	69(17%)	69(17%)	68(17%)	67(16.7%)	41(10%)	400(100%)
3.	Could you attribute that to immunization?	Yes	53(13%)	43(11%)	53(13%)	44(11%)	51(12.7%)	28(7%)	272(68%)
		No	33(8.2%)	26(6.7%)	16(4%)	24(6%)	16(4%)	13(3.2%)	128(32%)
		Total	86(21.5%)	69(17%)	69(17%)	68(17%)	67(16.7%)	41(10%)	400(100%)

Source: Researchers' Survey, 2015.

The table 5.9 above presents a level of success of immunization in the six LGs under study, the results indicates that 265 respondents representing 66% testified that there were no reported cases of outbreaks in their districts. 157 of the respondents representing 34% testified that there were reported cases or outbreaks in their district/community.

To investigate the success of immunization in term of mortality rate, respondents were asked whether children are dying in their communities, the majority of the respondents 296 representing 74% said there was no high mortality rate in their communities. 104 of the respondents representing 26% said yes.

To ascertain responses of staff respondents on whether they could attribute the success of reducing child mortality in their communities to immunization, the majority of the respondents numbering 272 (68%) said yes.   128 of the respondents representing 32 said "No".

5.4 Test of Hypothesis Number Two: Health personnel and effective Service Delivery

Hypothesis number one was formulated to elicit respondents' views in respect to availability and competence of health personnel and its effects on immunization service delivery. The study hypothesized that "availability and competence of personnel at the LG level affect the success of immunization program". The availability was measured in terms of the number of health personnel per LG, while competency was measured in terms of number of trainings attended.

Table 5.12 Availability of health personnel per LG

Health personnel	Jema'a LG	Ratio of pop. Per Health staff (Availability)	K/North LG	Ratio of pop. Per Health staff (Availability)	Kubau LG	Ratio of pop. Per Health staff (Availability)	Sabon Gari LG	Ratio of pop. Per Health staff (Availability)	Giwa LG	Ratio of pop. Per Health staff (Availability)	Kauru LG	Ratio of pop. Per Health staff (Availability)
CHO	**10**	**1: 27873**	**11**	**1:32517**	**11**	**1:25640**	**26**	**1:11033**	**29**	**1:9877**	**12**	**1:14167**
CHEW	**9**	**1: 30970**	**42**	**1:8516**	**53**	**1:5321**	**55**	**1: 5216**	**63**	**1:4546**	**71**	**1:2394**
JCHEW	**16**	**1: 17420**	**19**	**1:18826**	**23**	**1:12262**	**50**	**1: 5737**	**58**	**1:4938**	**9**	**1:18890**
MW	**17**	**1: 16396**	**8**	**1:44711**			**20**	**1: 14343**	**NIL**	**NIL**	**NIL**	**NIL**
SN	**3**	**1:92911**	**34**	**1:10520**	**4**	**1:70,511**	**15**	**1: 19124**	**12**	**1:23869**	**9**	**1:18890**
EHO	**2**	**1: 139367**	**43**	**1:8318**	**16**	**1:17627**	**11**	**1: 26079**	**NIL**	**NIL**	**5**	**1:34002**
EHT	**NIL**	**NIL**		**1:40918**	**7**	**1:40.292**	**22**	**1: 13040**	**7**	**1:40918**	**6**	**1:28335**
EHA	**4**	**1: 69683**		**1:10608**	**16**	**1:17627**	**35**	**1: 8196**	**27**	**1:10608**	**6**	**1:28335**
PHAM. TECH	NIL	NIL	**4**	**1:89423**		**NIL**	**2**	**1: 143213**	**2**	**1:143214**	**2**	**NIL**
PHAM. ASST	**1**	**1: 287735**	**NIL**	**NIL**		NIL	**1**	**1: 287735**	**NIL**	**NIL**		
LAB. TECH	4	1: 69683	30	1:11923	3	1:94,015	**6**	**1: 47812**	**9**	**1:31825**	**6**	**1:28335**
LAB. ASST	7	1: 39819		1:95475	5	1:56409	**2**	**1: 143213**	**3**	**1:95475**	**6**	**1:28335**
Sci. LAB. TECH	1	1: 278735	NIL	NIL			1	1: 278735	NIL	NIL	6	**1:28335**
CHO/PHN	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL
CHA	NIL	NIL	NIL	NIL	43	1:6559	NIL	NIL	NIL	NIL	NIL	NIL
JHA	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	**63**	**1:4546**	**30**	**1:5667**
MRA	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	**34**	**1:8424**	**1**	**1:170008**
SCHEW	54	1:5161	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL
Dentist Asst	1	1:278735	2	1:178847	3	1:94015	NIL	NIL	NIL	NIL	NIL	NIL
Doctor(NYSC)	1	1:278735	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL
T.BL officer	1	1:278735	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL
TOTAL	131	1:2127	193	1:1853	184	1:1,532						

Source: PHC Department Jema'a, Kubau and Kaduna North Sabon Gari, Giwa and Kauru, 2015.

Evidence from the investigation indicates that Jema'a LG has a total of 131 health personnel which on the ratio or average each staff served at least 2127. Out this figure, 16 where JCHEW with a ratio of 17420, while 9 are CHEW with a ratio of 30970. 54 of the health personnel with a ratio of 1:5161 were SCHEW. For Kaduna north LG the data showed that 193 health personnel on the average served 357,694 people. While 19 were JCHEW with a ratio of 18826. In Kubau LG 53 of the health personnel were CHEW who served at least a total of 5,321 on the average, while 23 were JCHEW with a ratio of 12262 people in the LG. The data further indicated that though all the LGs have shortage of health personnel, in general Kaduna north was in better position compared to Kubau and Jema'a LGs (with 184 health personnel 1: 1,532 and Jema'a LGs with 131 health personnel 1: 2127) respectively. The table also indicated that medical doctor was found in all the LGs visited. The study also found out a shortage of pharmacists in all the LGs visited.

Table 5.13 Training organizations for Health personnel in Kaduna state for the LGs and program per year.

S/No	Training organization	Training program	Number of training per year
1	Global Fund	Malaria Control Program	3
2	WHO	Polio Eradication	8
3	PATHS	Monitoring and Evaluation	4
4	SIGHT SERVERS	Mecitizan distribution	2
5	UNICEF	Not Available	3
6	N-STOP	Not Available	3
7	UNPA	Family planning	4
8	LGSB		10

Department Sabon Gari, Giwa and Kauru LGs

The table 5.10 above shows the number of trainings conducted each year and the training organization. Based on the data, LGSB has the highest (10) number of training, followed by WHO with 8, PATHS and UNPA with 4 each, UNICEF and N-STOP with 3 each, while SIGH8T SERVERS has the least (2) number of training each year. This shows that health personnel are well adequately trained every year.

Table 5.14 Responses on Availability and Competence of Health Personnel

S/N	VARIABLES	RESPONSES	LOCAL GOVERNMENTS						
			S/Gari	**Giwa**	**K/North**	**Kubau**	**Kauru**	**Jema'a**	**Total**
1.	How would you describe the adequacy of health personnel in your district/ Community?	High	32(8%)	29(7%)	23(6%)	19(5%)	18(4.5%)	14(4%)	135(33.7%)
		Low	54(14%)	40(10%)	46(12%)	29(12%)	49(12.5%)	27(7%)	265 (66.2%)
		Total	86(22%)	69(17.2%)	69(17.2%)	68(17%)	67(16.7%)	41(10%)	400(100%)
2.	Was there adequate training of health personnel in your district/community?	Yes	64(16%)	59(15%)	42(11%)	40(10%)	49(17%)	27(7%)	281(70.2%)
		No	22(6%)	10(3%)	27(6.7%)	28(7%)	18(5%)	14(4%)	119(29.7%)
		Total	86(22%)	69(17.2%)	69(17.2%)	68(17%)	67(%)	41(10%)	400(100%)

Source: Researchers' Survey, 2015.

Respondents were asked to express their opinion in respect to adequacy of health personnel in their district/community. Majority of the respondents 265 representing (66%) described the state of health personnel as low. Whereas, a total of 135 (33.7%) of the respondents described the number of health personnel in their district or clinic as high. From this figure, 54(14%) and 49(12.5%) were from S/Gari and Kauru LGs respectively. While 29(12%) and 27(7%) were Kubau and Jema'a LGs respectively. This shows that there were inadequate health personnel in the six Local Governments.

When we asked the staff respondents to expresses their views on whether there was adequate training or not. 218 of the respondents contacted, representing (70%) agreed that there was adequate training. 119 of the respondents representing (29.7%) said they don't have adequate health training. The table also shows that there were adequate trainings of health personnel in all the six LGs.

5.5 Test of Hypothesis Number Three: Local Government Efforts at Immunization has produced Positive outcome.

To test whether LG effort at immunization has produced positive outcome or not, the study operationalized "Government effort at immunization" in terms of advocacy and sensitization, training, monitoring immunization, provision facilities and other form of encouragement by the LG to the people. "Positive Outcome of Immunization Service Delivery" was operationalized in terms of the level of cooperation of people toward immunization.

Table 5.15 Staff Responses in Respect to Local Government Efforts at Immunization

VARIABLES	RESPONSES	LOCAL GOVERNMENTS						
		S/Gari	**Giwa**	**K/North**	**Kubau**	**Kauru**	**Jema'a**	**Total**
How would you rate government efforts on immunization in terms of advocacy and sensitization	High	44(11%)	29(7%)	44(11%)	40(10%)	57(14%)	24(6%)	238(59.4%)
	Low	42(10%)	40(10%)	25(6.2%)	28(7%)	10(3%)	17(4.2%)	162(40.5%)
	Total	86(22%)	69(17.2%)	69(17.2%)	68(17%)	67(17%)	41(10%)	400(100%)
How would you describe government efforts on immunization in terms of training	High	65(16.2%)	56(14%)	48(12%)	57(14%)	40(10%)	30(8%)	296(74%)
	Low	21(5%)	13(3%)	21(5%)	11(3%)	27(7%)	11(3%)	104(26%)
	Total	86(22%)	69(17.2%)	69(17.2%)	68(17%)	67(17.2%)	41(10%)	400(100%)
How would you rate government effort in terms of monitoring immunization	High	53(13%)	43(10.7%)	50(12.5%)	43(11%)	38(9.5%)	28(7%)	255(63.7%)
	Low	33(8.2%)	26(6.5%)	19(4.7%)	25(6.27%)	29(7.2%)	13(3%)	145(36.2%)
	Total	86(22%)	69(17.2%)	69(17.2%)	68(17%)	67(17.2%)	41(10%)	400(100%)
How would you rate government effort in terms of provision of facilities?	High	65(16.2%)	43(11%)	56(14%)	53(13%)	51(13%)	28(7%)	296(74%)
	Low	21(5.2%)	26(6.6%)	13(3%)	15(2.7%)	16(4%)	13(3%)	104(26%)
	Total	86(22%)	69(17.2%)	69(17.2%)	68(17%)	67 (17%)	41(10%)	400(100%)

Is there any form of encouragement by the LG to the people?	High	62(15.5%)	43(%)	53(13%)	43(11%)	51(14%)	25(6.2%)	277(69.2%)
	Low	24(6%)	26(7%)	16(4%)	25(6.2%)	16(4%)	16(4%)	123(30.7%)
	Total	86(22%)	69(17.2%)	69(17.2%)	68(17%)	67(17%)	41(10%)	400(100%)

Source: Researchers' Survey, 2015.

To ascertain government efforts on advocacy and sensitization efforts, the respondents were asked to rate their government in terms of advocacy and sensitization to the public. 235 (59.4%) of the respondents out of 400 (100%) rated their government high. 162 (40.5%) of the respondents rated their government low.

Respondents were asked to describe government efforts on immunization in terms of training. The majority of the respondents 296 representing (74%) rated government effort on training high. But 145 (36%) of 400 (100%) rated government efforts on training low.

To ascertain the LG effort in terms of monitoring of immunization service delivery, staff respondents were asked to rate their government, 255 of the respondents representing 63.7% rated their government high. Whereas 145(36%) of the staff respondents rated their LG low.

To measure the views of staff respondents in respect to government effort on provision of facilities, the majority 296(74%)of the respondents rated their LGs high. 104(36%) of the respondents rated their LGs low.

Respondents were asked to indicate their views on whether there was any form of encouragement by their LGs to the people or not. The majority of the respondents 277 contacted representing 69%, said yes. But 123(30.7) of the staff respondents said “No”.

Table 5. 16 Responses on Positive Outcome of Immunization Service Delivery.

S/N	VARIABLES	RESPONSES	LOCAL GOVERNMENTS						
			S/Gari	Giwa	K/North	Kubau	Kauru	Jema'a	Total
1	How would you rate the level of cooperation of people toward immunization?	High	62(%)	49(%)	47(%)	51(12.7%)	47(11.7)	27(6.7)	283(70.7%)
		Low	24(%)	20(5%)	22(5.5%)	17(%)	20(5)	14(3.5)	117(29%)
		Total	86(21.5%)	69(17.2%)	69(17.2%)	68(17%)	67(16.7%)	41(10.2%)	400(100%)
2	If yes could you attribute that to government effort?	Yes	56(%)	40(10%)	45(11.2%)	44(11%)	46(11.5)	33(8.2)	264(66%)
		No	30(7.5%)	29(%)	24(%)	24(%)	21()	8(2%)	136(34%)
		Total	86(21.5%)	69(17.2%)	69(17.2%)	68(17%)	67(16.7%)	41(10.2%)	400(100%)

Source: Researchers survey, 2015

Respondents were asked to indicate their views on whether there was any form of encouragement by their LGs to people. The Majority of the respondents numbering 283 representing 70.7% said yes. But 117 (29%) of the staff respondents said No.

Some staff respondents were asked whether people's cooperation could be attributed to LG effort. The majority of the respondents 267 representing 66% said "Yes". 136 representing (34%) of the respondents said "No".

Table5. 17 Trends of infant and under five child mortality rates per 1000 in Kaduna state

1	**Year**	**Infant mortality**	**Under five mortality**
2	**2003**	**100**	**201**
3	**2008**	**75**	**157**
4	**2010**	**69**	**128**
5	**2011**	**75**	**NA**
6	**2012**	**N/A**	**N/A**
7	**2013**	**69**	**128**
8	**2014**	**74.9**	**NA**

Source: PARTHS2, 2015

The table 5.17 above indicates that infant and child mortality rates as at 2003 were 100 and 201 respectively and dropped to 75 and 157 respectively in 2008. The figure again depreciated to 69 and 128 respectively in 2013 and later infant mortality rates appreciated to 74.9 in 2014. This indicates unstable rates over the years.

Table 5.18 Under Five Mortality Rate For Some LGs from 2012-2014

S/No	LGAs	2012	2013	2014
1	S/GARI	15	7.5	1.1
2	KAURU	90.2	71.5	25.8
3	GIWA	60	69	31.6
4	JEMA'A	30.5	68.2	24.6
5	KD NORTH	26	19.1	10.1
6	KUBAU	47.1	26.4	7.6

Source: Kaduna state ministry of Health, (DHIS2) May 2015.

The table 5.18 above presents under-five mortality rate in Sabon Gari, Giwa, Jema'a, Kaduna North, Kubau and Kauru LGs respectively. The data indicates that Kauru LG recorded the highest mortality rate with 90.2 and 71.5 in 2012 and 2013 respectively. Sabon Gari LG has the lowest mortality rates of 15 in 2012 and declined to 7.5 in 2013 and1.1 in 2014 respectively.

Giwa LG recorded second position in the ranking of the LGs selected with 60 and 69 in 2012 and 2013 respectively. In 2014 the figure declined to 31.6. Sabon Gari LG recorded the least number of under-five mortality rate with 15 in 2012 and declined to 7.5 and 1.1 in 2013 and 2014 respectively. This indicates that there has been significant decline of the rate of under-five mortality rate in all the three LGs within the period under study. The table 5.1.8 indicates that urban LGs (Kaduna North and Sabon Gari) in the state have the lowest mortality rate compared to their rural (Kubau and Kauru) counterparts.

5.5.5 Interview Responses for parents on the outbreak of Child killer Diseases in six Local Governments of Kaduna State.

To compare the responses obtained from the staff respondents with that of the beneficiaries of immunization (parents), respondents were asked to express their views on the relationship between immunization exercise and outbreak of particular disease among the six child killer diseases. The results indicated that, the majority of the women interviewed said “No”. While few of the respondents said “Yes” there were cases of outbreak of particular diseases in their communities. This shows that, there is high reduction of incidence of six child killer diseases in their areas. Similarly the respondents were asked to express their opinions on whether there was wide publicity about immunization exercise in their communities. Majority of the respondents testified that there was wide publicity of immunization exercise in their communities.

5.5.6 Test of Hypothesis Four: Management and success of immunization in Kaduna state

To Test correlation between Management and success of immunization in Kaduna state, the study operationalized Management in terms of supportive supervision, equipment calculation, budgeting and monitoring and assessment of injection and disposal safety. The responses were presented below.

Table5. 19: Management and success of immunization in Kaduna state

S/N	VARIABLES	RESPONSES	LOCAL GOVERNMENTS						
			S/Gari	**Giwa**	**K/North**	**Kubau**	**Kauru**	**Jema'a**	**Total**
1.	How would you rate your LG in terms of supportive supervision?	High	51(12.7%)	49(12.2%)	45(11.2%)	48(12%)	51(12.7)	28(7)	272(68%)
		Low	35(8.7%)	20(5%)	24(6%)	21(5.2%)	16(4)	13(3.2)	129(32%)
		Total	86(21.5%)	69(15%)	69(15%)	68(17%)	67(16.7%)	41(10.2%)	400(100%)
2.	How would you rate your LG in terms of provision of equipment calculation?	High	55(13.5)	49%)	52%)	42(10.5%)	58(14.5%)	26(6.5%)	282(70.5%)
		Low	31(7.7%)	20(7.5%)	16(4%)	26(6.5%)	9(2.2)	15(3.7%)	117(29.2%)
		Total	86(21.5%)	69(15%)	69(15%)	68(17%)	67(16.7%)	41(10.2%)	400(100%)
3	How would you rate your LG in terms of budgeting and monitoring of immunization?	High	55(13.5%)	52(%)	46(%)	47(11.7%)	50(12.5%)	32(8%)	282(70.5%)
		Low	31(7.7%)	17(%)	22(%)	20(%)	17(4.2%)	9(2.2%)	116(29%)
		Total	86(21.5%)	69(15%)	69(15%)	68(17%)	67(16.7%)	41(10.2%)	400(100%)
4	How would you rate your LG in terms of assessment of injection and disposal safety?	High	52(13%)	53(13.2%)	47(11.7%)	48(12%) %)	46(11.5%)	30(7.5%)	276(69%)
		Low	34(8.5%)	16(4%)	22(5.5%)	20(%)	21	11(2.7%)	124(31%)
		Total	86(21.5%)	69(15%)	69(15%)	68(17%)	67(16.7%)	41(10.2%)	400(100%)

Source: Researchers Survey, 2015

Respondents were asked to rate their Local Governments in terms of supportive supervision. 272(68%) out of 367(100%) rated their LGs high, 129(32%) of the respondents rated their LGs "low". The respondents in the six LGs were also asked to rate their Local Governments in terms of equipment calculation, 117(29.2%) of the respondents rated the LGs "low", while 282(70.5%) of the respondents rated the LGs "high". The same respondents were asked to rate their LGs in terms of budgeting and monitoring, whereas 282(70.5%) of the respondents rated their LGs "high". 116(29%) of the respondents rated their Local Governments "low". The respondents were equally asked to rate their LGs in terms of assessment of injection and disposal safety. 276(69%) of 367(100%) respondents in S/Gari, Giwa and Kaura LGs rated their LGs "high". 124(31%) of the respondents rated their LGs "low".

5.6 Test of Hypothesis Number Five: Responses on the effect of socio-cultural factor on the success of immunization in Kaduna state.

In order to measure the contributions of socio-cultural factor on the success of immunization in Kaduna state, the study hypothesized that "Success of immunization delivery at the LG level is a function of sociocultural factors". Socio-cultural factors were operationalized in terms of religious perception and cultural beliefs.

Table 5.20: Responses on the effect of socio-cultural factor on the success of immunization in Kaduna state

S/N	VARIABLES	RESPONSES	LOCAL GOVERNMENTS					
			S/Gari	Giwa	K/North	Kubau	Kauru	Jema'a	Total
1	Do you agree that religious perception has significant influence on the success of immunization in your district?	Yes	42(11%)	39(10%)	47(11.7%)	43(11%)	50(12.5%)	25(6.2%)	246(61.7%)
		No	44(11%)	30(8%)	22(6%)	26(7%)	17(4.2%)	16(4%)	155(38.7%)
		Total	86(21.5%)	69(15%)	69(15%)	68(17%)	67(16.7%)	41(10.2%)	400(100%)
2	Do you agree that cultural belief has significant influence on the success of immunization in your district?	Yes	44(11%)	46(%)	46(12%)	49(12%)	48(12%)	27(6.7%)	260(65%)
		No	22(6%)	23(6%)	40(10%)	20(5%)	19(4.7%)	14(3.5%)	138(34.5%)
		Total	86(21.5%)	69(15%)	69(15%)	68(17%)	67(16.7%)	41(10.2%)	400(100%)

Source: Researchers' Survey 2015.

Respondents were asked to express their views on the contribution of religious perception on the success of immunization in their districts. Majority of the respondents 246(61.7%) answered "Yes", while 155(38.7%) of the respondent said "No". This suggests that religious perception has effect on the success of immunization in their districts. Same respondents were asked to express their views whether or not cultural beliefs have significant effect on the success of immunization. Majority 260(65%) of the respondents in the three Local Governments said “Yes”, while 138(34.5%) of the respondents said “No”. This indicates influence of religious and cultural beliefs on the success of immunization.

5.8: Interview Responses and Focus Group Discussion (FGD) with Health Personnels in the six LGs.

Introduction

This section present result from the facility survey, focus group discussion (FGDs) and interview conducted with health personnels in the six LGs. Ten health staff respondents and two each from the Kaduna state Ministry of health, Ministry for LGs, Kaduna state Primary Health Care Development Agency and women from six LGs. Results from the interview and focus group discussions (FGDs) were presented below.

A focus group discussion with health personnel was conducted to confirm information obtained from the questionnaires administered. Respondents were asked to express their views whether socio-cultural factor has affected the success of immunization program in their LGs. Majority of the respondents testified that, in the past, certain socially constructed belief on immunization had played a significant role on the success of immunization. This however, has drastically reduced due to the constant sensitization exercise and the involvement of the religious leaders and traditional rulers in the matter. The study also confirmed that, people still held the belief that the antigens had contained contraceptive agents capable of controlling population growth. The incidences were high in Giwa, Kubau, Jema’a and Kauru than in Sabon Gari LGs and Kaduna North LGs.

Respondents were asked about the effect of socio-cultural factor on immunization exercise.

Respondents testified that, low coverage in Kadage (Kare ward), Kwatattalo, Madobba (Kubau ward) and Anguwan Ratse (Dutsen Wai ward) Fanbeguwa, Murtala, Dutsen Wai and Malamawa could be related to religious factor. In this regard, respondents (health personnel) mentioned that, a particular religious sect has refused to comply until when their leader was contacted. In some areas politics and socio-economic reasons are among the reasons for non-compliance in the areas rather than socio-cultural reason. Religious and cultural beliefs have therefore played an important role in some Hausa communities. Evidence from the investigation indicated that low community participation in those areas could be attributed to the fellowship of a particular religious sect.

Similar situation in Jema'a Local Government areas in Kafanchan "A" and "B" wards which recorded low participation in previous years could also be related to culture rather than religion. Whereas in Christian dominated areas of Jema'a Local Government, low coverage may be attributed to socio-economic reason rather than religious one due to the fact that, some households have refused to allow their children to be immunized because they were not given mosquito nets or Panadol tablets.

Respondents indicated that noncompliance to immunization was more in Kafanchan "A" and Kafanchan "B" wards. Among their reasons for noncompliance was that the immunization according to them make the children grow faster and stubborn; while others insisted that they must be given mosquito nets or panadol tablets before administering the vaccines to their children. The Kafanchan "A" and "B" wards were dominated by Muslim Hausa communities but most of the reasons for noncompliance to immunization were not connected to cultural or religious bias.

Respondents were also asked whether there was effective management of human and material resources. Majority of the respondents testified that there was proper coordination in terms of coordination and distribution of human and material resources on time. There were good coordination and distribution of logistics in time in almost all the districts especially during the campaign immunization exercise.

Effective management and coordination of human and material resources depends on adequacy of personnels. If personnels are not adequate, management and coordination will not be effective. Evidence from the interviews revealed that there were inadequate health personnel to render RI in most rural health facilities visited. Jema'a, Kauru, and Kubau LGs have the lowest number of health personnel per health facility than in Giwa, S/Gari and Kaduna North LGs. The study also indicated concentration of health personnel at LGs capitals than the suburb areas.

In the case of logistics, facility survey and interviews conducted with the respondents extracted out that there ware evidence of shortage of facilities particularly transport facilities in all the Local Governments visited. The study revealed that none of the Local government visited has a designated vehicle for transporting antigens and other cold chain facilities. Available information proved that Kaduna North, Sabon Gari and Giwa Local Governments have the highest standard Cold Chain facilities, followed by Jema'a, Kubau and Kauru LGs (see Appendix i). This indicated that, urban local governments have more and standard cold chain facilities, followed by Semi urban and rural Local Governments.

To investigate the level of coordination and supervision of administration of immunization, the study proved that, joint efforts were made to supervise immunization administration. The study confirmed that apart from the state and Local Governments, development partners were also fully involved in the supervisory role for successful and effective immunization service delivery. At the Local Government Level, cold chain officer (CCO), Immunization Local Government officer (ILGO) and Health educators usually take part in the supervisory activities. The committee or team supervised the pattern of administration of immunization, adequacy of antigens in both public and private health care facilities. They also supervised the number of RI conducted per session or Month. They similarly investigated the level of coverage within the specified target. This supervision was usually done with the use of a designed checklist.

Assessment of supervision was carried out to assess the process and success of immunization exercise in the Local Governments. Information from the respondents indicated that Local Government team carried out supervision of immunization at the Local Government level. The team comprises of the Director of PHC, LG Immunization officer (LIO), monitoring and evaluation officer (M&E) and surveillance officer. The team used checklist which contain items to be monitored in respect to immunization service delivery. Each member of the team makes a report based on his findings. The result of the investigation indicated that, there was averagely proper supervision of immunization service delivery in the urban LGs. The study also proved that, coordinated joint supervisions were carried out by center for disease control (CDC), State through the Primary Health Care Agency (PHCDA), development partners including WHO and UNICEF.

To assess the LGs' effort in terms of record keeping, respondents were asked to express their views whether there was proper record keeping or not. Responses and observations indicated proper record keeping system in most of the facilities visited. There was proper documentation, records of RI and IPDs. Tally sheet (Which contain diseases record), immunization register and immunization record sheet were found intact. This Indicated proper record keeping in most Local Governments.

In the case of funding, available information confirmed that there ware shortages of health financing at local level. Evidence from the interview indicated that, development partners have supported immunization in all the Local Governments visited. The study also found that, there was no material inducement given by the LGs for RI service delivery, either within or outside the area of primary assignment. In essence, RI service delivery is considered by the LGs as a routing duty of a health personnel. As such no extra financing or motivation given by all the Local governments visited.

Evidence from Kaduna state primary healthcare agency revealed that, the state has been receiving one hounded and forty million naira (N140M) per each round of immunization from the WHO. While Center for Disease Control (CDC) and Rotary International have been contributing Five Hundred Thousand Naira (N500, 000) and Two Hundred Thousand Naira (N200, 000) for every round respectively. This indicates that WHO has been the largest Donor agency to Kaduna state.

In terms of motivation the study found that, there was no extra financial support for RI to L.G staff because RI is considered as a routing duty for health staff. However, some financial supports were given for certain services. The supports were as follows:

Staff beneficiary	**Service rendered**	**Amount**
RI in charge provider		
	Outreach service	N2,000
	Vaccine collection	N1,500
	Submission of data	N500
Town announcer	Announcement	N500
Mobilizer	Mobilization	N500

Source: Kaduna North LG, 2014.

Others include religious (JNI and CAN representatives) and traditional leaders (ward head or his representative as the case may be). For IPDs, the study discovered that the federal government through the center for disease control CDC disburses money to WHO for IPDs administration.

The WHO disburses the money to state PHCDA and from then to respective Local Governments. Each Local Government is paid through its designated account depending on the number of staff and Adhoc staff involved in the exercise. Details of payment are as follows:

Staff beneficiary		**Amount**
The focal person	=	N3000 per day
Team leader	=	N1,500 per day
Cold Chain Officer	=	N2,000 per day

Source: Kaduna North LG, 2014.

The study indicated that, there was no adequate motivation for RI staff. Evidence from the investigation revealed that RI service delivery is considered as a routine duty of health personnel or RI provider. A stipend amount were also given in the previous years to staff that rendered their services in outreach, risk or suspected areas.

In the case of the adequacy of health personnel, interview with staff respondents indicated shortage of health personnel in all the Local Governments visited. Result from the facilities survey indicated that some health facilities have only one health personnel per health facility with the assistance of health volunteers. This problem was more visible in the rural clinics.

The study further confirmed that Local Government carried out mobilization exercise on the importance of immunization in its domain, traditional and religious leaders were also involved in the mobilization exercise. The Local government has forty six (46) district heads and six (6) emirs. Each district head was given five thousand (N5,000) as a transport allowance to the immunization committee meeting where matters of noncompliance in a particular district(s) were discussed and resolved.

To improve the quality of immunization service delivery, trainings were carried out at the Local Government and ward level, while Local Government service board has conducted trainings on quarterly bases. The WHO/UNICEF in the previous years conducted trainings at the Local Government and ward levels. Monitoring and evaluation review meetings were carried out under the support of WHO. Development partners also use to conduct training in the previous years. During the trainings, focal persons and town announcers presented reports of their activities, capacity building were also being enhanced to achieve the same goal.

For logistics, respondents have expressed their concern over inadequate facilities. It was very difficult to reach very far areas from the Local Government capital during the house to house immunization exercise. Further extracted out that apart from being very far from the Local Government capital and some of the areas for example in Jema'a LG were located in a highly terrain areas and do not have generators and deep freezers to maintain their vaccines at standard form. Therefore, they have to come and collect their vaccines at the Local Government cold chain store on a daily basis. Some of the affected areas include Kogon, Aso, Gidan Waya, Bade in Jema'a etc. Appendix ix also indicates that there were shortages of facilities in all the necessary needed for effective immunization service delivery.

Both public and private clinics administered RI in Kaduna state. The Local Government officials supervise the activities of RI in both public and private clinics. Interview with the private providers in Jema'a LG testified that, they used to receive RI support from Global Alliance for Vaccines and Immunization (GAVI). In the case of logistic supply, the provider testified that, they have been receiving enough antigens, and meeting their targets. In 2013 and 2014, each RI provider received ₦3000 and ₦7000 respectively as a support for RI.

In Kubau LG, Respondents were asked on how they administered RI in their respective hospitals. Results indicated that about 20 to 30 babies were immunized every week in four fixed hospitals, and 15 to 29 babies in outreach services. On the adequacy of staff, respondents admitted that, they had very chronic shortage of health personnels in the Local Government with high concentration of about 20 to 30 health personnels per hospital in the Local Government capital and one per rural hospital/clinic (see table 5.12). The respondents further revealed that majority of the heath personnels in the Local Government are volunteers (the casual staff were paid N5, 000 per month) not converted as permanent staff. This indicated that there are serious preferences and interests on particular clinic or health centers than others. Respondents interviewed indicated that, RI was supported by WHO. In this regard the following people benefited from the support:

Beneficiary	**Amount**
RI in charge	N2,000
Mobilizer	N2,000

Apart from these people other beneficiaries include religious and traditional leaders who assisted in the mobilization exercise. The mobilization was usually carried out at the gatherings and religious centers. Town announcers used mega phones to sensitize the public about the importance of immunization.

Success of immunization program depends on sustained public acceptance that if individual and collective benefits of immunization outweigh the risks and suspicion on the program. The study found that the benefits and safety of immunization are questioned by some persons or groups who are oppose to immunization. Though religious and cultural factors have played significant role on the success of immunization, other factors including politics, socio-economic factors, management and coordination of human and material resources were found important factors.

Facility survey in the Local Governments extracted out shortages of antigens, fridges and other cold chain equipments (see Appendix i). No functional solar refrigerator and transportation facilities especially in the rural health facilities. Apart from shortages of cold chain equipments most of the equipments were not in their standard form. In essence functional equipments and antigens were lacking. Similarly appendix x indicates that apart from PHC Haskiya and Kubau

LG cold chain office which have one solar refrigerator each, none of the health facility has solar refrigerator. The information also proved that none of the clinic or health center has at least one thermometer.

RI in most Local Governments were usually administered in a public facilities on Thursdays, Wednesdays and Thursdays while private clinics extended the services to Fridays and Saturdays depending on the schedules of the facility provider. Each provider administered RI once in a week and four times per mouth. Each child is expected to complete his or her RI in a one year from the 1st day of his or her birth. The administration of RI is as follows:

Birth	OPV^0, HBV^1, BCG_1
6 weeks	OPV^1, DPT^1, HBV^2
10 weeks	OPV^2, DPT^2
14 weeks	OPV^3, DPT^3, HBV^3
9 months	Measles, Yellow fever, Vitamin A^1
15months	Vitamin A^2

For pregnant Women/producing age group
Tt1 at 1st contact no protection
TT^2 4 weeks later 80% protection for 3yrs
TT^3 6months later 95% protection for 5yrs
TT^4 1year or in subsequent pregnancy
99% protection for 10 weeks
Tt5 1 year later or in subsequent pregnancy 99% protection for life.

This shows that a child receives immunization from the first day to at least one year or in subsequent pregnancy.

Information from the respondents interviewed indicated that, there was high level of participation by all the cultural groups in the urban Local Governments in both RI and IPDs. This according to the respondents was due to the level of literacy and awareness of the populace in Kaduna North and Sabon Gari Local Governments. Being Kaduna North and Sabon Gari LGs as urban Local Governments, religion and culture in recent years do not play significant role on immunization service delivery. Most cultural and religious group fully participated in the immunization exercise. Hence there was no any report case of polio virus in the last two years in the Kaduna North Local Government and is expected to receive a polio free certificate by December 2015. Respondents also indicated drastic reduction of infant and under five mortality rates in the Local Governments. This was due to the high level of cooperation and participation by the majority of the populace in the Local Governments. Available data revealed that Kaduna North LG was better equipped with health facilities more than the other LGs studied.

Training is very essential for staff developments. Respondents were asked to express their views whether or not there was adequate training. Their response revealed that, at least every month staff of the health department attended a workshop with regard to immunization.

5.9 STATISTICAL TESTING

Test of Hypothesis

H_1: Government efforts at immunization has produced positive outcome.

Table 5.21 Correlation Analysis Results between Level of Funding and Success of Immunization program

Level of Funding Indices		Outcome
Adequacy of funding	Pearson Correlation	.572**
	Sig. (2-tailed)	.000
	N	400
Regular disbursement of fund for immunization	Pearson Correlation	.972**
	Sig. (2-tailed)	.000
	N	400
Incentive for Immunization	Pearson Correlation	.940**
	Sig. (2-tailed)	.000
	N	400
Outcome	Pearson Correlation	1
	Sig. (2-tailed)	
	N	400

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

The results indicate that the calculated p-values for adequate funding were less than the significance level of 0.01. Therefore, there exists a significant relationship between Government efforts and Positive outcome of the immunization program. Further, the results confirmed a strong positive correlation for the choice variables tested at one percentage significance level with Regular disbursement of fund for the highest (r = 0.972), followed by Incentive for immunization (r = 0.940), and Adequacy of funding (r=0.572 with $p < 0.01$). All variables had a high and positive significance. The r- values ranged from 0.972 to 0.572. All r- values were above 0.500. This shows that there is a strong relationship between Government efforts at immunization and positive outcome of the immunization programme. The null hypothesis was therefore ignored and the substantive one government efforts at immunization has produced positive outcome adopted. Therefore, Government effort at immunization has led to positive outcomes in the local governments under consideration.

H_1: The availability and competence of personnel affects the success of immunization program.

Table 5.22: Correlation Analysis Results 'Availability and Competence of Personnel' and 'Success of Immunization program'

Indices of Availability and Competence of Personnel		Success of Immunization
Adequacy of Health personnel	Pearson Correlation	.961**
	Sig. (2-tailed)	.000
	N	400
Adequate Training of Health personnel in the district/community	Pearson Correlation	.949**
	Sig. (2-tailed)	.000
	N	400
Success of Immunization	Pearson Correlation	1
	Sig. (2-tailed)	
	N	400

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

The results indicate that the calculated p-values for Availability and Competence of Personnel' were less than the significance level of 0.01. Therefore, there exists a significant relationship between 'Availability and Competence of Personnel' and 'Success of Immunization program'. Further, the results confirmed a strong positive correlation for the choice variables tested at one percentage significance level with Adequacy of Health personnel (r = 0.961) and Adequate Training of Health personnel in the district/community (r=0.949 with $p < 0.01$). All variables had a high and positive significance. The r- values ranged from .949 to 0.961. All r- values were above 0.500. This shows that there is a strong correlation between ‘Availability and Competence of Personnel’ and ‘Success of Immunization program’ in the communities under study. The null hypothesis was therefore ignored and the substantive one that the availability and competence of personnel affect the success of immunization program. Therefore, the availability and competence of personnel affects the success of the immunization program.

$H_{1:}$ The higher the level of funding and other support, the more likely the success of the immunization program.

Table 5.23: Correlation Analysis Results ‘Level of Funding and other Support’ and ‘Positive Success of Immunization Program’

Indices for Level of funding and other supports		Success of Immunization Program
Advocacy	Pearson Correlation	.831**
	Sig. (2-tailed)	.000
	N	400
Training	Pearson Correlation	.864**
	Sig. (2-tailed)	.000
	N	400
Monitoring	Pearson Correlation	.910**
	Sig. (2-tailed)	.000
	N	400
Provision of Facilities	Pearson Correlation	.838**
	Sig. (2-tailed)	.000
	N	400
Other forms of encouragement to the people	Pearson Correlation	.971**
	Sig. (2-tailed)	.000
	N	400
Success of Immunization program	Pearson Correlation	1
	Sig. (2-tailed)	
	N	400

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

The results indicate that the calculated p-values for Level of Funding and other Support were less than the significance level of 0.01. Therefore, there exists a significant relationship between Level of Funding and other Support and Success of Immunization Program. Further, the results confirmed a strong positive correlation for the choice variables tested at one percentage significance level with other forms of encouragement to the people ($r = 0.971$), Monitoring ($r = 0.910$), Training ($r = 0.864$), Provision of Facilities ($r = 0.838$) and Advocacy ($r=0.831$ with $p < 0.01$). All variables had a high and positive significance. The r- values ranged from .831 to 0.971.

All r- values were above 0.500. This shows that there is a strong positive correlation between 'Level of Funding and other Support' and 'Success of Immunization program' in the communities under study, which implies the success of immunization program improves with increase in the level of funding. The null hypothesis was therefore ignored and the substantive one that the higher the level of funding and other support, the less likely the success of the immunization program adopted.

H_1: Success of immunization delivery is a function of sociocultural factor.

Table 5.24: Correlation Analysis Results 'Sociocultural Factor' and 'Success of immunization

		Success of immunization
Religious Perception	Pearson Correlation	.867**
	Sig. (2-tailed)	.000
	N	400
Cultural Belief	Pearson Correlation	.935**
	Sig. (2-tailed)	.000
	N	400
Success of immunization	Pearson Correlation	1
	Sig. (2-tailed)	
	N	400

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

The results indicate that the calculated p-values for 'Sociocultural Factors' were less than the significance level of 0.01. Therefore, there exists a significant relationship between Sociocultural Factor and Success of immunization. Further, the results confirmed a strong positive correlation for the choice variables tested at one percentage significance level with Religious perception (r = 0.867) and Cultural Belief (r=0.935 with p < 0.01). All variables had a high and positive significance. The r- values ranged from 0.867 to 0.935. All r- values were above 0.500. This shows that there is a strong correlation between "Sociocultural Factor" and "Success of immunization" in the communities under study. The null hypothesis was therefore ignored and the substantive one that Success of immunization delivery is a function of sociocultural factor... Therefore, the success of the immunization delivery is a function of sociocultural factors.

H_1: Success of immunization delivery depends on effective management

Table 25: Correlation Analysis Results 'Effective Management' and 'Success of immunization

Indices of Effective Management		Success of Immunization
Supportive Supervision	Pearson Correlation	.978**
	Sig. (2-tailed)	.000
	N	400
Equipment calculation	Pearson Correlation	.943**
	Sig. (2-tailed)	.000
	N	400
Budgeting and monitoring	Pearson Correlation	.943**
	Sig. (2-tailed)	.000
	N	400
Assessment of injection and disposal safety	Pearson Correlation	.977**
	Sig. (2-tailed)	.000
	N	400
Success of Immunization	Pearson Correlation	1
	Sig. (2-tailed)	
	N	400

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

The results indicate that the calculated p-values for 'Effective Management' were less than the significance level of 0.01. Therefore, there exists a significant relationship between Effective Management and Success of immunization program. Further, the results confirmed a strong positive correlation for the choice variables tested at one percentage significance level with Supportive Supervision (r = 0.978) the highest, followed by Assessment of injection and disposal safety (r = 0.977), Equipment calculation (r = 0.943), and Budgeting and monitoring (r = 0.943 with p < 0.01). All variables had a high and positive significance. The r- values ranged from .943 to 0.878. All r- values were above 0.500. This shows that there is a strong correlation between 'Effective Management' and 'Success of immunization' in the communities under study. The null hypothesis was therefore ignored and the substantive one Success of immunization delivery depends on effective management was accepted. Therefore, the Success of immunization delivery depends on effective management.

5.10 Discussion of Major Findings

1. Funding is very critical for the success of any program. The study investigated the relationship between funding and the success of immunization program, the study indicated that over the years LGs in the state have been receiving three million five hundred thousand naira (N3.5M) monthly allocations to immunization. This amount has been part of the LGs supports to immunization which were directly deducted from the monthly allocation. Development partners WHO, CDC, UNICEF, GAVI and Rotary international have also spent huge resources for the successful immunization exercise in the state. WHO has been the major development partner to the state with Forty Two Million Naira (N42M) per each round of immunization. This to a large extent has reduced the number of infant and under five mortality rates from 100 per 1000 in 2003 to 74.9 per 1000 in 2014. The study found out that there was averagely regular disbursement of funds for immunization service delivery to six LGs in the state. Local Government financial commitment toward immunization was very impressive as indicated by level of their commitment toward immunization and other logistic supports for the exercise. There was a reasonable funding support to meet the logistic needs and staff welfare. It is evidence that a statutory budget is allocated to immunization in each LG studied. This is in compliance with the National Policy on Immunization. This study found that at least a sum of N3, 500000 is deducted monthly by the state ministry for LGs from the LGs federal statutory allocation. This is to complement support from private and other development partners within and outside the country. This has also proved the hypothesis that “the higher the level of funding and other support, the more likely the success of immunization program”.

2. Personnels are among the important asset for any organization and a tool for achieving

organizational goal. Availability of other factors of production is meaningless if personnel are not properly trained or inadequate. Because it is the personnel that mobilize resources for the betterment or success of any policy, program or exercise. Immunization is one of the exercises that solely depend on the availability and efficiency of health personnels. This is because RI exercise requires the service of professional health personnels since it involve the transfusion of antigens into the body via injection process. This therefore requires training on injection safety and immunization administration; unlike the oral polio immunization which requires at least a short training since it is administered orally. In terms of training the study indicated that there was rigorous training for health personnel by the state government through the Local Government Service Board and development partners. This, to a large extent, has improved the efficiency of the health personnel and success of the immunization exercise. Evidence to this is the low incidence and fear of immunization outcome in the state. Even though there was relatively adequate training, however health personnel were generally inadequate. In most of the clinics or health centers visited were found inadequate, except the urban LGs and those health personnel at the LGs capitals. This has affected the level of immunization delivery in those areas. This result has further established correlation between the availability and competence of health personnel and the success of immunization program. The findings of the study indicated that adequate health personnel were only found in only few health facilities visited in the six LGs studied. This study discovered a higher number of health personnel at the LG headquarters than in the rural areas. These incidences were more in Kauru LG, followed by Giwa and Sabon Gari LGs respectively. This has significant effects on adequate routing services in those areas. The study also discovered a shortage of all categories of staff except CHEW and JCHEW that constitute the majority of health personnel in all the LGs (see table 5.12). However, there are critical shortage of physicians, pharmacists and qualified nurses in most LGs visited. The results indicated the availability of trained and experienced health personnel in most districts visited in the LGs capitals. The documents (staff list) reviewed and the facilities surveyed indicated fairly literate, knowledgeable and trained health personnel in the health centers and the clinics visited. In all the LGs surveyed, no medical doctor was found; this has proved the inability of the LGs to employ medical doctor in their LGs. The study also found out a shortage of pharmacists in all the LGs visited. The study also found that, on the average, each health personnel was at least trained once in a year by either the state, LGSB, WHO or UNICEF. These findings also indicated that the success of the immunization exercise in the six LGs studied was due to the availability of trained and experienced health personnel. This has also proved that "the availability and competence of personnel affect the success of immunization program".

3. The study also proved that, immunization coverage continued to increase each year which led to the decrease in outbreak of the six killer diseases and the child mortality rate in the LGs studied (see appendix xvi). This outcome was attributed to government effort on the immunization exercise. From all indication, government commitment on immunization was very high. All the stakeholders were fully involved which was indicative that the desired objectives have been achieved. The results indicated a high level of peoples' cooperation on the immunization exercise due to the increasing government and International organizations' commitment on the eradication of six killer diseases in the country. In general, findings of the research indicated that there was an increase of immunization coverage in the recent immunization exercise, evident from both the LG documents and the empirical results (see table 5.10). This showed that this achievement was recorded due to good coordination from the center

(NPI), state to LGs, as well as incorporation of the private bodies including members of the public, religious leaders, NGOs (WHO and UNICEF). The results indicated a high level of awareness by the committee members of the exercise. This was achieved in collaboration with the traditional and religious leaders who both sensitized and mobilized the public on immunization exercise and the dangers of six killer diseases. The study observed that government only allocated a stipend amount to some religious and traditional leaders as part of encouragement. These findings proved that peoples' cooperation toward immunization exercise was due to the increasing in government effort. This has not only increased the immunization coverage in the LGs but also reduced the transmission of polio virus and other child killer diseases. The findings further indicated that the level of suspicion on the program decreased due to government commitment on the matter. This is not to say that people were fully cooperating but rather a reasonable percentage was recorded. The survey indicated that all most all the health facilities visited deliver routing immunization service at least once in a week. Apart from that LG conduct mobile services in certain areas when the need arises.

The results indicated a reasonable and availability of logistics and welfare needs. Generally, all the three LGs provided a fairly adequate support to cater for immunization exercise. Logistics supports were made in terms of adequate provision of cold chain, vaccines, vaccine carriers, syringes, needles, cold boxes and other equipment required for the immunization. There were fairly proper provisions of adequate potent vaccines in most of health facilities visited. From the facility survey conducted and documents reviewed, available data indicated fairly adequate facilities were used to cater for both the routing and the campaign immunization exercise in the six LGs. This is not to say that there were no shortages of facilities. Shortage of equipment at some clinics particularly at remote areas was noticed. This has also confirmed the research hypothesis that “Government efforts at immunization has produced positive outcome”.

4. In terms of management of immunization service delivery the study observed that there are fairly trained and competent health personnel that ensure injection safety (including safe disposal and destruction of used injection equipment) and management issues (including health staff training, supportive and supervision practices) in most of the health facilities visited. In terms of monitoring, there was a series of monitoring and supervision of immunization service delivery in the six LGs by the different bodies. Independent monitors were trained to monitor the exercise in all the wards (see appendix xvi). The central facilitator, LG coordinator, team leader and state supervisor formed the supervisory team in addition to the district coordinator and the team of supervisors. There was also an external assessor from WHO. The team assessed the quality of immunization and observed possible mistakes. From the facility survey conducted, the study observed a fairly constant supervision of the exercise. In the case of campaign immunization, supervisory teams were organized to monitor the exercise along with the immunization team. This has also attested the hypothesis that “success of immunization delivery depends on effective management”. The survey observed rigorous training of health personnel at the LG level especially on the principle of injection safety. The study confirmed that there are provisions for training of health personnel (at least 1% of the monthly federal allocation is deducted by the Kaduna state ministry of LGs for the training of LGs’ staff across the state. The study equally found that LGs in the state in collaboration with the LGSB conduct training almost every month for categories of staff (not only those who are directly involve in immunization program such CHEW and JCHEW). However trainings that have direct link to immunization are conducted by the development partners (including WHO, UNICEF etcetera).

5. On the contribution of socio-cultural factor on the success of immunization, evidence from the interviews indicated that socially constructed belief on immunization has been one of the significant factors for noncompliance in Nigeria. The study extracted out that misconception and belief on immunization exercise. Part of the belief has been that "the antigens contain contraceptive agents capable of controlling population growth or may cause other effect". Though this belief is not cultural belief but is more rampant in Hausa Fulani cultural group. This has attested our assumption that "success of immunization delivery is a function of sociocultural factors". The data also showed that government played a greater role in mobilizing the people. Announcement about the exercise was placed on radio by the LG, town criers, religious leaders, traditional leaders, women and politicians were fully involved. The awareness through announcements was used by the Local Governments to disseminate the massage to the grassroots communities. In addition, t-shirts face caps and posters that carry sensitization messages were distributed by the LGs.

CHAPTER SIX

SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 Summary

This chapter is the concluding part of the work. It provided the summary, conclusion and recommendations based on the research findings. The research was conducted to examine the extent to which Local Governments delivers immunization services in Kaduna state. Six Local Governments were randomly selected in each of the three senatorial districts in the state with the view to establish a correlation between level of funding, availability and competency of personnel, government efforts on the success or outcome of the immunization service delivery in the six LGs.

Chapter one of this research contains the background of the study; where we highlighted the evolution of Local Governments in Nigeria since pre independence (i.e. the Native Authority system) up to the 1976 Local Government reforms and how it changed the Local Government system in the present day Nigeria. Efforts were made to trace the trends of service delivery in the country. Following the background of the study is the statement of the problem where we presented several efforts made by the successive governments to improve services delivery at the Local Government level. These efforts include the 2003 and the 1976 Local Government reforms and the inclusion of the reform measures into the 1979, 1991and the 1999 constitutions, and the increasing Local Government percentage from the federation account from 10% to 20% in 1989 and 1992 respectively and to 20.60% in 2008. All these efforts highlighted were aimed at improving service delivery yet services were inadequate as observed by scholars. The problem of the study sought to address why despite these efforts, yet Local Government services delivery is still below expectation. To achieve this, five hypotheses were formulated to establish a correlation between levels of funding, availability and competency of personnel, government efforts on the success or outcome of immunization service delivery in the three LGs. Finally, the concluding part of the chapter discussed the scope of the study, justification of the study and definitions of the related concepts in the work including, the concept of Local Government Service Delivery.

Chapter two is the literature review and the theoretical framework. Under the literature, reviews, issues such as local government and service delivery, funding and services delivery, Local Government and primary health care delivery, Local Government and immunization services delivery and immunization service delivery in India were reviewed. The concluding part of the chapter dealt with the theoretical framework on Edward Suchman’s Model for Performance Evaluation.

Chapter three traced the history of Local Government in Nigeria from the colonial era under the native authority system up until 2014. The chapter also reviewed components of primary health care and history of immunization in the world and Nigeria in particular. Finally, the chapter presented a brief history of the study area, Kaduna.

Chapter four of the work is the research methodology. The chapter highlighted the research design which includes the population of the study, sampling plan, method and instruments of data collection. The chapter outlined the method of administering questionnaires used and interview method, sample size and the method of data analyses. Under the research design, the researcher utilized the survey method where sample from the parent population was utilized. Efforts were made ensure that the samples contain representation of the whole population for the researcher. A sample in each of the three senatorial distract in Kaduna state showed that culture and the geographical spread of the study area were fully represented. To this extent, Kauru Local Government from Southern Senatorial district, Giwa from central and Sabon Gari from the Northern Senatorial district of Kaduna state. We have tried to justify the choice of the sample in this regard by ensuring the sample represent rural, urban and moderate Local Government. More so, were made to describe the population of the study to include health personnel and women.

The study utilized the use of Yamane's formula as expressed in Israel (1992: 1) where we obtained a total population of 399 respondents from staff of health personnel, out of that figure a total 367 Questionnaires were fully completed, retuned and computed.

The chapter also explained the method and instruments of data collection which include both the primary and the secondary sources. In the case of the primary source, questionnaires were administered to respondents mainly on health personnel to elicit their response on immunization. The questionnaires consist of two sections, the first contain the personal data of the respondents, with Bio data including gender, age, marital status and educational qualification as variables. The second contains responses on immunization service delivery including level of funding, competency of health personnel and success or outcome of the immunization.

Again, to bridge the gap between the theoretical and the empirical data, effort was made to observe the Local Government performance in immunization so as to complement what was interviewed. Oral interview was conducted on women. In this regard, ten respondents were interviewed from each Local Government making a total of thirty (30) respondents.

To determine our sampling plan, purposive sampling technique was utilized so as to include health personnel because of their importance in this work in terms of immunization service delivery. To obtain our sample from there categories of Health personnel, we used stratified sampling technique so as to reduce the occurrence of sampling error and to allow equal representation of each element. We also utilized simple random sampling to select women respondents.

Chapter five looked at data presentation of our research findings. The findings revealed that the majority of the staff contacted in the three LGs mentioned that immunization service delivery was adequate and effective in terms of number of women and children immunized and the result of outcome of the immunization. This success was partly due to government commitment, involvement of NGOs, religious and traditional authorities in the immunization exercise.

6.2 Conclusion

The research set out to evaluate Local governments' performance in Kaduna in terms of immunization delivery. Six hypotheses of the study were formulated to ascertain the contribution of funding, availability and training of personnel, management and socio-cultural factors on immunization success. The findings of the research generally revealed that Local governments' performance in Kaduna state in the terms of immunization services delivery was quite commendable. The success was recorded due to government commitment and involvement of development partners, religious and traditional authorities in the immunization exercise.

It also appears that, Local Governments in Kaduna state are suffering from shortage of health personnel far behind the WHO and NPHCDA standard. In comparing the NPHCDA standard and what was obtained from the documentary review it proved that, there were lacks of health personnels in all the Local government studied. However urban local governments and health centers/clinics which were situated at the cities or Local Government's capitals were better equipped with health personnels more than their rural counterparts.

The results further indicated that, health personnels and facilities were better in the socio-economically advantaged areas of the local governments. The remote villages and highly terrain areas were the most negatively affected areas. This has further indicated that, socio-economically disadvantaged areas suffer most from inadequacy of health personnel.

The study proved that significant disparities of immunization coverage exist in the state. Urban local governments appear to have higher immunization coverage than rural Local Governments in the state partly due to the level of health education and awareness were significantly higher in urban local governments. This has further provides impressive evidence of factors responsible for success of immunization in some Local Governments than others. Part of the reasons include the location and the type of the Local Government, the level of awareness and health education were found significantly important.

This study proved significant disparity exists between rural and urban Local Governments in terms of availability of health personnels and facilities, with better advantage in the later than the former. It is also evident that in all the Local Governments, inadequate funding has been a universal problem. The problem became more prominent since January 2015 when the donor agencies had withdrawn their support from the LGs studied to another. The research further concluded that areas that have less health education and motivation are likely to have low immunization coverage more than those with averagely educated and less culturally inclined. Though this information may be available but not confirm and documented. The study has proved that the failure of immunization delivery in Kaduna state is not only institutional factors but cultural.

6.3 Recommendations

1. The is need to increase public awareness on the benefits of immunization is essential to sustain development in the state. This can be achieved by increasing public (including women) mobilization about the importance of immunization. Existing strategy of involving religious and traditional leaders has yielded desired objectives. The need to enhance their roles and benefit to be derived from the exercise became necessary. There is need to sensitize the public more on the importance of immunization at all level of government. Public awareness on immunization should be encouraged; this to a large extent will reduce the denial of the existence of polio and other child killer diseases. This will be achieved by total collaboration with religious, traditional leaders and other public figures in the society.
2. Nigeria is one of the countries that are suffering from chronic shortage of health personnel at all tiers of government. However, at the local level the problem is more prominent. The need to enhance Public Health Care service delivery through adequate provision of health personnel to tackle the current difficulties at the grassroots level is very necessary. This can be achieved by recruiting more health personnel in all the Local Governments. The need to increase health personnel especially at LG level is necessary, considering the increasing population in the country and over relying of the majority of the populace on public PHC service delivery. This to a large extent will enhance health care (immunization) service delivery at the local level. This will also reduce the dependence of ad-hoc health personnel for campaign immunization. With the introduction of new vaccines, it requires additional training. LGSB should increase its efforts on adequate training on immunization service delivery to LGs staff in Kaduna

state so as to complement supports by the development partners. This to a large extent will reduce overdependence on developmental partners and ensure government commitment to its responsibility.

3. Funding is very important for effective service delivery; there is need for the government at all levels to increase their financial and other logistic supports on immunization program. Immunization requires sufficient funding to cater for the growing Nigerian population; the need to increase funding at all tiers of government become necessary. At least 35% of the budget of each tier of government should be allocated to health sector. Health financing is very critical for sustenance of immunization in Nigeria. The need to sustain government support through adequate funding is necessary if Nigeria is to achieve its health care policy objective(s). More finance should be channeled toward enhancing immunization since it has been proven to be a cost effective tool for controlling and eliminating life threatening infectious diseases in cheaper strategy. Special incentives should be attached to routing immunization. This to a large extent will complement development partners' effort on sustenance of routing immunization. LGs in the state should review the remuneration of ad-hoc staff for more effective immunization service delivery. This to a large extent will enhance commitment and faithful to the responsibilities shouldered on them. Special incentive should be attached to health personnel who are working in remote areas or villages. This to a large extent will reduce the level of over concentration of health personnel in LG capitals and cities.
4. Elites, religious and traditional rulers should lead by example by immunizing their children in public gatherings. This will reduce the suspicion on the antigens.

5. There is need to improve monitoring and improving the supply of facilities to the Local Governments. Independent monitors and members of the communities should also be heavily engaged in the monitoring exercise. There is need to improve management of delivery of immunization service through adequate training and improving competency of health personnel that would ensure effective injection safety, safe disposal and destruction of used injection equipments.

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Appendix I Local Government cold chain inventory

Name of Ward	Name of Facility	Target Population	Designation	Vol + (litres)	Year of acquisition	Source of CCE
DANMAHAWAYI	PHC DANMAHAWAYI		Refrigerator	39	2004	UNICEF
DANMAHAWAYI	PHC DANMAHAWAYI	31	Refrigerator	39	2004	
GANGARA	PHC GANGARA		Refrigerator	39	2012	W.H.O
GANGARA	PHC Gangara	41	Refrigerator	39	2012	
GIWA	PHC GIWA		Refrigerator	160	2014	UNICEF
Giwa	PHC Giwa		Refrigerator	160	2014	
IDASU	PHC Kaya	25	Refrigerator	118	2000	
IDASU	PHAC KAYA		Refrigerator	118	2014	PATTH-2
KAKANGI	LGA CS		Refrigerator	304	2000	LGA
KAKANGI	LGA CS		Freezer		2000	FG/NPI
KAKANGI	LGA CS		Refrigerator	220	2003	PTF-NPI
KAKANGI	LGA CS		Refrigerator		1992	UNICEF
KAKANGI	LGA CS		Freezer	157	2011	LGA
KAKANGI	LGA CS		Freezer	476	2011	UNICEF
KAKANGI	LGA CS		Freezer	260	2011	LGA
KAKANGI	LGA CS		Freezer	361	2011	LGA
KAKANGI	LGA CS		Refrigerator	160	2013	UNICEF
KAKANGI	LGA CS		Refrigerator	139	2006	UNICEF
KAKANGI	LGA CS		Refrigerator		2003	UNICEF
KAKANGI	PHC KAKANGI		Refrigerator	64	2004	UNICEF
KAKANGI	PHC KAKANGI		Refrigerator	116	2003	NPI
KAKANGI	PHC Turawa	24	Refrigerator	116	2003	
KAKANGI	PHC Turawa	24	Refrigerator	64	2004	
KIDANDAN	KIDANDAN		Refrigerator	64		Unicef
KIDANDAN	PHC Kidandan	32	Refrigerator	64	2011	
WAZATA	H/CLINIC KARAU-KARAU		Refrigerator	200	2007	Unicef
WAZATA	H/CLINIC KARAU-KARAU		Refrigerator	64	2008	NPHCDA
Afaka	PHC Mando	390	Refrigerator		2012	
Fanshanu	PHC GADANGAYAN	486	Refrigerator		2011	
FANSHANU	PHC GADANGAYAN		Refrigerator		2009	UNICEF

Igabi	PHC Igabi	448	Refrigerator		2012	
KERAWA	H/C DINKI		Refrigerator		2010	UNICEF
Kerawa	PHC Dinki	185	Refrigerator			
Kwarau	PHC MARABAN JOS	401	Refrigerator		2014	
KWARAU	PHC MARABAN JOS		Refrigerator		2014	UNICEF

Source: Giwa LG PHC Dept, 2015

Appendix II Kauru Local Government Cold Chai Inventory

Name of Ward	Name of Facility	Target Populatio n	Designation	Vol + (litres)	Year of acquisition	Source of CCE
Zankan	HC Zankan	41	Freezer	26	2008	
BITAL	MPHC KIDUGU II	32	Freezer	80	1990	
BITAL	MPHC KIDUGU II	32	Refrigerator	121	2006	
BITAL	MPHC KIDUGU II	32	Refrigerator	121	2006	
BITAL	MPHC KIDUGU II	32	Refrigerator	121	2006	
BITAL	MPHC KIDUGU II	32	Refrigerator	121	2006	
BITAL	MPHC KIDUGU II	32	Refrigerator	121	2006	
BITAL	MPHC KIDUGU II	32	Refrigerator	121	2006	
BITAL	MPHC KIDUGU II	32	Refrigerator	121	2006	
DAMAKASUWA	HC FADAN CHAWAI		Refrigerator	0	2013	UNICEF
Damakasuwa	PHC DAMAKASUWA	18	Freezer		2013	
DAMAKASUWA	PHC DAMAKASUWA		Refrigerator	0	2013	UNICEF
DAWAKI	HC DOKAN KARJI		Refrigerator	0	2011	PATH2
Geshere	PHC GESHERE	14	Refrigerator	0		
Geshere	PHC GESHERE	14	Freezer	202		
GESHERE	PHC GESHERE		Refrigerator	0	2005	UNICEF
Geshere	PHC KONO	11	Freezer	202		
KAURU WEST	PHC Dept HQ		Freezer	0	2002	NPI
KAURU WEST	PHC Dept HQ		Refrigerator	296	2002	UNICEF
KAURU WEST	PHC Dept HQ		Refrigerator	296	2004	UNICEF
KAURU WEST	PHC Dept HQ		Refrigerator	296	2006	UNICEF
KAURU WEST	PHC Dept HQ		Freezer		2006	UNICEF
KAURU WEST	PHC Dept HQ		Freezer	0	2000	LGA
KAURU WEST	PHC Dept HQ		Refrigerator	0	1998	NPI
KAURU WEST	PHC Dept HQ		Refrigerator	296	2003	ROTARY

KAURU WEST	PHC Dept HQ		Refrigerator	296	2005	LGA
KAURU WEST	PHC Dept HQ		Refrigerator	94	2013	LGA
Kwassam	PHC KWASSAM	26	Refrigerator & Freezer	24	2008	
Kwassam	PHC KWASSAM	26	Freezer			
KWASSAM	PHC KWASSAM		Refrigerator	0	2003	UNICEF
KWASSAM	PHC KWASSAM		Refrigerator	0	2010	UNICEF
MAKAMI	HC MAKAMI		Refrigerator	0	2013	PATH2
MAKAMI	HC UNG/NOMA		Refrigerator	0	2013	PATH2
Makami	PHC DANDAURA	44	Freezer			
MAKAMI	PHC DANDAURA		Freezer	0	1994	UNICEF
PARI	PHC KIFFIN		Freezer	134	2006	

Source: Kauru LG cold chain inventory, 2015

Appendix III Sabon Gari LG Cold Chain Inventory

Name of Ward	Name of Facility	Target Population	Designation	Vol + (litres)	Year of acquisition	Source of CCE
SABON GARI	PHC KASUWAR MATA	30	Refrigerator	170	2010	
SABON GARI	PHC KASUWAR MATA		Freezer		2012	CHiP
BOMO	PHC Hayin Dogo	54	Freezer		2013	
Chikaji	Miba Hospital		Refrigerator	280		
Chikaji	PHC Chikaji	34	Refrigerator			
DOGARAWA	HC DOGARAWA		Refrigerator	108	2010	NPI
DOGARAWA	PHC DOGARAWA	40	Refrigerator			
DOGARAWA	PHC Sakadadi	26	Refrigerator	24		
HANWA	LGA CS		Freezer	264	2004	NPI
HANWA	LGA CS		Freezer	270	2005	LGA
HANWA	LGA CS		Freezer	169	2004	LGA
HANWA	LGA CS		Freezer	270	2005	LGA
HANWA	LGA CS		Refrigerator & Freezer	12	2013	NPI
HANWA	LGA CS		Freezer	264	2004	NPI
HANWA	LGA CS		Freezer	169	2004	LGA
HANWA	LGA CS		Refrigerator & Freezer	220	2002	LGA
HANWA	LGA CS		Refrigerator & Freezer	55	2001	NPI
HANWA	LGA CS		Refrigerator	85	2004	NPI

			& Freezer			
HANWA	**LGA CS**		**Freezer**	**220**	**2013**	**NPI**
Hanwa	**PAL Clinic**	**39**	**Refrigerator**			
Hanwa	**PHC Hanwa**	**46**	**Refrigerator**	**26**		
JAMA'A	**PHC JAMA'A**		**Refrigerator**	**0.55A**		
JAMA'A	**PHC JAMA'A**		**Freezer**	**169**	**2002**	**NPI**
JAMA'A	**University Health Services**	**20**	**Refrigerator**	**190**		
Jushi	**PHC Abdu Kwari**		**Freezer**			
JUSHI	**PHC JUSHI**		**Refrigerator & Freezer**	**7O**	**2011**	**NPI**
Muchia	**PHC Kwata**	**47**	**Refrigerator**			
Muchia	**PHC Madugu**	**87**	**Freezer**		**2013**	
Samaru	**PHC Samaru**	**88**	**Refrigerator**			

Source: S/Gari LG cold chain inventory, 2015

Appendix IV: Questionnaires for Health personnel

Department of Public Administration
Ahmadu Bello University Zaria
23rd August, 2013.

Dear Sir/Madam

I am a Ph.D student in the Department of Public Administration, Ahmadu Bello University Zaria, conducting a research on **"Local Government and the Delivery of immunization: A Study of Kaduna State.**

I will be much happy if you fill the attached questionnaire. I also assure you that all information given will be utilized as purely academic and will be treated with maximum confidentiality. You are expected to tick the most appropriate option please.

Thank you for your cooperation.

Yours faithfully

Idris Ahmed Jamo

Section A.

Biodata

Sex	{ }
Male	{ }
Female	{ }
Marital Status	
Married	{ }
Divorced	{ }
Widowed	{ }
Religion	
Islam	{ }
Christian	{ }
Traditionalist	{ }

Level of Education

Primary School Certificate	{ }

Secondary School Certificate { }
Diploma/NCE { }
Degree/HND { }
Post Graduate { }

Questions related to funding of immunization service delivery
Was the volume of funding of immunization appropriate?
Yes ( ) No ( )
Was there regular disbursement of fund for immunization in your district?
Yes ( ) No ( )
Was there incentive for immunization in your district?
Yes ( ) No ( )
Questions related to other support of immunization service delivery
Was there adequate sensitization in your district?
Yes ( ) No ( )
Questions related to success of immunization
Are there reported cases or outbreaks in your area?
Yes ( ) No ( )
Are there children dying in your area than before?
Yes ( ) No ( )
Could you attribute that to the immunization effort?
Yes ( ) No ( )
Questions related to Availability and Competence of health personnel
How would you describe the adequacy of health personnel in your district?
High ( ) Low ( )
Was there adequate training of health personnel in your district?
Yes ( ) No ( )
Questions related to Government effort on immunization service delivery

i. How would you rate government efforts on immunization in terms of:
ii. Training
    High ( ) Low ( )
iii. Providing facilities
    High ( ) Low ( )
iv. Incentives
    High ( ) Low ( )
v. Monitoring
    High ( ) Low ( )
vi. Advocacy
    High ( ) Low ( )
vii. Sensitization
    High ( ) Low ( )

Are there any other forms of encouragement to the people?
Yes ( ) No ( )

Questions related to positive outcome of immunization
How would you rate the level of cooperation of people toward immunization?
High ( ) Low ( )

If low why are people not cooperating?
……………………………………….
……………………………………….
……………………………………….
If yes could you attribute that to government effort?
Yes ( ) No ( )

Questions related to socio-cultural factor

Do you agree that religious perception has significant influence on the success of immunization in your district?
Yes ( ) No ( )
Do you agree that cultural belief has significant influence on the success of immunization in your district?
Yes ( ) No ( )

Questions related to management and success of immunization

How would you rate your LG in terms of supportive supervision?
(a) High ( ) (b) Low ( )
How would you rate your LG in terms of equipment calculation?
(a) High ( ) (b) Low ( )
How would you rate your LG in terms of budgeting and monitoring?
(a) High ( ) (b) Low ( )
How would you rate your LG in terms of assessment of injection and disposal safety?
(a) High ( ) (b) Low ( )

Appendix V Interview Schedule for Parents on Immunization service delivery

INTERVIEW BOOKING SCHEDULE FOR PARENTS ON IMMUNIZATION SERVICE DELIVERY

I am presently conducting a research on the topic: **Local Government and the Delivery of Immunization Services: A Study of Selected Local Governments in Kaduna State**; as part of the requirements for award of Ph.D. degree in Public Administration, Ahmadu Bello University Zaria. You have been identified as one of the stakeholders on health whose opinion should be sought on immunization in Kaduna state Nigeria.

In view of the above, I hereby request you to grant me an official interview with women and health personnel in your hospital on a date and time suitable to you. Before the interview date, it will be important for you to consider providing the researcher information in the following areas:

a. Outbreak/ change in the incidence of six killer diseases
b. Publicity on immunization service delivery

Thank you
Idris Ahmed Jamo
PhD Student

(a) Interview and Focus Group Discursion (FGD) for the staff respondents

i. Was the volume of funding of immunization appropriate?
ii. Was there incentive for immunization in your district?
iii. How would you describe the adequacy of health personnel in your district?
iv. Was there adequate training of health personnel in your district?
v. How would you rate the level of cooperation of people toward immunization?
vi. **(v)**Do you agree that religious and cultural belief has significant influence on the success of immunization in your district?

(b) Interview and Focus group discurssion with with parents in the targeted communities

i. Do you agree that religious and cultural belief has significant influence on the success of immunization in your district?

ii. Are there people dying in your community?

iii. Could you relate this to immunization?

Appendix VI: WHO financial support to Kubau LG for IPDs program for Jan, 2015.

S/No	Activities supported	No. of persons engaged/Items	Rate	Total
	Quranic Malams	2	500	10000
	Border support		10000	10000
	CBO/Influential		35000	35000
	Additional monitors	2	9000	18000
	Support for independent monitors	8		6000
	Support for FV to HTR	8	2000	16000
	Educational Division officer	2	500	10000
	Quranic Teachers			33000
	Ardos			50000
	Training of personnel	1609		51,600
	IPDs Team (Personnel)	1609		4343600
	DPO monitors	43	3000	129000
	Weekly meeting	11	2000	22000
	Outreach sessions	44	8000	352000
	Town announcers	44	2000	88000
	Community engagers	44	2000	88000
	Village Devt. Committee	44	1200	52800
	Data collection	44	1500	66000
	Vaccine collection	44	1500	66000
	Surv. Focal person	7	3000	21000
	Stool collection (AG)	1	5700	

Source: Kubau Local Government, 2015

Appendix VII Facilities required and functional available for Kubau LG

Items	Qty Required	Available	Functional	Non-Functional	Shortage
Freezers	6	3	3	0	3
Ice Line Refrigerator	3	2	1	2	1
Solar Refrigerator	3	1	0	1	2
Ice packs	2	1	0	1	1
Refrigerator (Thermocol)	2	2	0	2	0
Vaccine Carries (Rush)	300	200	200	0	100
Giosytyle	25	12	12	0	13
Cold boxes	16	11	11	0	5
Ice packs 0.3/0.4L	2000	850	800	50	1200
Ice Packs 0.6L	200	180	180	0	20
Thermometer	16	8	5	3	8
Motorcycle	2	2	0	2	2
Bicycle	6	0	0	0	6
Motor Van	11	0	0	0	1
Stabilizer	16	1	1	0	15
Lister Generator	2	1	1	0	1

Source: Kubau Local Government, March 2015.

Appendix VIII: Kubau LGA Cold chain inventory for Kubau LG 2015

		Solar Refrigerator		Equipment			
Names of Wards	Name of H/Facilities	F	NF	Cold-Box	Vaccine-carrier	Thermometer	Giostyle
ANCHAU	PHC Anchau	0	0	1	1	0	0
	Anchau Gari H/C	0	0	0	1	0	0
	Maitashi H/C			0	1	0	1
	H/C Ung Gata	0	0	0	1	0	0
	H/C Ung Maiaudiga	0	0	0	1	0	0
	H/C Jenau	0	0	0	1	0	0
DAMAU	PHC Damau	0	0	1	1	0	1
	HC Banki	0	0	0	1	0	1
	HC Danhauya	0	0	0	1	0	0
	HC Wagaho	0	0	0	1	0	0
D/WAI	PHC D/Wai	1	0	1	1	0	1
	HC Kuli	0	0	0	1	0	0
HASKIYA	PHC Haskiya	0	1	1	1	0	0
	HC Bugau	0	0	0	1	0	0
	HC Kagadama	0	0	0	1	0	0
	H/C Kanwa	0	0	0	1	0	0
	H/C Kudmi	0	0	0	1	0	0
	H/C Yardoka	0	0	0	1	0	0
KARGI	PHC Kargi	1	0	1	1	0	1
	H/C Gadas	0	0	0	1	0	0
	H/C Gedage	0	0	0	1	0	0
	PHC Karreh	0	0	0	1	0	1

KARREH							
	HC Nasaru	0	0	0	1	0	0
	HC Jidda	0	0	0	1	0	0
	HC Kwodoro	0	0	0	1	0	0
	HC Matangi	0	0	0	1	0	0
Kubau	PHC Kubau	0	0	1	0	0	1
	HC KAFI	0	0	0	1	0	0
MAH	PHC MAH	0	0	1	1	0	1
	HC D/Tagwai	0	0	0	1	0	0
	HC Karaba	0	0	0	1	0	0
	HC Kuraye	0	0	0	1	0	0
	HC D/Toro	0	0	0	1	0	0
	HC Rikochi	0	0	0	1	0	0
Pambegua	PHC P/GUA	0	0	1	1	0	0
	HC Danmaliki	0	0	0	1	0	1
	HC S/Layi	0	0	0	1	0	0
	GEN. HOSPITAL	0	0	0	1	0	0
ZABI WARD	HC UNG. MAMUDA	0	0	0	1	0	0
	HC UNG. DOGO	0	0	1	1	0	1
	HC K/MAUDE	0	0	0	1	0	0
ZUNTU	MPHC ZUNTU	0	0	1	1	0	1
	DAKADE H/C	0	0	0	1	0	1
	WAZOBI HC	0	0	0	1	0	0
NPI OFFICE	KUBAU LG COLD CHAIN	0	1	1	0	5	1

Source: Kubau Local Government, March, 2015.

Appendix IXCold chain inventory for Jema’a LG

TYPES OF EQUIPMENT	FUNCTIONAL	NON FUNCTIONAL	TOTAL	SHORTFALL
Deep Freezer	3	2	5	2
Dulas solar	1	1	2	1
Solar Refrigerator	1	Not install	2	1
Cold Boxes	13	2	15	40
Giostyle	72	9	81	10
Big vaccine carrier	27	1	28	11
Rush vaccine carriers	160	11	171	50
Stabilizers	2	1	3	3
Megaphone	24	5	29	15
Ice pack	698	0	698	1,046
Lister	1	1	2	1

Source: Jema’a Local Government, May 2015.

KUBAU LGA LOCAL GOVERNMENT

Inventory of Fast Cold Chain Equipment By LGAs as at APRIL , 2015

S/NO	WARDS				REQUIRED					AVAILABLE					SHORTFALL				
		No of House to House	No of Special Teams	No of Fixed Post	Cold Boxes	Giostyle	Rush	0.6L Ice Packs	0.3/0.4L Ice packs	Cold Boxes	Giostyle	Rush	0.6L Ice Packs	0.3/0.4L Ice packs	Cold Boxes	Giostyle	Rush	0.6L Ice Packs	0.3/0.4 L Ice packs
		a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r
S/NO	Formula				2	c X 2	b + c	e X 12 X 2	[(e X 4) + (f X 2)] X 2						d - i	e - j	f - k	g - l	h - m
1	ANCHAU	31	11	2	2	4	42	48	200	1	4	24	10	129	1	-	18	38	71
2	DAMAU	31	7	2	2	4	38	48	184	1	4	30	11	131	1	-	8	37	53
3	DUTSEN WAI	17	6	2	2	4	23	48	124	1	4	23	13	89	1	-	-	35	35
4	HASKIYA	31	10	2	2	4	41	48	196	1	4	31	18	116	1	-	10	30	80
5	KARGI	31	12	2	2	4	43	48	204	1	4	26	16	128	1	-	17	32	76
6	KARREH	21	6	2	2	4	27	48	140	1	4	25	14	96	1	-	2	34	44
7	KUBAU	19	6	2	2	4	25	48	132	1	4	28	14	117	1	-	(3)	34	15
8	MAH	19	7	2	2	4	26	48	136	1	4	30	13	89	1	-	(4)	35	47
9	PAMBEGUA	29	12	2	2	4	41	48	196	1	4	22	12	88	1	-	19	36	108
10	ZABI	13	6	2	2	4	19	48	108	1	4	23	11	84	1	-	(4)	37	24
11	ZUNTU	16	6	2	2	-	22	48	88	1	4	23	13	60	1	1	(1)	35	28
	TOTAL	258	89	22	22	40	347	528	1,708	11	44	285	145	1,127	11	1	62	383	581

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Appendix X Cold chain inventory for Kubau LG, 2015

Apendix XI: Giwa LG Cold Chain Inventory As At December 2014

Name of Ward	Name of Facility	Target Population	Designation	Vol + (litres)	Year of acquisition	Source of CCE
DANMAHAWAYI	PHC DANMAHAWAYI		Refrigerator	39	2004	UNICEF
DANMAHAWAYI	PHC DANMAHAWAYI	31	Refrigerator	39	2004	
GANGARA	PHC GANGARA		Refrigerator	39	2012	W.H.O
GANGARA	PHC Gangara	41	Refrigerator	39	2012	
GIWA	PHC GIWA		Refrigerator	160	2014	UNICEF
Giwa	PHC Giwa		Refrigerator	160	2014	
IDASU	PHC Kaya	25	Refrigerator	118	2000	
IDASU	PHAC KAYA		Refrigerator	118	2014	PATTH-2
KAKANGI	LGA CS		Refrigerator	304	2000	LGA
KAKANGI	LGA CS		Freezer		2000	FG/NPI
KAKANGI	LGA CS		Refrigerator	220	2003	PTF-NPI
KAKANGI	LGA CS		Refrigerator		1992	UNICEF

KAKANGI	**LGA CS**		**Freezer**	**157**	**2011**	**LGA**
KAKANGI	**LGA CS**		**Freezer**	**476**	**2011**	**UNICEF**
KAKANGI	**LGA CS**		**Freezer**	**260**	**2011**	**LGA**
KAKANGI	**LGA CS**		**Freezer**	**361**	**2011**	**LGA**
KAKANGI	**LGA CS**		**Refrigerator**	**160**	**2013**	**UNICEF**
KAKANGI	**LGA CS**		**Refrigerator**	**139**	**2006**	**UNICEF**
KAKANGI	**LGA CS**		**Refrigerator**		**2003**	**UNICEF**
KAKANGI	**PHC KAKANGI**		**Refrigerator**	**64**	**2004**	**UNICEF**
KAKANGI	**PHC KAKANGI**		**Refrigerator**	**116**	**2003**	**NPI**
KAKANGI	**PHC Turawa**	**24**	**Refrigerator**	**116**	**2003**	
KAKANGI	**PHC Turawa**	**24**	**Refrigerator**	**64**	**2004**	
KIDANDAN	**KIDANDAN**		**Refrigerator**	**64**		**Unicef**
KIDANDAN	**PHC Kidandan**	**32**	**Refrigerator**	**64**	**2011**	
WAZATA	**H/CLINIC KARAU-KARAU**		**Refrigerator**	**200**	**2007**	**Unicef**
WAZATA	**H/CLINIC KARAU-KARAU**		**Refrigerator**	**64**	**2008**	**NPHCDA**
Afaka	**PHC Mando**	**390**	**Refrigerator**		**2012**	
Fanshanu	**PHC GADANGAYAN**	**486**	**Refrigerator**		**2011**	
FANSHANU	**PHC GADANGAYAN**		**Refrigerator**		**2009**	**UNICEF**
Igabi	**PHC Igabi**	**448**	**Refrigerator**		**2012**	

KERAWA	H/C DINKI		Refrigerator		2010	UNICEF
Kerawa	PHC Dinki	185	Refrigerator			

Name of Ward	Name of Facility	Target Population	Designation	Vol + (litres)	Year of acquisition	Source of CCE
Zankan	HC Zankan	41	Freezer	26	2008	
BITAL	MPHC KIDUGU II	32	Freezer	80	1990	
BITAL	MPHC KIDUGU II	32	Refrigerator	121	2006	
BITAL	MPHC KIDUGU II	32	Refrigerator	121	2006	
BITAL	MPHC KIDUGU II	32	Refrigerator	121	2006	
BITAL	MPHC KIDUGU II	32	Refrigerator	121	2006	
BITAL	MPHC KIDUGU II	32	Refrigerator	121	2006	
BITAL	MPHC KIDUGU II	32	Refrigerator	121	2006	
BITAL	MPHC KIDUGU II	32	Refrigerator	121	2006	
DAMAKASUWA	HC FADAN CHAWAI		Refrigerator	0	2013	UNICEF
Damakasuwa	PHC DAMAKASUWA	18	Freezer		2013	
DAMAKASUWA	PHC DAMAKASUWA		Refrigerator	0	2013	UNICEF
DAWAKI	HC DOKAN KARJI		Refrigerator	0	2011	PATH2
Geshere	PHC GESHERE	14	Refrigerator	0		
Geshere	PHC GESHERE	14	Freezer	202		
GESHERE	PHC GESHERE		Refrigerator	0	2005	UNICEF

Geshere	**PHC KONO**	**11**	**Freezer**	**202**		
KAURU WEST	**PHC Dept HQ**		**Freezer**	**0**	**2002**	**NPI**
KAURU WEST	**PHC Dept HQ**		**Refrigerator**	**296**	**2002**	**UNICEF**
KAURU WEST	**PHC Dept HQ**		**Refrigerator**	**296**	**2004**	**UNICEF**
KAURU WEST	**PHC Dept HQ**		**Refrigerator**	**296**	**2006**	**UNICEF**
KAURU WEST	**PHC Dept HQ**		**Freezer**		**2006**	**UNICEF**
KAURU WEST	**PHC Dept HQ**		**Freezer**	**0**	**2000**	**LGA**
KAURU WEST	**PHC Dept HQ**		**Refrigerator**	**0**	**1998**	**NPI**
KAURU WEST	**PHC Dept HQ**		**Refrigerator**	**296**	**2003**	**ROTARY**
KAURU WEST	**PHC Dept HQ**		**Refrigerator**	**296**	**2005**	**LGA**
KAURU WEST	**PHC Dept HQ**		**Refrigerator**	**94**	**2013**	**LGA**
Kwassam	**PHC KWASSAM**	**26**	**Refrigerator & Freezer**	**24**	**2008**	
Kwassam	**PHC KWASSAM**	**26**	**Freezer**			
KWASSAM	**PHC KWASSAM**		**Refrigerator**	**0**	**2003**	**UNICEF**
KWASSAM	**PHC KWASSAM**		**Refrigerator**	**0**	**2010**	**UNICEF**
MAKAMI	**HC MAKAMI**		**Refrigerator**	**0**	**2013**	**PATH2**
MAKAMI	**HC UNG/NOMA**		**Refrigerator**	**0**	**2013**	**PATH2**
Makami	**PHC DANDAURA**	**44**	**Freezer**			
MAKAMI	**PHC DANDAURA**		**Freezer**	**0**	**1994**	**UNICEF**
PARI	**PHC KIFFIN**		**Freezer**	**134**	**2006**	
Source: Giwa LG PHC Dept., 2014.						

Appendix XII: Giwa LG Cold Chain Inventory As At March 2015

Name of Ward	Name of Facility	Target Population	Designation	Vol + (litres)	Year of acquisition	Source of CCE
SABON GARI	PHC KASUWAR MATA	30	Refrigerator	170	2010	
SABON GARI	PHC KASUWAR MATA		Freezer		2012	CHIP
BOMO	PHC Hayin Dogo	54	Freezer		2013	
Chikaji	Miba Hospital		Refrigerator	280		
Chikaji	PHC Chikaji	34	Refrigerator			
DOGARAWA	HC DOGARAWA		Refrigerator	108	2010	NPI
DOGARAWA	PHC DOGARAWA	40	Refrigerator			
DOGARAWA	PHC Sakadadi	26	Refrigerator	24		
HANWA	LGA CS		Freezer	264	2004	NPI
HANWA	LGA CS		Freezer	270	2005	LGA
HANWA	LGA CS		Freezer	169	2004	LGA
HANWA	LGA CS		Freezer	270	2005	LGA
HANWA	LGA CS		Refrigerator & Freezer	12	2013	NPI
HANWA	LGA CS		Freezer	264	2004	NPI
HANWA	LGA CS		Freezer	169	2004	LGA
HANWA	LGA CS		Refrigerator &	220	2002	LGA

			Freezer			
HANWA	**LGA CS**		**Refrigerator & Freezer**	**55**	**2001**	**NPI**
HANWA	**LGA CS**		**Refrigerator & Freezer**	**85**	**2004**	**NPI**
HANWA	**LGA CS**		**Freezer**	**220**	**2013**	**NPI**
Hanwa	**PAL Clinic**	**39**	**Refrigerator**			
Hanwa	**PHC Hanwa**	**46**	**Refrigerator**	**26**		
JEMA'A	**PHC JEMA'A**		**Refrigerator**	**0.55A**		
JEMA'A	**PHC JEMA'A**		**Freezer**	**169**	**2002**	**NPI**
JEMA'A	**University Health Services**	**20**	**Refrigerator**	**190**		
Jushi	**PHC Abdu Kwari**		**Freezer**			
JUSHI	**PHC JUSHI**		**Refrigerator & Freezer**	**7O**	**2011**	**NPI**
Muchia	**PHC Kwata**	**47**	**Refrigerator**			
Muchia	**PHC Madugu**	**87**	**Freezer**		**2013**	
Samaru	**PHC Samaru**	**88**	**Refrigerator**			

Source: Sabon Gari LG, 2015.

Appendix XIII: Giwa LG Cold Chain Inventory As At March 2015

SN	LGA	WARDS	H/FACILITY	TARGET POP	NAME OF ITEMS	SERIAL NO	MODEL NO	SOURCE OF ENERGY		AVAIL	SF	FUNC	NFUNC	REMARK
1	K/NORTH	BADARAWA	PHC BADARAWA	944	SOLAR REFREGERATOR	NIL	NIL	NIL	1	0	1	0	0	
					AKIRA REFREGERATOR	B-S14J	RS/220	ELECTRICITY		1	0	1	0	
					SIBIR REFREGERATOR	3E+05	V176KE220-230V	KERO/ELECTRICITY		1	0	1	1	
					COLD BOX				1	0	1	0	0	
					GIO STYLE				2	1	1	1	0	
					VACCINE CARRIERS				4	0	4	0	0	
					ICE PARK 0.3 & 0.4				16	10	6	10	0	
2	K/NOTH	BADARAWA	MB TUKUR	650	SOLAR REFREGERATOR			NIL	1	0	1	0	0	
					AKIRA REFREGERATOR	B5121	RS-200WD	ELECTRICITY		1	0	1	0	
					COLD BOX				1	0	1	0	0	
					GIO STYLE				4	1	3	1	0	
					VACCINE CARRIERS				2	0	2	0	0	
3					ICE PARK 0.3 & 0.4				16	8	8	8	0	
	K/NORTH	BADARAWA	FOMWAN	445	SOLAR REFREGERATOR			NIL	1	0	1	0	0	
					HAIER THERMOCOOL		HR1335A	ELECTRICITY		1	0	0	0	
					COLD BOX				1	0	1	0	0	
					GIO STYLE				2	1	1	1	0	

					VACCINE CARRIERS				**4**	**0**	**4**	**0**	**0**	
	K/NORTH	**BADARAWA**	**ALMANSUR**	**173**	**SOLAR REFREGERATOR**	**NIL**	**NIL**	**NIL**	**1**	**0**	**1**	**0**	**0**	
					THERMOCOOL			**ELECTRICITY**		**1**	**0**	**0**	**0**	
					COLD BOX				**1**	**0**	**1**	**0**	**0**	
					GIO STYLE				**2**	**0**	**2**	**0**	**0**	
					VACCINE CARRIERS				**4**	**0**	**4**	**0**	**0**	
					ICE PARK 0.3 & 0.4				**16**	**4**	**#**	**0**	**0**	
5	**K/NORTH**	**BADARAWA**	**FISABIL**	**113**	**SOLAR REFREGERATOR**	**NIL**	**NIL**	**NIL**	**1**	**0**	**1**	**0**	**0**	
					REFREGERATOR	**NIL**	**NIL**	**ELECTRICITY**		**0**	**1**	**0**	**0**	
					COLD BOX				**1**	**0**	**1**	**0**	**0**	
					GIO STYLE				**2**	**0**	**2**	**0**	**0**	
					VACCINE CARRIERS				**4**	**0**	**4**	**0**	**0**	
					ICE PARK 0.3 & 0.4				**16**	**4**	**#**	**0**	**0**	
6	**K/NORTH**	**DADIRIBA**	**PHC ZIM**	**534**	**SOLAR REFREGERATOR**			**NIL**	**1**	**0**	**1**	**0**	**0**	
					SIBIR REFREGERATOR	**3E+06**	**2932960**	**ELECTRICITY**		**1**	**0**	**0**	**0**	
					COLD BOX				**1**	**0**	**1**	**0**	**0**	
					GIO STYLE				**2**	**1**	**1**	**0**	**0**	
					VACCINE CARRIERS				**4**	**0**	**4**	**0**	**0**	
					ICE PARK 0.3 & 0.4				**16**	**8**	**8**	**0**	**0**	
7	**K/NORTH**	**DADIRIBA**	**ALBA CLINIC**	**109**	**SOLAR REFREGERATOR**			**NIL**	**1**	**0**	**1**	**0**	**0**	
					REFREGERATOR	**BZ02POE10100BKAC**	**HR98**	**ELECTRICITY**		**1**	**0**	**0**	**0**	

						30084							
					COLD BOX			1	0	1	1	0	
					GIO STYLE			2	0	0	0	0	
					VACCINE CARRIERS			4	0	4	0	0	
					ICE PARK 0.3 & 0.4			16	6	#	0	0	
8	K/NORTH	HAYIN BANKI	H/BANKI HC	436	SOLAR REFREGERATOR		NIL	1	1	1	0	1	
					REFREGERATOR		NIL	1	0	1	0	0	
					COLD BOX			1	0	1	0	0	
					GIO STYLE			2	0	2	0	0	
					VACCINE CARRIERS			4	0	4	0	0	
					ICE PARK 0.3 & 0.4			16	6	#	0	0	
9	K/NORTH	HAYIN BANKI	NAF BASE	910	SOLAR REFREGERATOR		NIL	1	0	1	0	0	
					LG REFRERATOR		ELECTRICITY		1	0	0	0	
					COLD BOX			1	0	1	0	0	
					GIO STYLE			2	1	1	0	0	
					VACCINE CARRIERS			4	0	4	0	0	
					ICE PARK 0.3 & 0.4			16	8	6	0	0	
10	K/NORTH	HAYIN BANKI	NDA MEDICAL	825	SOLAR REFREGERATOR		NIL	1	0	1	0	0	
					LG REFRERATOR	93EO1960/FA/(70642) GR242 QP	ELECTRICITY		1	0	1	0	
					COLD BOX			1	0	1	0	0	
					GIO STYLE			2	1	1	0	0	
					VACCINE CARRIERS			4	0	4	0	0	
					ICE PARK 0.3 & 0.4			16	6	#	0	0	
11	K/NORH	HAYIN BANKI	AS-SHIFA	168	SOLAR REFREGERATOR		NIL	1	0	1	0	0	
					THERMOCOOL		ELECTRICITY		1	0	1	0	
					COLD BOX			1	0	1	0	0	

					GIO STYLE				2	0	2	0	0	
					VACCINE CARRIERS				4	0	4	0	0	
					ICE PARK 0.3 & 0.4				16	4	#	0	0	
12	K/NOTH	HAYIN BANKI	DORNIER	75	SOLAR REFREGERATOR			NIL	1	0	1	0	0	
					REFREGERATOR			ELECTRICITY		1	0	0	0	
					COLD BOX				1	0	1	0	0	
					GIO STYLE				2	0	2	0	0	
					VACCINE CARRIERS				4	0	4	0	0	
					ICE PARK 0.3 & 0.4				16	6	#	0	0	
13	K/NORT H	KABAL A	PHC KABALA	1099	DOMESTIC SOLAR	404	RCN 500C	BTS	1	1	0	0	0	
					AKIRA REFREGERAT OR	BS175	RS/220	ELECTRICITY		1	0	0	0	
					COLD BOX				1	0	1	0	0	
					GIO STYLE				2	1	1	0	0	
					VACCINE CARRIERS				4	1	3	0	0	
					ICE PARK 0.3 & 0.4				16	10	6	0	0	
14	K/NORT H	KABAL A	NASARA	427	SOLAR REFREGERATOR			NIL	1	0	1	0	0	
					REFREGERATOR			ELECTRICITY		1	0	0	0	
					COLD BOX				1	0	1	0	0	
					GIO STYLE				2	0	2	0	0	
					VACCINE CARRIERS				4	0	4	0	0	
					ICE PARK 0.3 & 0.4				16	6	#	0	0	
15	K/NORT H	KABAL A	POLICE COLLEGE	261	SOLAR REFREGERATOR			NIL	1	0	1	0	0	
					REFREGERATOR			ELECTRICITY		1	0	0	0	
					COLD BOX				1	0	1	0	0	
					GIO STYLE				2	0	2	0	0	

					VACCINE CARRIERS				4	0	4	0	0	
					ICE PARK 0.3 & 0.4				16	4	#	0	0	
16	K/NORTH	KAWO	GEN HOSP KAWO	1877	SOLAR REFREGERATOR			NIL	1	0	1	0	0	
					DEEP FREEZER/FREGDGE	005ERTK0017	CC1318/HTF3198H	ELECTRICITY		2	0	0	0	
					COLD BOX				1	0	1	0	0	
					GIO STYLE				2	1	1	0	0	
					VACCINE CARRIERS				4	1	3	0	0	
					ICE PARK 0.3 & 0.4				16	8	8	0	0	
17	K/NORTH	KAWO	PHC R/GUZA	839	DOMESTIC SOLAR			BTS	1	1	0	0	0	N0t install
					AKIRA REFREGERATOR			ELECTRICITY		1	0	1	0	
					COLD BOX				1	0	1	0	0	
					GIO STYLE				2	0	2	0	0	
					VACCINE CARRIERS				4	1	3	0	0	
					ICE PARK 0.3 & 0.4				16	6	#	0	0	
18	K/NORTH	KAWO	1 DIV HOSPITAL	750	SOLAR REFREGERATOR			NIL	1	0	1	0	0	
					POLYESTER REFREGERATOR	PV-DD-230L	PC-CF320L	ELECTRICITY		1	0	1	0	
					COLD BOX				1	0	1	0	0	
					GIO STYLE				2	1	1	1	0	
					VACCINE CARRIERS				4	0	4	0	0	
					ICE PARK 0.3 & 0.4				16	7	9	7	0	
19	K/NORTH	KAWO	UNG GWARI HC	180	SOLAR REFREGERATOR			NIL	1	0	1	0	0	
					REFREGERATOR			NIL	1	0	1	0	0	
					COLD BOX				1	0	1	0	0	

					GIO STYLE				2	0	2	0	0	
					VACCINE CARRIERS				4	1	3	1	0	
					ICE PARK 0.3 & 0.4				16	4	#	4	0	
20	K/NORTH	SARDAUNA	ABI HOSPITAL	144	SOLAR REFREGERATOR			NIL	1	0	1	0	0	
					REFREGERATOR			ELECTRICITY		1	0	1	0	
					COLD BOX				1	0	1	0	0	
					GIO STYLE				2	0	2	0	0	
					VACCINE CARRIERS				4	0	4	0	0	
					ICE PARK 0.3 & 0.4				16	4	#	4	0	
21	K/NORTH	SARDAUNA	RESTORATION	576	SOLAR REFREGERATOR			NIL	1	0	1	0	0	
					H THERMOCOOL	BA03K3EOC00BL89107	HR 135	ELECTRICITY		1	0	1	0	
					COLD BOX				1	0	1	0	0	
					GIO STYLE				2	0	2	0	0	
					VACCINE CARRIERS				4	0	4	0	0	
					ICE PARK 0.3 & 0.4				16	4	#	4	0	
22	K/NORTH	SHABA	JOS ROAD HC	204	SOLAR REFREGERATOR			NIL	1	0	1	0	0	
					AKIRA REFREGERATOR	100IB	3854JS	ELECTRICITY		1	0	0	0	
					COLD BOX				1	0	1	0	0	
					GIO STYLE				2	0	2	0	0	
					VACCINE CARRIERS				4	1	3	0	0	
					ICE PARK 0.3 & 0.4				16	6	#	6	0	
23	K/NORTH	SHABA	JOWAKO	619	SOLAR REFREGERATOR	NIL	NIL	NIL	1	0	1	0	0	

					REFREGERATOR			**ELECTRICITY**		**1**	**0**	**1**	**0**	
					COLD BOX				**1**	**0**	**1**	**0**	**0**	
					GIO STYLE				**2**	**0**	**2**	**0**	**0**	
					VACCINE CARRIERS				**4**	**1**	**3**	**1**	**0**	
					ICE PARK 0.3 & 0.4				**16**	**6**	**#**	**6**	**0**	
24	**K/NORTH**	**UNG DOSA**	**UNG DOSA HC**	**481**	**SOLAR REFREGERATOR**	**NIL**	**NIL**	**NIL**	**1**	**0**	**1**	**0**	**0**	
					REFREGERATOR	**NIL**	**NIL**	**NIL**	**1**	**0**	**1**	**0**	**0**	
					COLD BOX				**1**	**0**	**1**	**0**	**0**	
					GIO STYLE				**2**	**0**	**1**	**0**	**0**	
					VACCINE CARRIERS				**4**	**1**	**3**	**1**	**0**	
					ICE PARK 0.3 & 0.4				**16**	**8**	**8**	**8**	**0**	
25	**K/NORTH**	**UNG DOSA**	**ALMADINA**	**461**	**SOLAR REFREGERATOR**	**NIL**	**NIL**	**NIL**	**1**	**0**	**1**	**0**	**0**	
					REFREGERATOR			**ELECTRICITY**		**1**	**0**	**0**	**0**	
					COLD BOX				**1**	**0**	**1**	**0**	**0**	
					GIO STYLE				**2**	**0**	**2**	**0**	**0**	
					VACCINE CARRIERS				**4**	**1**	**3**	**0**	**0**	
					ICE PARK 0.3 & 0.4				**16**	**6**	**#**	**6**	**0**	
26	**K/NORTH**	**UNG RIMI**	**PHC UNG RIMI**	**835**	**SOLAR REFREGERATOR**	**FI0226413**			**1**	**1**	**0**	**1**	**0**	
					AKIRA REFREGERATOR	**544J510125**	**RS220WDWT**	**ELECTRICITY**		**0**	**1**	**0**	**1**	
					COLD BOX				**1**	**1**	**0**	**1**	**0**	
					GIO STYLE				**2**	**1**	**1**	**1**	**0**	
					VACCINE CARRIERS				**4**	**2**	**2**	**2**	**0**	

					ICE PARK 0.3 & 0.4				**16**	**10**	**6**	**10**	**0**	
27	**K/NORTH**	**UNG RIMI**	**BDS HOSPITAL**	**863**	**SOLAR REFREGERATOR**	**NIL**	**NIL**	**NIL**	**1**	**0**	**1**	**0**	**0**	
					H THERMOCOOL DEEPFREEZER	**B70370E0100BT96NO356**		**ELECTRICITY**		**1**	**0**	**1**	**0**	
					COLD BOX				**1**	**0**	**1**	**0**	**0**	
					GIO STYLE				**2**	**2**	**0**	**2**	**0**	
					VACCINE CARRIERS				**4**	**0**	**4**	**0**	**0**	
					ICE PARK 0.3 & 0.4				**16**	**12**	**4**	**12**	**0**	
28	**K/NORTH**	**UNG RIMI**	**DIAMOND**	**233**	**SOLAR REFREGERATOR**	**NIL**	**NIL**	**NIL**	**1**	**0**	**1**	**0**	**0**	
					REFREGERATOR			**ELECTRICITY**		**1**	**0**	**1**	**0**	
					COLD BOX				**1**	**0**	**1**	**0**	**0**	
					GIO STYLE				**2**	**0**	**2**	**0**	**0**	
					VACCINE CARRIERS				**4**	**1**	**3**	**0**	**0**	
					ICE PARK 0.3 & 0.4				**16**	**6**	**#**	**6**	**0**	
29	**K/NORTH**	**UNG RIMI**	**MENDS**	**39**	**SOLAR REFREGERATOR**	**NIL**	**NIL**	**NIL**	**1**	**0**	**1**	**0**	**0**	
					HAIER THERMOCOOL			**ELECTRICITY**		**1**	**0**	**1**	**0**	
					COLD BOX				**1**	**0**	**1**	**0**	**0**	
					GIO STYLE				**2**	**0**	**2**	**0**	**0**	
					VACCINE CARRIERS				**4**	**1**	**3**	**1**	**0**	
					ICE PARK 0.3 & 0.4				**16**	**4**	**#**	**4**	**0**	
30	**K/NORTH**	**UNG SARKI**	**UNG SARKI HC**	**87**	**SOLAR REFREGERATOR**	**NIL**	**NIL**	**NIL**	**1**	**0**	**1**	**0**	**0**	
					REFREGERATOR	**NIL**	**NIL**	**NIL**	**1**	**0**	**1**	**0**	**0**	

					COLD BOX				1	0	1	0	0	
					GIO STYLE				2	1	1	1	0	
					VACCINE CARRIERS				4	1	3	1	0	
					ICE PARK 0.3 & 0.4				16	6	#	6	0	
31	K/NORTH	UNG SARKI	GARKUWA	206	SOLAR REFREGERATOR	NIL	NIL	NIL	1	0	1	0	0	
					REFREGERATOR			ELECTRICITY		1	0	1	0	
					COLD BOX				1	0	1	0	0	
					GIO STYLE				2	0	2	0	0	
					VACCINE CARRIERS				4	1	3	1	0	
					ICE PARK 0.3 & 0.4				16	8	8	8	0	
32	K/NORTH	UNG SARKI	GARDEN CITY	46	SOLAR REFREGERATOR	NIL	NIL	NIL	1	0	1	0	0	
					REFREGERATOR			ELECTRICITY		1	0	1	0	
					COLD BOX				1	0	1	0	0	
					GIO STYLE				2	0	2	0	0	
					VACCINE CARRIERS				4	1	3	1	0	
					ICE PARK 0.3 & 0.4				16	6	#	6	0	
33	K/NORTH	UNG SARKI	VICAS	83	SOLAR REFREGERATOR	NIL	NIL	NIL	1	0	1	0	0	
					REFREGERATOR			ELECTRICITY		1	0	1	0	
					COLD BOX				1	0	1	0	0	
					GIO STYLE				2	0	2	0	0	
					VACCINE CARRIERS				4	1	2	1	0	
					ICE PARK 0.3 & 0.4				16	6	#	6	0	
34	K/NORTH	UNG SHANU	PHC UNG SHANU	923	DOMESTIC SOLAR	FI0226413		DDS	1	1	0	1	0	
					AKIRA	3E+06	RS220WDW	ELECTRICITY		1	0	1	0	

					REFREGERAT OR		**T**							
					COLD BOX				**1**	**0**	**1**	**0**	**0**	
					GIO STYLE				**2**	**1**	**1**	**1**	**0**	
					VACCINE CARRIERS				**4**	**2**	**2**	**2**	**0**	
					ICE PARK 0.3 & 0.4				**16**	**10**	**6**	**10**	**0**	
35	**K/NORT H**	**UNG SHANU**	**ABAKPA HC**	**223**	**SOLAR REFREGERAT OR**	**NIL**	**NIL**	**NIL**	**1**	**0**	**1**	**0**	**0**	
					AKIRA REFREGERAT OR	**8E+05**	**RS220(WT)**	**ELECTRICITY**		**1**	**0**	**1**	**0**	
					COLD BOX				**1**	**0**	**1**	**0**	**0**	
					GIO STYLE				**1**	**0**	**1**	**0**	**0**	
					VACCINE CARRIERS				**4**	**1**	**3**	**1**	**0**	
					ICE PARK 0.3 & 0.4				**16**	**8**	**8**	**8**	**0**	
36	**K/NORT H**	**UNG SHANU**	**GIWA HOSPITAL**	**607**	**SOLAR REFREGERATOR**				**1**	**0**	**1**	**0**	**0**	
					REFREGERAT OR	**E01100 P19**	**BA011**	**ELECTRICITY**		**1**	**0**	**1**	**0**	
					COLD BOX				**1**	**0**	**1**	**0**	**0**	
					GIO STYLE				**2**	**1**	**1**	**1**	**0**	
					VACCINE CARRIERS				**4**	**1**	**3**	**1**	**0**	
					ICE PARK 0.3 & 0.4				**16**	**8**	**8**	**8**	**0**	
37	**K/NORT H**	**SARDA UNA**	**JUNCTION HC**	**160**	**SOLAR REFREGERATOR**				**1**	**0**	**1**	**0**	**0**	
					REFREGERATOR				**1**	**0**	**1**	**0**	**0**	
					COLD BOX				**1**	**0**	**1**	**0**	**0**	
					GIO STYLE				**2**	**0**	**2**	**0**	**0**	
					ICE PARK 0.3 & 0.4				**16**	**0**	**#**	**0**	**0**	

Source: PHC Department Kaduna North LG, May, 2015.

Appendix XII: Cold chain inventory per health facility, 2015

Routine Immunization Supervision Checklist, Nigeria			
A.	**Identifying Information**		
1.	**Name of Supervisor: 2. Designation: 3. Mobile Number of the Supervisor:**		
4.	**Agency/Organization (encircle as applicable): Federal / NPHCDA / State / L.G.A Level / WHO / UNICEF / CDC / Others Specify ____________________**		
5.	**Date of Support Visit (dd-mm-yyyy): 6. Time (hh:mm): Start: 13:30pm 7. GPS Coordinates: Long: __________ Lal: ____________**		
8.	**State: 9. L.G.A: 10. Ward: 11. Settlement**		
12.	**Health Facility Name: ___________Chelsea 13. F ility Ty Private Public 14. I his a gh risk settlement for Polio? Y N**		
15.	**Profile of the Settlemen Rural Urban Hard t each Boarder 16. Is the a V working in this settlement? Y N**		
B.	**Findings at the Health Facility (Should be answered only on sighting evidence)**		
17.	**Does health have updated REW Microplan? Y N**	**24.**	**Does the health facility have electrical/Solar cold chain Equipment (refrigerator, solar, etc) to store vac es? Y N**
18.	**Does health facility have an updated immunizatio ses n plan? Y N**	**25.**	**If Q 24 is "Yes", is the cold chain equipment fully functional, If Q24 is "NO", skip this question. Y N**
19.	**Number of Immunization s planned and implemented { and Outreach(OS)} in the la month in this Health Facility.** Planned: FS / OS / TOTAL; Implemented: FS / OS / TOTAL	**26.**	**If Q24 is is "Yes", then, is there a temperature chart regularaly maintained and updated on each of th upm , Y N if Q24 is "No" skip this question**
20.	**Were all sessions planned for last month condu ? Y N**	**27.**	**If Q24 is "Yes", then are the vaccines stored properly inside the equipment? If Q24 isd "no" skip this q stion Y N**
21.	**If Q 20 above is No, Choose the reasons for sessions not being conducted in the last month** **a) Non availability of Vaccines/Logistics d) No t ed Health worker** **b) Non availability of Funds e) Comp ng**	**28.**	**Does the healrth facility have an updated vaccin dger? Y N**

	programmes c) Issues related with the com[illegible]ity f) Others Specify __________		
22.	Does health facility have an updated RI monitori[illegible]char[illegible] Y N	29.	Is there a watse disposal sy[illegible]n Pit Burn & B[illegible] Incinerator in the HF or Plan to dispose waste appropriately Transport to [illegible]-identi[illegible] site None
23.	How does health facility receive RI Vaccines for se[illegible]ons? [illegible]vered Collected	30.	Has the health facility received timely funding for RI[illegible] las[illegible] mon[illegible])? Y N NA
		31.	Is there a functional Village Development Committee [illegible]DC[illegible] Y N NA
		32.	Is there evidence that the community is involved in or[illegible]niz[illegible] RI s[illegible]sion? Y N NA
C.	**Observation during Routine Immunization Session**		
33.	Is the planned routine immunization session bei[illegible] con[illegible]cted? Y N	45.	Does health worker know definition of AEFI? (Adverse events following immunization) Y N
34.	Type a session being monitored Fixe[illegible] Outreach	46.	Has health worker received any AEFI in the last [illegible] months[illegible] Y N
35.	Has the health worker, providing services been formerly trained in Routine I[illegible]nizati[illegible] No Yes, within last 1yr Yes, more than 1yr ago	47.	Which antigens are <u>NOT</u> adequately available for this vaccination session? (*Tick whichever is applicable)* a) BCG b) [illegible]PV c) [illegible]PT/PENTA d) Meas[illegible] e) TT f) Yellow Fever g) Hepatitis B
36.	Does the health worker know the expected number of target age children for this particular session, if "No" skip Q 37 Y N		
37.	What is the expected number of target age children for this session? __________		
38.	Is the health worker using the right diluents for each of Vaccine Administered (BCG, Measles, YF) Y N	48.	Which of the following logistics are <u>NOT</u> available for this vaccination session? a) 5ml reconst[illegible]n b) 2m[illegible]constitution c) Child Health/ syringes syringes vaccination cards d) BCG syringes(0[illegible]ml) e) AD ([illegible]l) syringes f) Safety Boxes
39.	Does health worker give the vaccine correctly i.e. at the correct site, using correct route and with correct dose Y N		
40.	Does health worker use only one syringe/needle for each dose of antigen given Y N		

41.	Does health worker dispose of used of used syringes/needles into safety Box immediately? Y N	49.	Which of the folowing data tools are <u>NOT</u> available for this vaccination session? Immunization Register ________ ________ Vaccine Management Tool (VMI) ________ d) AEFI reporting form e) Immunization Summary Sheet
42.	Does health worker tally each vaccine given correctly Y N	50.	Are any other products or services being provided together with RI session? a) ORS b) Paracetamol c) Nutritional Supplements d) Vitamin A e) Curative Services f) ANC Services g) Others (Specify) None____
43.	Does health worker record on the child health/vaccine card correctly? Y N		
44.	Does health worker provide the 6 key messages to parent/ caregiver Correctly *(see below for the messages) Y N		

Six Key Messages:
(1) What Vccine(s) was given (2) The number of visits a child still needs in order to be fully immunized (3) What effects may occur and how to treat them
(4) The place and time of the next immunization (5) To bring the child for immunization even if he/she is sick (6) To take good care of the immunization card and bring it during the next visit

Signature of the Supervisor __________________________ Name & Signature of the Health Worker ___________________________ date Submitted ____________ Page 1

Routine Immunization Supervision Checklist, Nigeria

D.	Exit Interview with the Parents/Caregivers	Caregiver 1			Caregiver 2			Caregiver 3			Caregiver 4		
51.	Is the mother/caregiver aware of the importance of Routine Immunization?	Y	N		Y	N		Y	N		Y	N	
52.	*Who mobilized the parent/caregiver to the HF/Immunization site for Immunization? (Choose from the codes below)	2			3			5			8		
53.	Who decides whether the child recieves routine immunization/vaccines in the family? (Encircle as appropriate)	Mother/Father /Grand Parents/Relatives/ Others MOTHER			Mother/Father /Grand Parents/Relatives/ Others FATHER			Mother/Father /Grand Parents/Relatives/ Others PARENT			Mother/Father /Grand Parents/Relatives/ Others GRAND PARENT		
54.	Is the caregiver aware of what vaccine was given to the child?	Y	N		Y	N		Y	N		Y	N	
55.	Is the caregiver aware of the next date to come for follow up immunization?	Y	N		Y	N		Y	N		Y	N	
56.	Is the mother/caregiver satisfied with the immunization services provided at this site?	Y	N		Y	N		Y	N		Y	N	
57.	Did the child experience any adverse event folowing immunization during the last vaccination?	Y	N	NA	Y	N	NA	Y	N	NA	Y	N	NA

*** Codes to fill section on interview with Parents/Caregivers (Q): 1 = Traditional Leader, 2 = Voluntary Community Mobilizer (VCM), 3 = Health Worker, 4 = IPDS Team member, 5 = Field Volunteer (FV) 6 = Religious Leader, 7 = Community Based Organization (CBO), 8 =**

Traditional Birth Attendant (TBA), 9 = Others, 10 = None

E.	Community Survey: Name of the Settlement ______________________________													
58.	SI No of the Child Checked (Tick each checked)	1	2	3	4	5	6	7	8	9	10	TOTAL		
59.	Age of the Child checked in months <12m													
60.	Sex of the Child checked (M/F)											M	F	
61.	Is there evidence of Child Health Card showing the vaccines the child has recived											Y	N	
62.	Is the Child Fully or appropriately immunized for age (FI)/ Partially bImmunized (PI)/ Not Immunized (NI) as per immunization schedule											FI	PI	NI
63.	“Reason for child not receiving routine vaccines up to date (choose codes from below)													

* Code to fill options non Community Survey: 1 = Not Aware of RI, 2 = Health Worker Attitude, 3 = Does not believe in Vaccination, 4 = Dissatisfied with Health Worker, 5 = Non availability of Vaccines, 6 = No Immunization services in the settlement, 7 = AEFI, 8 = Religious beliefs, 9 = Others.

F.	Action Points	Responsible Person	Timeline
1			
2			
3			
4			
5			

Additional Comments:

G.	SMS to be sent to server number - Sate / LGA / Ward / Q11 / Q14 / Q20 / Q21 / Q30 / Q33 / Q47 / Q48 / Q48 / Q58 / Q62 FI / Q62 PI / Q62 NI

Write the SMS to be sent here to facilitate easy transmission: SMS should contain responses above (check before you send). Responses to questions without information should be marked by blank and not missed from the SMS e.g.: / - / Do not change the order of the SMS. Please send the SMS to 08039795144

Signature of the Supervisor __________________________ Name & Signature of the Health Worker _____________________________

Date _______________ Page 2

Source: Kaduna North LG, 2015.

Appendix XVIII: Routine Immunization Supervision Checklist

Plate I: Sabon Gari LG secretariat, 2015

Plate II Showing cold chain facilities at Kaduna North Local Government

Plate III: Cold chain facilities at Kaduna North LG, 2015

Plate IV: Cold Chain facilities at Jema'a L G, 2015

Plate V Health personnel delivering immunization at Kubau LG, 2015

Plate VI: Cold chain facilities at Kaduna North LG, 2015

Plate VII: The Researcher and Health Personnel at Jema'a LG,

Plate VIII: Researcher and the health personnel at Jema'a LG, 2015

Plate IX: Cold chain facilities at Kubau LG, 2015

Plate X:Jema’a LG secretariat, 2015

Plate XI: Health personnel delivering immunization at Sabon Gari LG, 2015

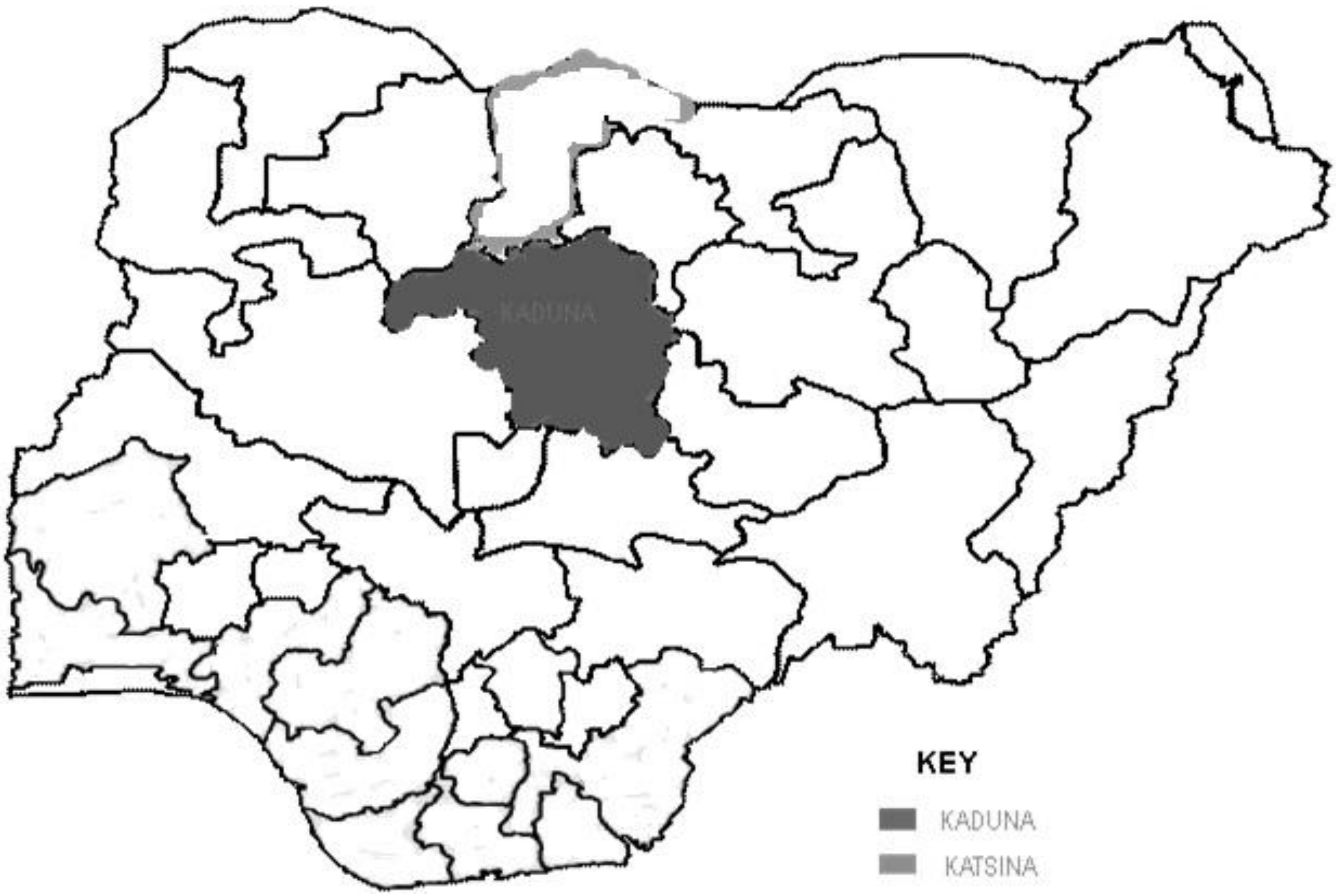

Plate XII map of Nigeria showing the case study