

# KADUNA STATE INFRASTRUCTURE MASTER PLAN

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## 2018 - 2050



Providing the infrastructure to  
accelerate our development



**KADUNA STATE**  
PLANNING AND BUDGET  
COMMISSION

State Secretariat Complex, Independence Way,  
Kaduna, Nigeria



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# FOREWORD

## Message from the Governor



Accelerated development of infrastructure is vital to our quest to make Kaduna great again. Modern infrastructure is critical, not only for the basic needs and comforts of our citizens, it is fundamental for strategically positioning Kaduna State for business and industry.

The population dynamics of Kaduna State dictate that infrastructure must be prioritised to meet the needs of our people. Kaduna State is the third most populous state in Nigeria, with a population currently projected at between 8.8 to

10 million, and with an annual growth rate of 2.5%. At this growth rate, the population is estimated to reach almost 13 million by 2050. The State is also undergoing significant transformation, becoming more and more urbanized, with just about 40% of the population now living in rural areas.

When we came into office in 2015, we inherited a State fraught with dysfunctional infrastructure: dilapidated schools, hospitals and water facilities, among others. From our first day in office, this administration set out on the task of rehabilitation, modernisation and industrialization, with a focus on developing key policies that are capable of addressing the challenges associated with infrastructure deficiency in the State. Therefore, we immediately initiated the development of several infrastructures, cutting across various economic and social sectors, as well as all the 23 Local Government Areas. While some of these are ongoing, others have been completed.

We are also targeting flagship projects that are capable of revolutionising the business environment, thus making Kaduna State more business friendly for local and foreign investors. All of these are geared toward our ultimate goal of Making Kaduna Great Again!

## ...Message from the Governor

The purpose of the Kaduna Infrastructure Master Plan (KADIMP) is to consolidate and systematise our approach and strategy towards a coordinated and purposeful long-term infrastructure development in the State. Through this Plan, we seek to develop the Eastern Sector of Kaduna city to promote the orderly expansion of the metropolis. This will include residential and commercial areas.

Convinced that industrial development is the bedrock of any modern economy, we also intend to strengthen the industrial base of Kaduna State. Industrial growth requires a strong infrastructure foundation, and this is one of the priorities for revitalising Kaduna as a commercial and industrial hub of northern Nigeria.

The timing of the launch of the Kaduna Infrastructure Master Plan is in line with the 2018 Budget of Consolidation that is designed to complete many projects across the State. Since 2015, we commenced massive inter-city, township and feeder roads that are now at various stages of completion. Moreover, many schools are being rebuilt, hospitals are being upgraded and equipped, water works are being refitted, and rehabilitation centres are being fixed. These are complemented with the

construction and rehabilitation of industrial infrastructure. All of these give us the hope that we can achieve our dream of the restoration of Kaduna as a modern and inclusive state.

KADIMP is premised on the Kaduna Master Plan that was first published in 1967, and updated in 2010, with a view to shaping a conducive environment in which the people of Kaduna can promote their institutions, economy and well-being. The Plan will also ensure that by 2050 Kaduna becomes a role model for Nigeria's urban development, leveraging its strategic location in the northern urban corridor (Abuja-Kaduna-Zaria-Kano).

The Kaduna Infrastructure Master Plan articulates our infrastructure development vision for Kaduna State that goes far beyond our stay in office. It lays the foundation for the long-term infrastructure development of Kaduna State with the underlying philosophy being opening up Kaduna State for business by gradually reducing infrastructure-related constraints to business and ensuring better living conditions for our people. The Plan emphasizes the role of all actors, stakeholders and partners, especially the State Government in solving the huge infrastructure needs of the State.

## ...Message from the Governor

Through the KADIMP, we are determined to bridge the huge infrastructure gaps of Kaduna State.

Significant financial resources are required to bridge the large infrastructure needs in Kaduna State. At minimum, the total projected expenditures for core infrastructure development interventions in key sectors of transportation, education, health, water and sanitation, and agriculture amount to ₦20 trillion over the Plan horizon covering 2018 – 2050.

The success of this Plan would depend largely on its effective implementation. An important factors in this regard are effective coordination of its implementation across all institutions responsible for its implementation at the State and Local Government levels. The Planning and Budget Commission will coordinate its implementation through effective supervision of the Infrastructure Project Delivery Unit (IPDU) that is primarily responsible for driving the implementation, monitoring and evaluation of the key projects contained in the KADIMP. We are committed to full implementation of the Plan.

Our dream is to promote cutting edge infrastructure in Kaduna State, while

ensuring that all citizens have access to basic social facilities and economic opportunities. Our vision for infrastructure development in Kaduna State is anchored on a long-term perspective, 2018–2050, in the hope that government, private sector, communities and external partners will work together to achieve the ambitious targets set. I solicit and look forward to strong partnership and support for the implementation of the KADIMP from all stakeholders, cutting across public servants, organized private sector, international development partners, academics and civil society organizations. With your support, we will rebuild and reposition Kaduna State into a business hub and corridor that will ensure mass job creation for our people and improve their welfare. We will also be able to re-launch Kaduna State on the path of diversified, inclusive and sustained economic growth, serving as a role model for other states.

**Let's Make Kaduna Great Again!**

*Nasir Ahmad El-Rufai*  
*Governor of Kaduna State*

# ACKNOWLEDGEMENTS

## Message from the Commissioner MoBP



I want to begin by expressing my sincere appreciation and gratitude to Mallam Nasir Ahmad el-Rufai, Governor of Kaduna State for steering the leadership of Kaduna State towards the design and implementation of policies that ensure focus on infrastructure development in order to accelerate development of the State at all levels.

The Kaduna Infrastructure Master Plan provides a long-term perspective for targeted infrastructure development at State and Local Government levels over 2018–2050. It also reinforces our

attempts to meet Goal 9 of the Sustainable Development Goals on Industry, Innovation and Infrastructure. It also aligns with the Federal Government Economic Recovery and Growth Plans.

For the first time a coherent framework is being put in place to ensure inter-generational infrastructure development that provides a foundation for achievement of sustainable development for all residents of Kaduna. In drafting the plan, consultations were held with both public and private sector individual and corporate organizations and particular attention was paid to Local Governments to ensure convergence of views on infrastructure as the sine qua non for achieving meaningful sustained, inclusive and diversified growth and development.

Indeed, successful drafting of this policy document hinged on the commitments, sacrifices and inputs from wide-ranging partners and stakeholders to whom we owe a debt of gratitude. The State Commissioner of Works, Housing and Transport, Balaraba Inuwa Aliyu and that of Rural and Community Development Hassan Usman took keen interest and played pivotal roles in the development of the plan.

## ...Message from the Commissioner MoBP

I must appreciate the roles played by our technical partners who provided support throughout the process. Special appreciation goes to the United Kingdom Department for International Development (DFID) through the Nigerian Infrastructure Advisory Facility (NIAF) for their support in the production of an initial draft of the report. The technical expertise provided by Imara Africa Consulting Ltd in redrafting and redirecting the focus of the Master Plan provided us with the excellent document which we now present.

Several individuals and members of the public also provided inputs, experience and expertise all of which help shape the final contents of the document. The efforts of my colleagues in the Planning and

Budget Commission, whose institutional knowledge and commitment anchored the process, is also highly appreciated.

It is our sincere hope that this plan will spark a new wave of Infrastructure Development in Kaduna State.

*Muhammad Sani Abdullahi*  
*Commissioner,*  
*Planning and Budget Commission*



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Exploration for Gold mining in  
Birnin - Gwari, Kaduna State.



# LIST OF ACRONYMS

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AC	Asphalt Concrete
AFC	Africa Finance Corporation
BATCs	Business Apprenticeship Training Centres
BPC	Budget and Planning Commission
DfID	UK's Department for International Development
DMO	Debt Management Office
DIP	Dry Inland Port
E&E	Eyes and Ears Project
ERGP	Economic Recovery and Growth Plan
EU	European Union
FAAC	Federation Account Allocation Committee
FCT	Federal Capital Territory
FERMA	Federal Roads Maintenance Agency
FGN	Federal Government of Nigeria
FRB	Fiscal Responsibility Bill
GDP	Gross Domestic Product
HCs	Health Clinics
ICD	Inland Container Depot
ICDU	Infrastructure Coordination
ICT	Information and Communication Technology
IGR	Internally-Generated Revenue
IPDF	Infrastructure Project Development Facility
IPDU	Infrastructure Project Delivery Unit
JICA	Japan International Cooperation Agency
JSS	Junior Secondary School
JVs	Joint Ventures
KADGIS	Kaduna Geographic Information Service
KADIMP	Kaduna Infrastructure Master Plan
KADIPA	Kaduna Investment Promotion Agency
KADRA	Kaduna State Roads Agency
KADSQAB	Kaduna State Quality Assurance Board
KAPSCO	Kaduna Power Supply Company
KAPWA	Kaduna Public Works Agency
KDMC	Kaduna Mining and Development Company
KM	Kilometres
KPIs	Key Performance Indicators
KSPSB	Kaduna State Private Schools Board
KSRMP	Kaduna State Restoration Master Plan
KSTA	Kaduna State Transport Authority
KSTSB	Kaduna State Teachers' Service Board
LGA	Local Government Area
LOI	Letter of Intent

LOS	Letter of Support
M&E	Monitoring and Evaluation
MDAs	Ministry, Departments and Agencies
MLD	Million Litres per Day
MSMEs	Micro, Small and Medium Enterprises
MT	Metric Tonnes
MTSS	Medium Term Sector Strategy
MW	Megawatt
NCC	Nigerian Communications Commission
NEPA	National Electric Power Authority
NIIMP	National Integrated Infrastructure Master Plan
NSIA	Nigeria Sovereign Investment Authority
PBC	Planning and Budget Commission
PHCN	Power Holding Company of Nigeria
PHCs	Primary Health Centres
PMS	Performance Management System
PPA	Public Procurement Act
PPP	Public-Private Partnership
PSP	Private Sector Participation
RDU	Results Delivery Unit
RFP	Request for Proposal
RFQ	Request for Qualification
RUWASSA	Rural Water Supply and sanitation Agency
SD	Surface Dressing
SDGs	Sustainable Development Goals
SDP	Kaduna State Development Plan, 2016 – 2020
SDR	Kaduna State Development Report
SHAWN	Sanitation Hygiene and Water in Nigeria
SIP	Sector Implementation Plan
SMEs	Small and Medium Enterprises
SPHCDA	State Primary Health Development Agency
SSS	Senior Secondary School
SUBEB	Kaduna State Universal Basic Education Board
SWF	Sovereign Wealth Fund
TSA	Treasury Single Account
UBE	Universal Basic Education
UNICEF	United Nations International Children’s Emergency Fund
USAID	US Agency for International Development
VIP	Ventilated Improved Pit Latrine
WASH	Water, Sanitation and Hygiene
WASHCOM	Water, Sanitation and Hygiene Committee
WATSAN	Water and Sanitation Project
ZBB	Zero-Based Budgeting

# EXECUTIVE SUMMARY

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Infrastructure is a *sine qua non* for rapid growth, development and wellbeing of all modern economies through both direct and indirect channels. Availability of quality infrastructure facilitates the production of goods and services at competitive cost, guarantees availability of goods and services essential to enhance and sustain acceptable living standards of the people, promotes welfare by improving living conditions of the people. All of these contribute to promoting competitiveness of the economy, society or country. One other way infrastructure has proved to be of importance is the economic incentives it provides to public and private sector participants through shaping domestic firms' investment decisions, thus making the region or country attractive to local and foreign investors. Thus, apart from its direct contribution, infrastructure has been adjudged to be a complementary factor to productivity, job creation, improved welfare and economic growth in the long-term both directly and through spillover effects.

The need for accelerated infrastructure development in Kaduna State arises from population growth that increases pressure on existing infrastructure. According to the census figures conducted in 2006, Kaduna State had a population of 6.1 million people, next only to Kano and Lagos States. The projection is that at around 3.18 per cent growth, this population would reach 8.1 million in 2016, rising to 8.4 million by 2018, with further rise to 12.96 million by 2050. The high urbanization and urban agglomeration in Kaduna and Zaria where over 21% of the population is expected to live by 2020 further reiterates the need for

modern urban infrastructure development to curtail the expected pressure.

The current level of infrastructure falls far short of being sufficient to support the current level of population, let alone cater for the growing population. Another important need for improving infrastructure development in Kaduna State emanates from the important role of infrastructure in promoting inclusive and sustained growth, especially job creation and poverty reduction. The imperative for the Kaduna Infrastructure Master Plan hinges on the need to return Kaduna to its pride of place as a competitive business and industrial hub with attendant benefits to the citizens through increased job creation, poverty reduction and wealth spread.

Broadly, the main vision of the KADIMP is to evolve an accelerated, coordinated, integrated and sustainable infrastructure development for Kaduna State, thus making the State a choice and leading investment destination in all sectors of the economy with a view to imbuing socioeconomic activities of the State and welfare of the people. Consistent with the SDP, SIPs, NIIMP, ERGP, SDGs and other development-related plans and objectives of the Kaduna State Government, KADIMP has five strategic objectives:

1. Determine infrastructure requirements for the 2018–2050 planning horizon in order to support main social and economic sectors in a sustainable manner;
2. Plan for capital works and projects with a view to increasing project completion rate at minimal waste and costs;

3. Plan for operational improvements and rehabilitation of infrastructural facilities;
4. Set direction for the State's day-to-day infrastructure programs consistent with the State's socioeconomic growth and development management policies; and
5. Create a conducive environment for public-private-participation in infrastructure projects development.

The expected benefits of KADIMP are huge. First, it will ensure a well-coordinated and seamlessly integrated approach to infrastructure development in the State. Second, it will provide a framework for project prioritization and capital allocation to annual budgets for effective financing and financial management. Third, it will provide basis for partnership with the private sector in infrastructure development, thus strengthening public-private partnership framework in the State. Fourth, it will ensure inter-modality of sectoral infrastructure assets, especially in transportation. Lastly, it will ensure that no sector, LGA or community is left behind as the State march on to achieve inclusive, diversified and sustained socioeconomic growth and development.

The state of infrastructure in Kaduna reveals inadequacy in terms of quantity and quality. And this cuts across all infrastructure, whether economic (Transport, Energy, ICT, Water, Agriculture & Mining, Housing) or social (Health and Education). To illustrate, the State has a total of 1,573.90km of federal Roads out of which only 29.45% (463.50km) are in good condition, 64.25% (1,011.20km) are in a

fair state while 6.30% (99.20km) are in a poor State. State-owned roads comprised 2,133.59 kilometres, out of which only 49.20% (1,049.72km) are in good state, 22.09% (471.25km) are in fair state and 28.71% (612.63km) are in a poor state. Out of the total State roads, 66.87% (1,426.79km) are paved (AC/SD) while the remaining 33.13% (706.80km) is earth road. Furthermore, out of total Local Government roads amounting to 3,110.43 kilometres, only 3.35% (104.20km) is paved road (SD Road) while 96.65% (3,006.23km) is earth road.

Other infrastructure comprising electricity, ICT, water and sanitation, agriculture and mining, housing, education and health manifest similar inadequacy. For example, electricity has estimated demand/supply gap that rises from 253MW in 2015 to about 400MW in 2020. Water supply covers only 23% of the State's population. Drainages are in poor state due to inadequate maintenance and are completely absent in many semi-rural and rural areas. Open defecation is also in high practice in many communities with only 38% of the population having access to and using safe excreta disposal facilities in 2016. To keep meet the demand for these infrastructure and bridge the large existing gap, attention has to be paid to not just building new facilities but ensuring effective operations and management of the existing ones.

Significant financial resources are required to bridge the large infrastructure needs in Kaduna State. In sum, the total projected expenditures for core infrastructure development interventions



in transportation, education, health, water and sanitation, and agriculture amount to ₦20 trillion over the Plan horizon covering 2018 – 2050. A total of ₦8.09 trillion (₦245 billion annually) will be required to address the roads renovation, construction and expansion envisaged in the State during the plan period. With a target of constructing 5,000 housing units annually over the Plan period, an annual total investment of ₦1.16 trillion (₦35 billion annually) will be required to bridge the housing deficit in the state during the plan period. To renovate, expand and equip the schools and provide other required diverse educational infrastructure, it is projected that estimated cumulative investment of ₦2.15 trillion or annual investment ₦65.1 billion is required to address the education infrastructure in the State. Overall, total investment outlay of ₦5.23 trillion, translating into an annual investment ₦158.45 billion will be required to fix the health infrastructure over the Plan period. Achieving the targets for the water and sanitation goals will require a projected total investment outlay of ₦3.29 trillion or annual investment of ₦99.70 billion over the Plan horizon. Lastly, agriculture infrastructure has projected total investment outlay of ₦93 billion for the proposed 6 silos and 23 Processing facilities over the Plan period.

It is obvious that Kaduna State government does not have the huge resources required to implement and operate the proposed infrastructure development projects. Therefore, the government needs to tow international best practice line of exploring various non-budgetary financing options.

Globally, there are about four main options available for financing infrastructure projects. These include: Budget (Public current accounts); Public debt; Public Private Partnership (PPPs) and Other Public Sources (e.g., the Sovereign Wealth Fund, public pension funds). While the traditional budget approach has been what is used in the past for infrastructure development, the State now need to explore all other financing options in implementing the KADIMP in view of the existing infrastructure gap in the State.

The implementation framework for KADIMP requires the development of institutional framework. These include establishment of Results Delivery Unit, Monitoring and Evaluation Framework, Performance Management System, and institutional strengthening such as Infrastructure Project Delivery Unit (IPDU) in the Budget and Planning Commission. Strategic partnerships with relevant stakeholders will also be forged to ensure effective implementation.

# CHAPTER 1

## Introduction: Background and Rationale for the Kaduna Infrastructure Master Plan



## 1.1 The Role of Infrastructure in Modern Economy

Throughout ages, the importance of infrastructure for socioeconomic development and wellbeing of all societies and economies are not in doubt. Availability of quality infrastructure facilitates the production of goods and services at competitive cost, guarantees availability of goods and services essential to enhance and sustain acceptable living standards of the people, promotes welfare by improving living conditions of the people. All of these contribute to promoting competitiveness of the economy, society or country. One other way infrastructure has proved to be of importance is the economic incentives it provides to public and private sector participants through shaping domestic firms' investment decisions, thus making the region or country attractive to local and foreign investors.

Infrastructure is a nebulous and heterogeneous term that has been variously defined based on context, perspective and environment. Despite this, however, infrastructure generally refers to the basic physical, technical, soft and organizational structures, facilities and systems required for effective functioning and operation of an economy, enterprise, community, city, society or nation. It includes physical, technical, organizational and soft structures that include roads, bridges, airports, seaports, railways, dams, water supply, waste disposal networks, digital communication equipment, power supply installations, schools, health centres, Internet connectivity, broadband equipment, etc. Broadly speaking, infrastructure can be categorized into economic and social infrastructure. While economic infrastructure include physical infrastructure

like water, power, dams, transport and information and communication facilities, social infrastructure are mainly schools and health facilities that have social benefits.

Infrastructure contributes to economic growth and welfare through two main channels: direct and indirect. The direct effect occurs through the additional output it generates in sector-specific activities such as agriculture or manufacturing. The increased activities add to the overall economic activities measured as the GDP. The indirect effect is a product of second level or ripple effect on total factor productivity through reduction in production costs brought about by efficient infrastructure. Thus, infrastructure has been adjudged to be a complementary factor to productivity, job creation, improved welfare and economic growth in the long-term both directly and through spillover effects. For example, the rapid economic progress in countries like China, India, Brazil, Mexico, South Africa, and Dubai has been credited to efficient infrastructure, among other things.

Evidence abound that Nigeria, which Kaduna State is a unit, performs poorly by international standards on virtually all measures of infrastructure. For instance, the World Economic Forum's Global Competitiveness Index ranked Nigeria's "quality of overall infrastructure" to be 131 out of 137 in 2017 – 2018 report. This places the country at the bottom of the ladder. This highlights the fact that the state of infrastructure in the country is non-desirable, non-competitive and fall far short of international standard. This is perhaps one of the explanatory

factors for the weak productivity and poor global competitiveness of Nigeria and the federating States.

Most infrastructure are public goods, that is, they are publicly-owned and managed for the common good of all. Their provision is usually the prerogative of the national and sub-national governments. This demonstrates the critical role the government has to play in promoting economic growth and human wellbeing of the people through infrastructure development. Specifically, government's intervention is required because of the

high risk, capital intensive, high sunk costs, and long gestation period involved in infrastructure development. Therefore, government is required to play the role of facilitator and enabler in attracting the huge capital required for infrastructure development as well as de-risk local and foreign investment in all forms of infrastructure activities. Private capital is one of such important capital that government could attract, retain and leverage through its role as a facilitator and enabler. This could be achieved through appropriate incentives.

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## 1.2 The need for Improved Infrastructure Development in Kaduna State

The need for accelerated infrastructure development in Kaduna State arises from population growth that increases pressure on existing infrastructure. According to the census figures conducted in 2006, Kaduna State had a population of 6.1 million people, next only to Kano and Lagos States. The projection is that at around 3.18 per cent growth, this population would reach 8.1 million in 2016, rising to 8.4 million by 2018, with further rise to 12.96 million by 2050. The high urbanization and urban agglomeration in Kaduna and Zaria where over 21% of the population is expected to live by 2020 further reiterates the need for modern urban infrastructure development to curtail the expected pressure.

One obvious effect of the high and growing population is pressure on infrastructure through several channels that include rural-urban population drift, especially of the youth. This results because as population continues to rise, the economic opportunities in the rural areas become

limited, forcing people to migrate to urban areas for better economic opportunities. This leads to significant strain on the existing infrastructure. More importantly, the growing and migrating population deserves the right to quality of life, decent jobs especially for the youth, the right to equality and empowerment, especially for women and girls.

However, the current level of infrastructure falls far short of being sufficient to support the current level of population, let alone cater for the growing population. On roads, for instance, less than 30 per cent of Federal Government roads and less than 50 per cent of State roads are in good condition. On housing the large scale of slums that are growing everyday is an indication of gross inadequacy of housing for the population. The current number of classrooms in Kaduna State is so inadequate for school children that they need to be doubled to meet the current need. The current six (6) Federal and one State-owned

tertiary health care facilities, thirty-two (32) secondary health care facilities and one thousand and sixty-eight (1,068) primary health clinics are insufficient to take care of the health needs of over 8 million people living in Kaduna State. According to the Kaduna State Water and Sanitation Sector Implementation Plan (2017 – 2019), while the current installed potable water supply capacity is 380.66 million litres per day (mld) with actual supply being 215.76 mld, the minimum requirement to take care of the population based on demand is 751 mld. Only 32 per cent of the urban population is currently served potable water.

From the foregoing, it is obvious that there is need for increased infrastructure provision to cater for the current and growing future need of the population, thus reducing the undue current and future pressure on existing infrastructure. This requires that we build adequate infrastructure that will first meet the current needs and then ensure that the future development of new infrastructure and maintenance of

existing ones keep pace with the growing population. This is the only way the current undue pressure on the limited infrastructure can be tamed today and forestalled in the future.

Another important need for improving infrastructure development in Kaduna State emanates from the important role of infrastructure in promoting inclusive and sustained growth, especially job creation and poverty reduction. It is globally acknowledged that improved infrastructure development results in sustained and inclusive growth through job creation and poverty reduction. This impact results from both direct and indirect sources. On the direct channel, infrastructure development requires that people are put to work to develop the infrastructure. This requires wide array of workers ranging from highly skilled to non-skilled. On the other hand, the indirect channel of impact of infrastructure development results from creating enabling access to markets and basic amenities.

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## 1.3 Rationale for the Kaduna Infrastructure Development Master Plan

Kaduna needs to maintain its enviable position as a pace-setter and role model State in Nigeria. The State has a high potential to become a top three economy in Nigeria in terms of total GDP and GDP per capita. It also has high potential to become the regional leader and engine of growth for the Northern region of Nigeria. In the 1970s, Kaduna State was a major industrial hub in Nigeria. The State was booming with very thriving textile industry with large textile firms located there. In addition, a very successful motor assembly plant – Peugeot Automobile of Nigeria – was

located in the State. This is now history as most of the textile firms have long closed down and the vehicle assembly plant is a shadow of its past glory. One obvious implication of the closure is job loss. Industrial hub of this nature is notable for mass job creation for skilled and unskilled workers. It promotes inclusive growth through job creation, poverty reduction and wealth creation to a large number of local residents. However, closure of such industrial hub implies mass job losses with its attendant undesired outcomes.

## Box 1: Overview of Kaduna State

**Kaduna State prides itself as a major economic force in the comity of States in Nigeria.** According to the Kaduna Gross Domestic Product (GDP) Report, the State's GDP was estimated at ₦2.25 trillion in 2015 with services, agriculture, and industry representing 45 per cent, 37 per cent and 18 per cent of the GDP, respectively. Earlier in 2013, the State was adjudged the fourth largest economy in the country, coming behind Lagos, Kano, and Oyo States. Agriculture is the main stay of the economy with cash and food crops cultivated in the state include yam, cotton, groundnut, tobacco, maize, beans, guinea corn, millet, ginger, rice and cassava. Manufacturing, livestock and poultry production are also common. Recent investment in agriculture, agro-processing and manufacturing include global brands such as Dangote Group, Olam, Notore, Campina and Friesland. These testify to the viability and competitiveness of Kaduna State as an investment destination in Nigeria. Increased infrastructure development will further promote the competitiveness of the State as investment destination.

**Based on 2006 Census figures, the population in Kaduna State was 6.1 million**, making it the third largest state in Nigeria measured by population size, coming behind Kano and Lagos States. The population was projected to 8.1 million in 2016 and with expectation that it would reach 8.4 million by 2018. Disaggregating the population by sex reveals that there were 106.6 males per 100 females. Furthermore, about 43% of the population was under 15 years of age, 54.1% aged 15–64 years and 3% was 65 years and above. Kaduna State has a high but slowing population growth rates resulting from

simultaneous occurrence of high fertility and high but declining mortality rates. The population growth has put pressure on available soft and hard infrastructure and facilities, especially health and education facilities. This further reiterates the need for efficient use of public and private financial resources to improve infrastructure and better management of existing ones. While migration in and out of the State has not been so much of an issue, the State has, however, been susceptible to internal migration because of displacement of the population due to insecurity and ethno-religious clashes, especially in Southern Kaduna.

**There are two important demographic dividends Kaduna State has high potential to benefit from.** First is its youth bulge. With over 54 per cent of the population aged 15–64 years, the State has large youthful population that should be put to good use rather considering it a liability as a result of being a dependency burden. But to make this an opportunity, efficient infrastructure needs to be developed for this youthful population to ensure they are gainfully engaged for productive socioeconomic activities. The second demographic benefit is the growing middle class in the State. Though this is national in nature, for Kaduna it can be deduced from the rising urbanization in the State. Members of the growing middle class are highly consuming in nature and thirsty for the purchases of a wide range of goods and services cutting across consumables and capital goods. Development of efficient infrastructure would further ensure they are retained in the State and empowered through the infrastructure so created to further expand the economic prospects

of the State. Thus, these cities account for a far greater percentage of homes for most people living in the State. The high urbanization and urban agglomeration in Kaduna and Zaria where over 21% of the population is expected to live by 2020 further reiterates the need for modern urban infrastructure development.

**The climate of Kaduna State is tropical in nature** with divergent seasonal regimes that oscillate between cool to hot dry and from humid to wet, with average annual temperature of 25.2°C. The climatic seasonality shows the cool to hot dry season

being longer than the rainy season. The spatial and temporal distribution of the rainfall varies, decreasing from an average of about 1530mm in Kafanchan-Kagoro areas in the Southeast to about 1015mm in Ikaru and Makarfi districts in the northeast. High evaporation during the dry season, however, creates water shortage problems especially in Igabi, Giwa, Soba, Makarfi and Ikaru LGAs. Overall, the State has wide array of arable land, soil texture and beneficial climate that make the State conducive for growing several crops both for food and commercial purposes.

Kaduna State is a leader in the production of several agricultural produce both for food and as industrial inputs. The State is the largest producer of ginger and maize in Nigeria, second largest producer of soybeans, and fifth largest producer of rice. The State has high potential for value addition to the diverse agricultural commodities it produces. Some of the areas where opportunities exist are poultry, staple crops, high-value crops, leather, computer assembly, information and communication technology (ICT) applications, and renewable energy. It has been estimated that these activities have the potential of generating economic activities worth US\$11 billion and create direct jobs amounting to 220,000 over the next 15 years (World Bank 2017).

Nevertheless, these potentials are highly constrained or unrealized because of absence of efficient infrastructure. Absence of efficient infrastructure has greatly made the business environment less friendly, leading to the closure of hitherto textile manufacturing firms and vehicle assembly in the State. For example, the 2014 Enterprise Survey reveals that electricity is one of the

most binding constraints on businesses in the State. Indeed, about 63 per cent of firms identify this as a challenge. The State has a multitude of SMEs whose potentials in job and wealth creation are being stifled because of inefficient infrastructure. Creating jobs and reducing poverty is a major task for the State given the high level of youth in the population.

To return Kaduna State to its pride of place as an industrial hub and agricultural bastion, the State must improve its business environment through creation of efficient infrastructure in all ramifications. The importance of improved infrastructure has been globally recognized, with significant economic and social benefits for industry and the people. For instance, access to electricity, however limited, could have significant effect on business and livelihoods. Similarly, improved transportation could have high impact on reducing cost of production and improve market access. Improved water supply could also greatly mitigate the real and potential monetary and health costs associated with potable water shortages.

On assumption of office in Kaduna State, the current Administration adopted the Kaduna State Development Plan 2016 – 2020 (SDP) entitled, Delivery on Jobs, Social Justice and Prosperity. The SDP identified the developmental challenges facing the State, set out the strategic framework and proposed measures to address the challenges to Make Kaduna State Great Again. Accordingly, the state’s annual budgets are guided by the SDP to realise the strategic vision of the administration. As part of the government’s commitment to accountability and transparency, the Kaduna State Development Plan (SDP) is being produced annually to document and report progress made in the implementation of the SDP. It reviews the performance of the State government against the background of a five-year planning framework from which are derived the Sector Implementation Plans (SIPs) of each ministry, as well as the annual plans and budgets.

The goals and aspirations contained in the SDP and several other initiatives that

include the SIPs reflect the commitment of the current Kaduna State Administration to institute an effective paradigm capable of ensuring achievement of the overall goals and objectives of his administration, positively impact the development of the State and improve quality of life of the Kaduna State people.

Globally, it is a well-known fact that infrastructure is a critical ingredient of inclusive economic growth and of sustained and sustainable development. The articulation of KADIMP is in recognition of this fact. The intent is to evolve a plan that will guarantee and support an accelerated and sustainable infrastructure development of the State. The motivation for the KADIMP is to put in place the required infrastructure that is in line with the philosophies and aspirations of the State’s Development Plan (2016–2020). In addition, the Plan is expected to catalyze the process of making Kaduna State great again by enhancing the competitiveness of the State in all its social and economic ramifications.

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## 1.4 Vision and Key Objectives of the KADIMP

Broadly, the main vision of the KADIMP is to evolve an accelerated, coordinated, integrated and sustainable infrastructure development for Kaduna State, thus making the State a choice and leading investment destination in all sectors of the economy with a view to imbuing socioeconomic activities of the State and welfare of the people. This vision is motivated by the State Government’s recognition of the enormous challenges posed to the socioeconomic development and progress

of the State and welfare of the people by infrastructure deficiency and the need for urgent intervention.

Kaduna State has an urgent need for structural and economic transformation through leveraging infrastructure development revolution. To achieve the change desired, infrastructure needs to work efficiently to support large businesses, SMEs, youths, farmers and industrialists. The challenge emanating from inadequacy



of infrastructure has to be dealt with successfully. Improved welfare of the people through increased job creation, wealth spread, poverty reduction, ease of commuting, and access to basic social services like health and education can be achieved only if infrastructure efficiency is achieved.

Consistent with the SDP, SIPs, NIIMP, ERGP, SDGs and other development-related plans and objectives of the Kaduna State Government, KADIMP has five strategic objectives:

1. Determine infrastructure requirements for the 2018–2050 planning horizon in order to support main social and economic sectors in a sustainable manner;
2. Plan for capital works and projects with a view to increasing project completion rate at minimal waste and costs;
3. Plan for operational improvements and rehabilitation of infrastructural facilities;
4. Set direction for the State’s day-to-day infrastructure programs consistent with the State’s socioeconomic growth and development management policies; and
5. Create a conducive environment for public-private-participation in infrastructure projects development.

### 1.4.1 Inclusive Growth and Sustained Development

As earlier highlighted, infrastructure are drivers of inclusive economic growth, development and transformation. It should be sources of innovation, entrepreneurship and job creation. States are constantly competing to attract both local and foreign capital investments. KADIMP seeks to create the critical infrastructure required to strengthen the position of Kaduna State as a choice destination for local and foreign investment that are capable of creating

jobs and promoting entrepreneurship. Infrastructure development envisaged through this Master Plan will improve the needed tools for public and private actors to assume development roles that would generate lasting impact on the welfare of Kaduna State.

### 1.4.2 Social Integration

This is most important for the large cities like Kaduna and Zaria. Generally, most large cities like these experience high levels of urban inequality with high poverty, lack of access to public services, poor mobility and connectivity, and poor safety being major challenges. Most large cities experience high levels of urban inequality and social segregation, including areas with high concentrations of poverty, poor safety, a lack of access to public services, and poor connectivity. These affect large population living in these urban areas, challenges our concept of society and damage the sustainability and competitiveness of these cities.

KADIMP aims to change the status quo by building infrastructure that ensures cities in Kaduna are more inclusive and safer such that people could live in these cities and feel safe, protected, and able to enjoy infrastructure that promote mobility, social interaction, leisure, education, health, and safety.

### 1.4.3 Eco-friendly Infrastructure

KADIMP aims to ensure effective environmental and sustainable development through creation of efficient, safe, secure, integrated and coordinated infrastructure. Creation of efficient electricity would help reduce the use of expensive and high-emitting generators that are so prevalent today. Similarly, investment in water management that leads to improved

potable water supply would further reduce depletion of water resources in search of potable water by citizens. KADIMP ensures that infrastructure development is designed to support economic growth and investment within a framework that benefits the poor and underprivileged in the State with consideration for the environment.

It must be emphasized that KADIMP is a living and dynamic document intended to be updated on regular and continuous basis based on new updated information and evolving socioeconomic exigencies and realities.

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## 1.5 Linkage to State Development Plan (SDP) 2016 – 2020

Shortly after assumption of office, the current Administration adopted the ambitious Kaduna State Development Plan, 2016 – 2020 (SDP). The Plan has three strategic objectives consisting delivery of jobs, social justice, and prosperity. The four strategic vision of the SDP are:

- **Economic Development:** Kaduna will become the destination for business investment and food basket for Northern Nigeria.
- **Social Welfare:** Kaduna will ensure that all citizens have access to high-quality, affordable healthcare and education.
- **Security and Justice:** Kaduna will turn the tide on public perception of insecurity in the North, becoming a place where every citizen can live and move freely without harm.
- **Governance:** Kaduna will set the standard for transparent decision-making, citizen involvement, and competent and responsive public service.

Going by the lofty vision of the SDP, the emphasis is on accelerating private investments and private sector-led growth to promote job creation and social inclusion through rapid infrastructure development, policy reforms and relevant initiatives

capable of relaxing the challenges facing the state. Infrastructure, being a critical ingredient for virtually all economic activities is capable of triggering the realization of the vision of ‘Making Kaduna State Great Again’ by diversifying production, coping with population growth, reducing poverty, improving environmental conditions and so on. Links between infrastructure investment and economic growth reveal three important channels of pro-poor growth arising from infrastructure investment that will engender the actualization of the four priority areas of the State Development Plan (2016–2020).

There is no gainsaying that the KADIMP: 2050 and the SDP: 2016–2020 are directly connected from the viewpoint of the supply-side and the demand-side effects of infrastructure investment planning which is the focus of KADIMP: 2050. The supply-side effects of KADIMP: 2050 in the form of improved infrastructure services revolve around costs, availability, and reliability and these could create, at least, two types of linkage effects:

1. **Investment-inducement effect:**  
A channel through which new investment is generated by enhanced business climate.

**2. Regional economy activation effect:**  
A channel through which new economic opportunities are opened up, and productivity of the existing economic activities is enhanced.

In sum, the linkage between KADIMP and SDP 2016–2020 can be aptly presented as shown in the Figure below.

The end product of both KADIMP and SDP is to achieve the slogan of delivering jobs, social justice and prosperity. With this outcome realized, the vision of ‘Making Kaduna State Great Again’ equally becomes

a mission that is accomplished. From the demand side, the effective demand effect of infrastructure such as construction becomes a channel through which jobs and income are generated by implementing the project itself. Realistically, effective demand from construction work generates jobs and income during the construction period; directly and indirectly (through the procurement of local inputs and services). In addition, infrastructure development activities demands increased demand for labour because of its capital-intensive nature. Hence, it is expected to spur job creation and improve employment.

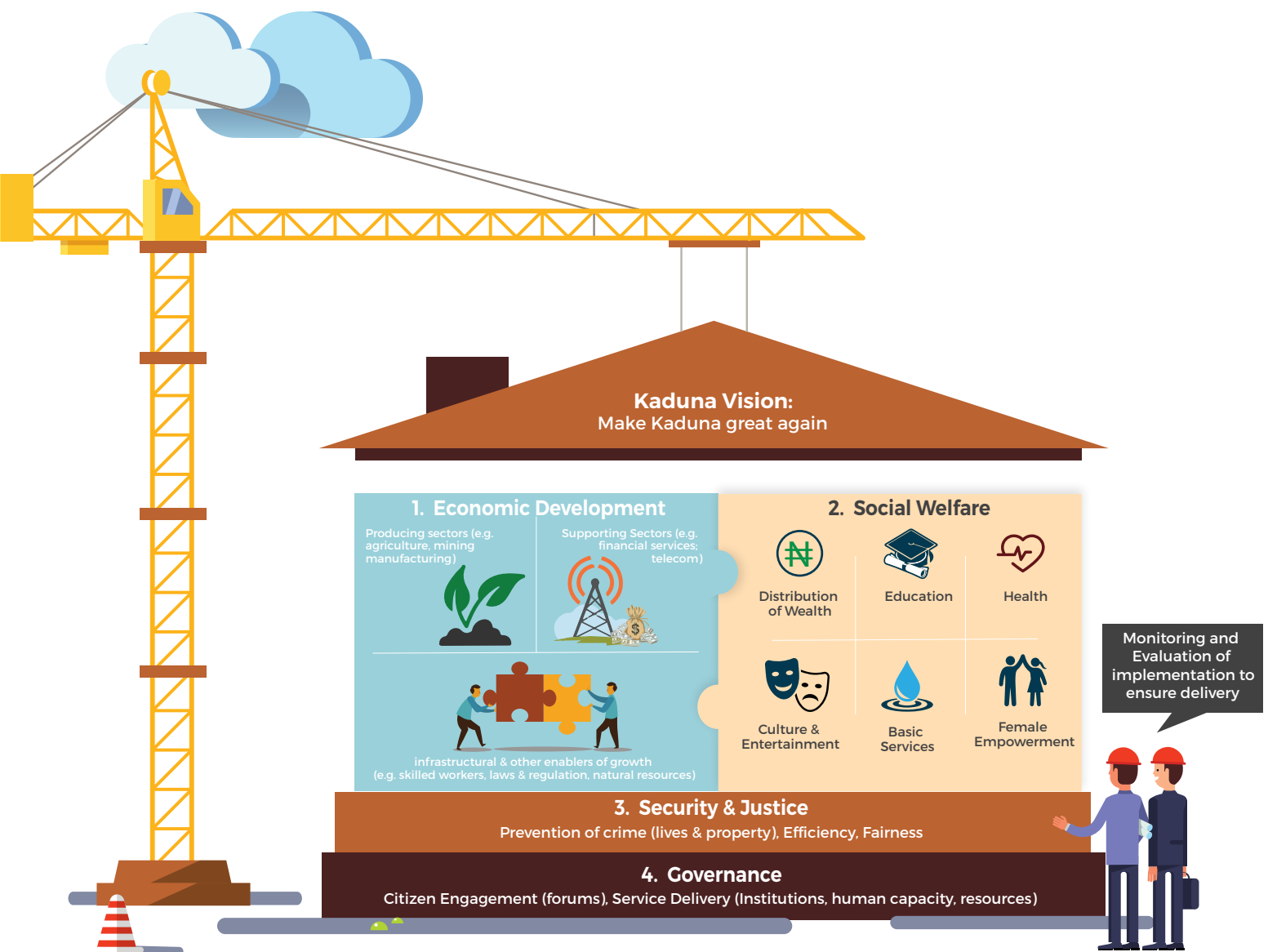


Figure 1.1: The KADIMP (2018–2050) – SDP (2016–2020) Nexus

## 1.6 Linkage to Sector Implementation Plans (SIPs)

Kaduna State's Sector Implementation Plans (SIPs) constitute the State's action plans from the socioeconomic and governance viewpoint of sectors in the State. As plans of actions, SIPs set out the objectives, targets and actions to be pursued over a specified period by each sector in the State. Hence, SIPs are construed as strategic frameworks for the pursuit of the overall objectives of the State Government as encapsulated in the various policy documents of government such as the Kaduna Restoration Master Plan and the Kaduna State 5 Year State Development Plan (2016–2020).

SIPs translate to what is conventionally referred to at the National level as the Medium Term Sector Strategy (MTSS). The State's current SIPs cover the period 2017 – 2019 and are available for key sectors that include agriculture, education, environment, infrastructure and transport, power, health, emergency management, social development, and water and sanitation. The action plans provide a more detailed description of the timelines, measures and financing of the key projects in each sector. SIPs constitute a programme

for change to which the State Government is strongly committed. Plans of actions are to be executed within the framework of available funding, the existing authorized spending limits and other provisions of the State Government's Fiscal Plan.

The linkage between SIPs and KADIMP is better appreciated in the fact that the implementation of the key projects and reforms defined in SIPs involve a large number of operational changes. One of such changes to be expected is that of provision of appropriate and relevant infrastructures to support the implementation of plans by sectors in the State. In addition, KADIMP will help to create favourable conditions for economic growth that will guarantee the realization of laudable objectives of delivering on jobs, social justice and prosperity. The intent of KADIMP is, therefore, to oil the engine of socioeconomic activities in the State and thereby ease the execution of SIPs. This intent is crucial as actions contained in SIPs can hardly be achieved if infrastructural challenges are not addressed.

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## 1.7 Linkage to National Strategic Objectives

To address the massive infrastructure gap which has been the bane of rapid economic growth and development in Nigeria, the Federal Government of Nigeria through the then National Planning Commission (Now Ministry of Budget and National Planning) articulated an infrastructure development blueprint called National Integrated

Infrastructure Master Plan (NIIMP) in 2014. Essentially, the NIIMP which is to be implemented over 2014 – 2043, provides the capital allocation framework, which identifies the required investments that will engender infrastructural development in Nigeria in line with the country's growth aspirations. As against what previous

related plans/documents have done, NIIMP provides an integrated view of infrastructure development in Nigeria, with clear linkages across the key sectors.

Early 2017, the Federal Government of Nigeria launched the Economic Recovery and Growth Plan (ERGP) for 2017 – 2020 as part of the overall strategy to address the multiple challenges confronting the country, prominent among which is dearth of reliable, efficient and adequate infrastructure across all sectors of the economy. One of its objectives on building a globally competitive economy aims to build efficient infrastructure for the country. The ERGP has developed sector-specific targets for infrastructure development for immediate, short and medium terms. These are aimed at unlocking the potentials of the national economy and setting it on a path of sustained, inclusive and diversified growth through infrastructure development interventions, especially in electric power and transportation. One of its key execution priorities is to improve transportation infrastructure. The Plan arrogates prominent and sometimes leading role to the States in its implementation. It encourages States to develop similar strategies in all the priority areas identified in the ERGP.

The KADIMP is developed by Kaduna State In the spirit of its pace-setting

role, ensuring effective linkage with these notable national infrastructure and economic development strategies. Just as the NIIMP seeks to achieve a coordinated and integrated national infrastructure development objective, KADIMP aims to achieve a similar feat for Kaduna State. KADIMP links with these national infrastructure development documents and leverage their goals, objectives and intent. Therefore, KADIMP complements the NIIMP and ERGP towards bridging the huge existing infrastructure gap in the country with specific focus on Kaduna State. It is being launched in line with the Federal Government’s infrastructure development plans.

KADIMP is consistent with both the NIIMP and ERGP and will contribute to their implementation at the sub-national level. For example, the ERGP acknowledges that its success would depend largely on States adopting critical measures that support its objectives and priorities and thus able to ensure nationwide implementation of these objectives at sub-national levels. These measures include building the required infrastructure to support industrial development, support SME operations, build competitive businesses, improve agro-processing and agricultural value chain, improve business regulatory environment, etc. KADIMP fits all these needs and aspirations.

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## 1.8 Linkage to Sustainable Development Goals (SDGs)

Infrastructure is a sine qua non to achieving meaningful sustained, inclusive and diversified growth and development in any economy, whether developed, emerging or

developing. Infrastructure unlocks potentials of countries, regions or States in trade, industrial development, job creation, and improving the quality of life of the people.

This is especially true for transportation and energy-related infrastructure. This fact is well acknowledged globally, explaining why infrastructure development is critical to achieving the globally agreed Sustainable Development Goals (SDGs). Incidentally, Infrastructure appears in the SDGs simultaneously as an explicit goal and implicit inputs needed for effective implementation of policies that will promote the achievements of most other SDGs.

It is noteworthy that one of the SDGs is dedicated exclusively to infrastructure development. Explicitly, Goal 9 is to “build resilient infrastructure, promote sustainable industrialization and foster innovation”. This direct call for increased investment in sustainable infrastructure is motivated by recognition of the importance of infrastructure in overall socioeconomic wellbeing of the world and its inhabitants. Some of the critical infrastructure of focus include electricity, roads, water, information and communication technologies, and sanitation.

Infrastructure is implicit in virtually all other SDGs and is critical to their achievement. It is a cross-cutting “enabler” for achieving other goals. For example, the broadest gains from investing in transport infrastructure and road safety will be most felt, without explicit regard to transport, in better health and improved economic outcomes. It should be noted that infrastructure is not limited to mere physical assets, but also includes sustainable solutions for the delivery of reliable infrastructure. Thus infrastructure is pivotal to achieving the overall global development vision as encapsulated in the other SDGs.

Goal 1 that focuses on ending poverty in all its forms everywhere can only be

achieved through efficient infrastructure development. One key element that differentiates rich countries from the poorest and most vulnerable countries around the world is infrastructure availability and accessibility, both in terms of quality and quantity. A farmer in very remote part of Kaduna State requires good access road to evacuate his produce from the farm gate to the market. Only when this is done will he be able to avoid the presently high post-harvest losses that result from poor state of transport infrastructure. This will promote achievement of Goal 2 that focuses on attaining food security, ending hunger, improving nutrition and promoting sustainable agriculture. Furthermore, to break inter-generational poverty, education and health infrastructure are necessary. Availability of these types of infrastructure will empower the younger generation and give them the requisite health condition that could increase their productivity and prolong their productive life. Strongly linked to Goal 3, this is the only means through which youths can break the shackles of entrenched inter-generational poverty.

Goals 3 (ensure healthy lives and promote well-being for all at all ages) and 4 (ensure inclusive and equitable quality education and promote lifelong learning opportunities) can only be achieved through building safe and well equipped health facilities and schools. But for the hospital to function effectively and achieve the intended objectives, there is need for safe water and sanitation as demanded by Goal 6 and stable electric power supply as required in Goal 7. It is only when such infrastructure is available that the hospital would be able to undertake basic health procedures that include safe deliveries for mothers of their children. Others relevant goals and targets with strong link to

KADIMP are agricultural productivity (Target 2.1), air pollution (3.9), access to safe drinking water (6.1.), sustainable cities (11.6), reduction of food loss (12.3), and climate change adaptation and mitigation (13.1).

Lack of infrastructure has imposed substantial cost on most developing economies, making communities poorer and more vulnerable. For example, investors have cited lack of electric power infrastructure as one of the greatest constraints to doing business in developing countries. In Nigeria, for instance, poor and unreliable power supply continues to constrain the country from achieving its industrial development potential and job creation that could emanate therefrom. Given the importance of infrastructure to the SDGs, investment in infrastructure is central to poverty alleviation.

KADIMP is developed based on the motivation of the existence of strong linkage between infrastructure and SDGs in mind as well as the desire to develop infrastructure that are capable of fast-tracking the State's progress towards achieving the SDGs. It is designed to strengthen the strong direct and indirect linkage between it and the SDGs. Thus, the infrastructure being propagated in KADIMP are consistent with the objectives and philosophy of SDGs for the good and welfare of all. The Plan covers the three sustainable development dimensions of the SDG framework, namely, economic, social and environmental.

The KADIMP provides a framework for accelerated sustainable development through expanding critical infrastructure in Kaduna State. Through the priority programmes and projects outlined in this document the State looks to prioritising

action and enhancing partnerships aimed at improving service delivery in a sustainable way, for future generations. Improved access to clean water and sanitation (SDG 6); increased access to affordable and clean energy (SDG 7); development of industry, innovation and infrastructure (SDG 9) and building sustainable cities and communities (SDG11) are at the core of the KADIMP.

Thus, infrastructure projects in KADIMP are carefully selected and prioritized based on the linkage between it and the SDGs in mind. It identifies areas of market failure and provides the necessary incentives to bring in the private sector.

KADIMP recognizes that the Kaduna State Government alone is unable to provide the huge financing required to finance the proposed infrastructure. This is because of the yawning financing gap that exists. Thus, KADIMP provides opportunities for synergy by leveraging both public and private sector funding to respond to the State's immense infrastructure needs. It seeks to identify existing weaknesses in both the investment and macroeconomic environment that constrains the free flow of private funding into financing infrastructure in the State.

The KADIMP seeks to assert the role of Kaduna State Government to broker global partnership (Goal 17) in facilitating the preparation, closure and implementation of complex infrastructure projects that have high potential for increasing the pace at which the State is able to achieve the SDGs. This partnership is extended to all existing and new potential partners that include private sector investors, institutional investors (asset management, sovereign wealth funds, pension and insurance funds), development partners, and other related partners. KADIMP will provide the

# Link Between **KADIMP & SDGs**

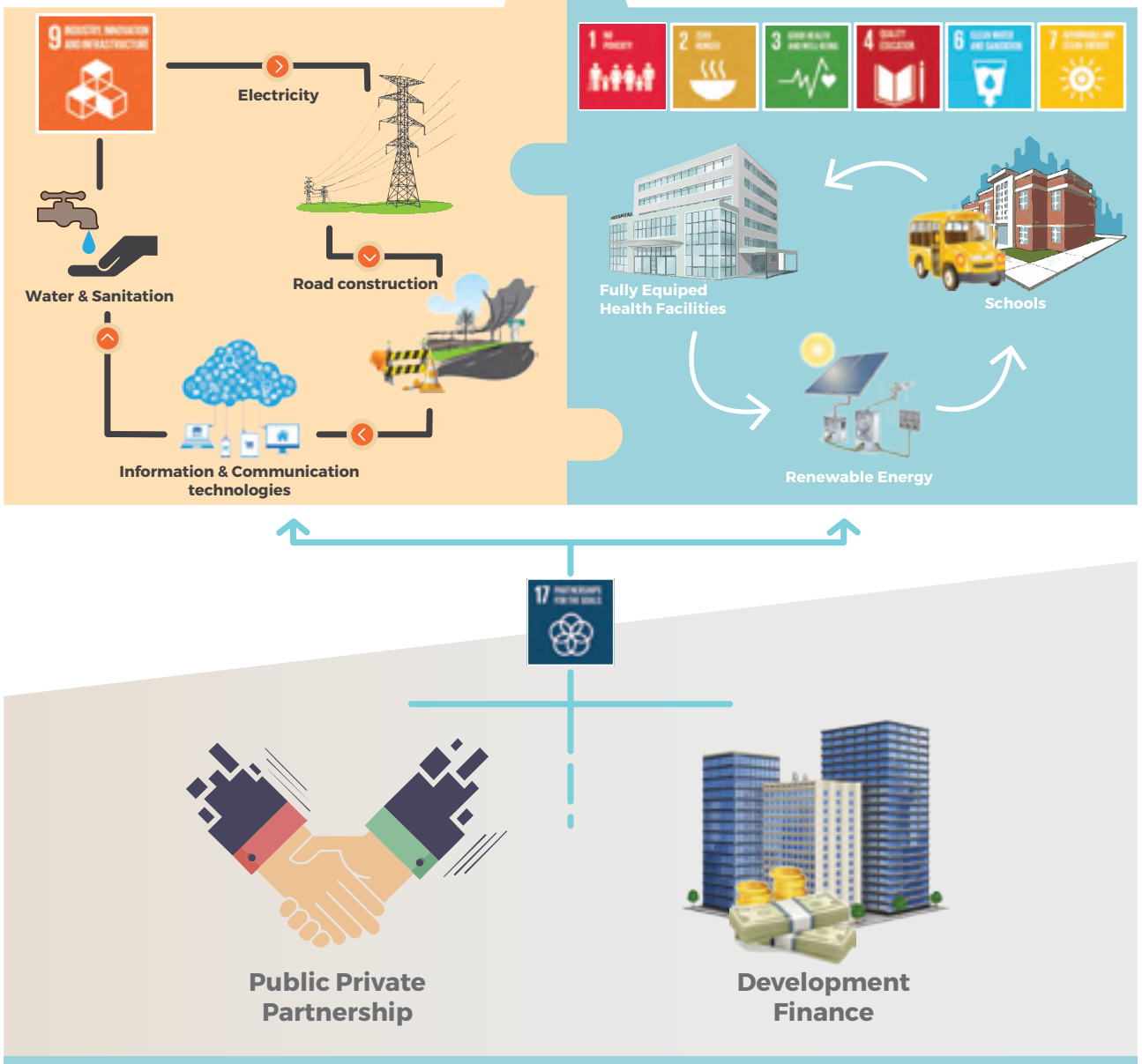


Figure 1.2: The Link between KADIMP and the SDGs



platform for mobilizing these partners. The pipeline of bankable projects are expanded through KADIMP and their potential benefits in forms of improved well being and guaranteed good return on investment for the investors are well articulated.

It is instructive to point out that the partnership being sought through KADIMP is not limited to merely financial. Technical and advisory partners are also being sought. While technical partners are expected to bring to bear their technical expertise in structuring, packaging, implementing and executing infrastructure projects throughout the infrastructure project cycle, advisory partners may provide support that are both financial and non-financial in nature. These diverse partners are expected to collaborate with Kaduna State through public-private partnership schemes and other means. Some of the specific partners that have proven invaluable in this respect are the African Development Bank, World Bank, Nigerian Infrastructure Advisory Facility (NIAF), and Growth and Employment in States (GEMS).

The innovative and sustained long-term infrastructure financing being propagated by KADIMP would position Kaduna State to achieve its ambitious goal of fast-tracking progress toward achieving the SDGs. It will create direct jobs and foster improved environment for job creation, tackle the root of extreme poverty, build prosperity, and strengthen inclusion in the State. Overall, KADIMP aims to achieve scaled investment in sustainable infrastructure in Kaduna State, thus fostering improved economic growth, development and welfare of the Kaduna people. Second, it aims to achieve increased infrastructure access and affordability for the poor, leading to improved development outcomes generally. Lastly, the proposed infrastructure development will target climate-friendly infrastructure that are capable of mitigating climate change risks, protecting the people that are most vulnerable to climate change in Kaduna, and reducing ecological footprint.

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## 1.9 Expected Benefits and Impact of the KADIMP

The expected benefits of KADIMP are huge. First, it will ensure a well-coordinated and seamlessly integrated approach to infrastructure development in the State. Second, it will provide a framework for project prioritization and capital allocation to annual budgets for effective financing and financial management. Third, it will provide basis for partnership with the private sector in infrastructure

development, thus strengthening public-private partnership framework in the State. Fourth, it will ensure inter-modality of sectoral infrastructure assets, especially in transportation. Lastly, it will ensure that no sector, LGA or community is left behind as the State march on to achieve inclusive, diversified and sustained socioeconomic growth and development.

## 1.10 Structure of the Report

**Chapter one** sets the tone for the document, providing a brief background on Kaduna State. It also outlines the principles guiding government actions and highlighting the vision and key objectives of the document as well as its link to selected similar global, national and State-specific development goals, objectives and plans. **Chapter 2** presents a Sector by Sector review of the current state of infrastructure, the regulatory framework and the investment levels. **Chapter Three** contains a sector-by-sector assessments of the investments required to bridge the identified existing infrastructure gaps in Kaduna State. These assessments take into consideration selected global benchmarks for developing infrastructure stock that would have the intended benefits on the economy and people of Kaduna State. Issues relating to the operations and maintenance of existing and newly developed infrastructure are highlighted.

**Chapter Four** provides Investments by Local Government, including LGAs' current state and economic priorities as well as infrastructure investment levels required. **Chapter Five** outlines the financing plan, financing options, private sector participation (PSP) options and the legal and regulatory frameworks for PSP. The document closes with a detailed description of the Implementation Plan in **Chapter Six**. This contains detailed description of the institutionalization mechanisms for the KADIMP and provides a clear and brief message that encapsulates our expectations for Kaduna State following effective implementation of this Master Plan.

# CHAPTER 2

## State of Infrastructure and Infrastructure Investment Levels in Kaduna State



Infrastructure is critical to the growth and development of any economy, hence the need to invest in infrastructure for decent job creation and sustained economic growth. It is also pertinent to note that infrastructure is central to global goal of ending extreme poverty and increasing shared prosperity. Building and maintaining a sound national and/or sub-national infrastructure, however, comes at a high cost. According to the NPC (2014), in contrast to the international benchmark of 70%, Nigeria's core infrastructure stock is estimated at only 35 – 40% of GDP, the equivalent of less than US\$100 billion in 2012<sup>1</sup>. Paucity of infrastructure has been attributed largely to historically low public and private spending on infrastructure.

Kaduna, the “Centre of Learning” as it is popularly called, has been a very important State in Northern Nigeria. The State prides itself as an agricultural and industrial hub in the Northern Nigeria but maximizing

<sup>1</sup> Nigeria Integrated Infrastructure Master Plan, Ministry of Budget & National Planning, 2014

its potentials in this regard has been a great challenge because of poor infrastructure. Also, the five-year State Development Plan, 2016 – 2020 which has its foundation in the Kaduna Restoration Master-plan with the banner “Lets Make Kaduna Great Again”, will not be achieved if the infrastructure in the state is not properly fixed.

Understanding the state of infrastructure in the State is germane to developing functional infrastructure that is capable of fuelling significant economic progress. This chapter, therefore, provides a review of the state of Infrastructure in the State, including the legal and regulatory frameworks, and highlights areas of possible reforms to spur infrastructure development. The key infrastructure areas have been grouped into two, namely:

1. Economic Infrastructure (Transport, Energy, ICT, Water, Agriculture & Mining, Housing); and
2. Social Infrastructure (Health and Education)

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## 2.1 Economic Infrastructure

The Economic Infrastructure covers: Transport; Energy; ICT; Water and Sanitation; Agriculture and Mining; and Housing). These infrastructure types have direct impact on socioeconomic development of the State. The state of these infrastructure are discussed below.

### 2.1.1 Transportation

Kaduna State is uniquely situated to service all the other Northern States and the Federal Capital Territory. The State is, thus, accepted to be a trade centre and a major transportation hub in the country. In

playing this role, it has a network of roads that links it with other parts of Nigeria. These are the Kaduna-Abuja road (linking it to the Southern parts of Nigeria), the Kaduna-Zaria-Kano road and Kaduna-Saminaka-Jos road, linking the State to the North. While some of these roads are well-maintained, many others need significant attention in order to keep the State well-connected to all parts of Nigeria.

Transportation has been adjudged a major priority for the socioeconomic development of Kaduna State. As noted in the SDP: “Transport is a high potential sector that

could help Kaduna transform its economy.” Careful planning and necessary investment is required to achieve this dream and enable Kaduna State to effectively serve as the logistics and transport hub for the north with an increasing regional flow of people and goods through the State. Tackling the transport infrastructure is essential as an agent of growth, poverty reduction and sustainable human development in the State

Figure 2.1 provides a general overview of the types of road infrastructure in Kaduna State. In specific terms, the State has a total of 1,573.90km of federal Roads out of which only 29.45% (463.50km) are in good condition, 64.25% (1,011.20km) are in a fair state while 6.30% (99.20km) are in a poor State (see Figure 2.2). It is noteworthy that nearly 700km of the Federal roads in Kaduna State are dual carriageways.

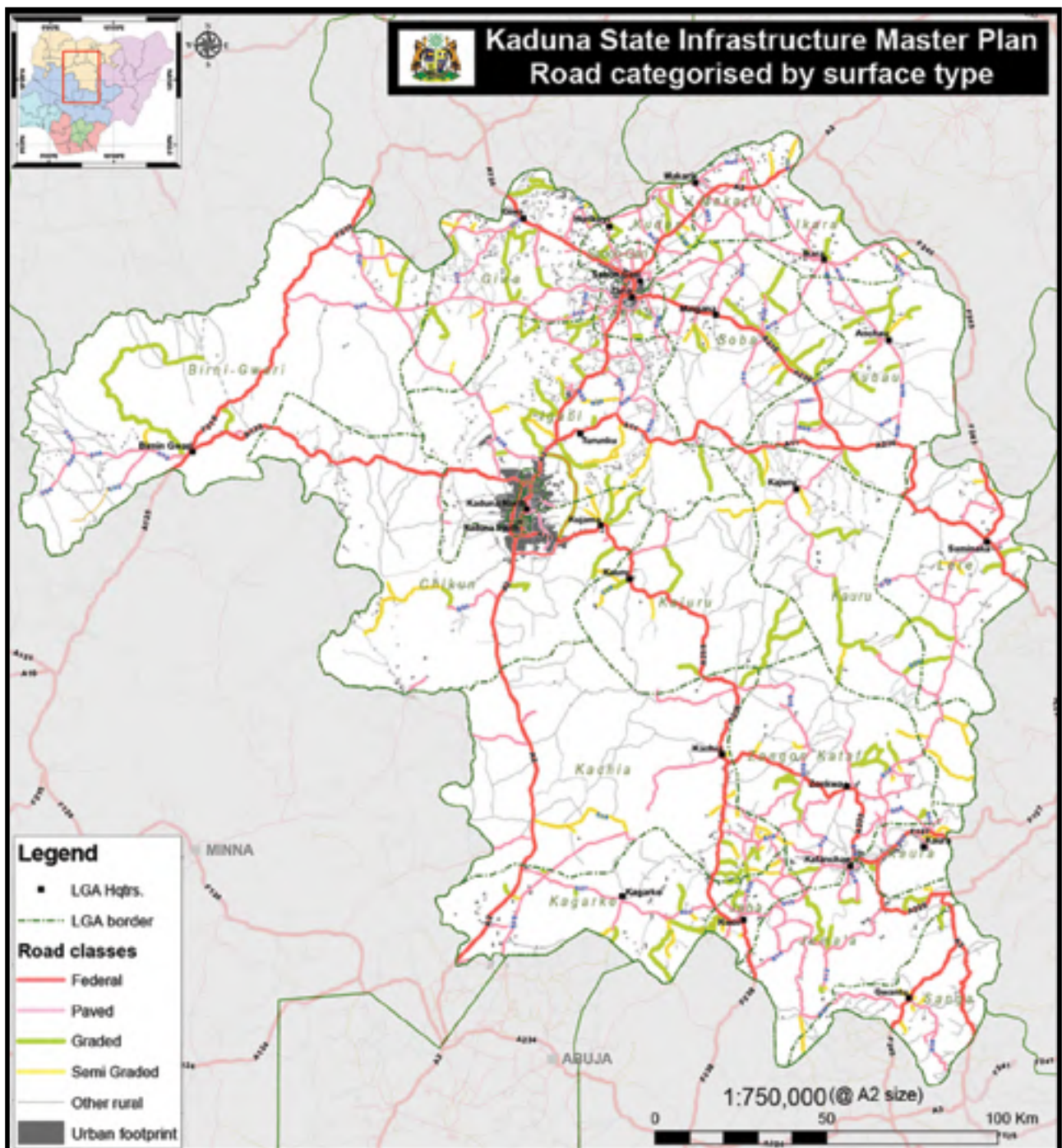


Figure 2.1: Kaduna State roads classified by surface type (2016)

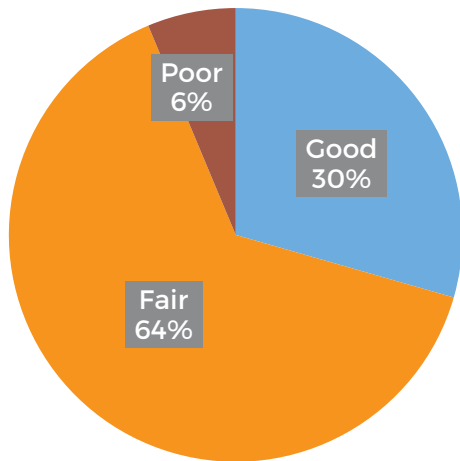


Figure 2.2: State of Federal Government Roads in Kaduna State

Source: KADIMP TWGs Report

The State has a total of 2,133.59km of roads, out of which only 49.20% (1,049.72km) are in good state, 22.09% (471.25km) are in fair state and 28.71% (612.63km) are in a poor state (Figure 2.3). Out of the total State roads, 66.87% (1,426.79km) are paved (AC/SD) while the remaining 33.13% (706.80km) is earth road.

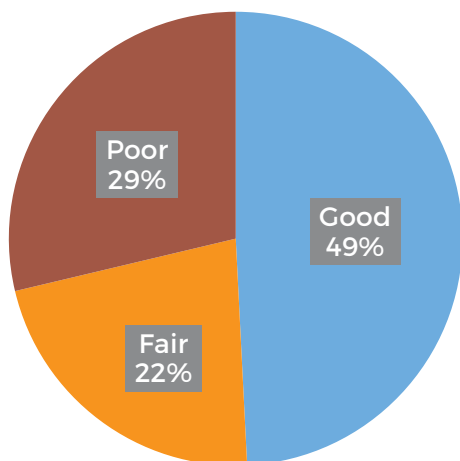


Figure 2.3: Condition of State Roads in Kaduna State

Source: KADIMP TWGs Report

The State also has a total of 3,110.43km of Local Government roads (Figure 2.4). Out of this, only 3.35% (104.20km) is paved road (SD Road) while 96.65% (3,006.23km) is earth road.

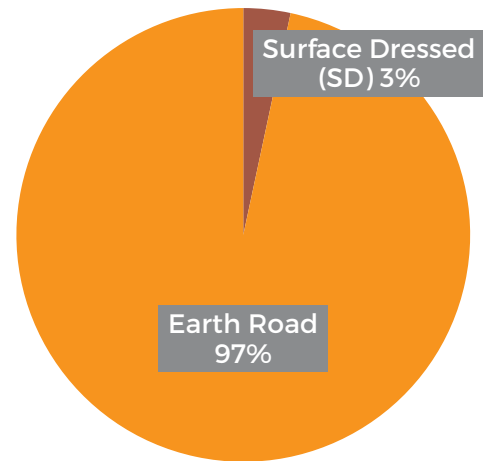


Figure 2.4: State of Local Government Roads in Kaduna State

Source: KADIMP TWGs Report

The Federal roads within the state are in a fairly good condition with the exception of a few. Most of the State Government roads connect major towns and Local Government headquarters and their conditions are also fairly good. Local Government roads are feeder roads that link rural communities with themselves and with urban centres. Most of these roads have deteriorated badly and this has severely affected the economic life of the people as their farm produce cannot be transported to urban centres where they can be sold at good prices. This has increased post-harvest losses, further impoverishing the people, especially the farmers.

Kaduna State is heavily dependent on road freight movement that has formed an essential life-blood of the economy. Imported second-hand heavy-duty vehicles that are frequently poorly maintained and as a result are highly polluting add to the growing congestion on urban roads. These have also added to the quick dilapidation of most roads, not just in Kaduna State, but across the country. One possible option is the use of bypass roads around the main urban centres that will reduce the number of heavy-duty vehicles that traverse the

urban roads. Furthermore, in line with international best practice, there is need for a deliberate shift from freighting heavy-duty goods through roads towards using the railway transport system.

Kaduna has long been an important hub in the country's narrow railway gauge network, serving as a junction for the Kano-Lagos Western Line and the Eastern Line. The concession of the US\$2.2 billion rehabilitation of the 3,500km of the existing rail network, including providing rolling stock and managing the railway, is currently being negotiated by the Federal Government with the single bidder, a multinational consortium led by America's General Electric. While the existing railway is currently not competitive with road in terms of travel time, efficiency can be expected to improve with the opportunity to shift long distance large bulk freight from road to rail.

Rail is an energy efficient and sustainable form of transport but inflexible so transfer between rail and road freight will be critical. In this respect Kaduna is likely to benefit greatly from the upgrading of existing Inland Container Depot (ICD) to a Dry Port that can accommodate 5,000 containers and could employ up to 6,000 people. This will provide a key link for Kaduna to global supply chains. The current administration has underscored the fact that the ICD in Kaduna will go a long way in ensuring the government's vision of leveraging Kaduna's proximity to Abuja to become a major transportation hub for the access to Northern Nigeria's population and markets becomes a reality. The State Government is supporting the ICD by providing the enabling environment for the project to succeed as well as building a transit park in Kaduna for heavy-duty vehicles.

The completion of the Abuja-Kaduna standard gauge rail link was completed in 2016 with passenger services now operating between the two cities. Work has commenced on the ₦458 billion, 156km double line link between Lagos and Ibadan. These two rail lines will form part of the planned Lagos-Kano standard gauge line and arrangements are being finalized to start the construction of the Kaduna-Kano rail line. These various infrastructure investments will definitely further strengthen Kaduna's pole position as a railway hub in the country, with the attendant socioeconomic benefits that include economic integration, job creation, and increased economic activities for the State. This is especially so as there are expectations that these rail lines passing through Kaduna will be further extended to core Northern States and deepening the trade route link with Niger republic, Cameroun and Chad.

Ultimately, all urban roads and a large part of the rural road network, particularly those linking the growing market towns to the farming hinterlands and to the major cities, need to be paved and well maintained for all weather use. Such rural-urban linkages will be essential in ensuring the State achieves its full potential, especially in agricultural productivity and food security. Currently, all-season roads are only accessible to about half of the population and the 470km roads improved under the World Bank-supported RAMP programme are laterite and not durable without continuous maintenance. **See Appendix 1 for details on access to motorable roads in Kaduna State.**

### 2.1.2 Energy (Power)

Kaduna State, like other states in the federation, suffers serious problem of electric power supply due to challenges faced with

generation, transmission and distribution. In Kaduna State, the power distribution network is fair in the cities but grossly inadequate in the rural areas (Figure 2.5). However, locations that are adequately connected cannot be guaranteed of 24-hour power supply. Hence, just like the rest of the nation, there is high dependence on privately-owned electric power generators. An estimated 28.7 per cent of the Kaduna

State population does not have access to electricity supply while the proportion without access in urban and rural areas showed significant disparity at 3.3 per cent and 34.8 per cent, respectively (Table 2.1). Rural electrification has remained fairly insignificant as only 1.5 percent of the rural population relied on electricity supply through this channel.

**Table 2.1: Sources of Electricity in Kaduna State (%)**

Local Government	NEPA/PHCN Kaduna Electric	Rural Electrification	Private Generator	Solar Power	None
State	68.7	1.2	5.7	0.2	28.7
Urban	96.7	0.3	4.5	0.3	3.3
Rural	62.1	1.5	6.0	0.2	34.8
Zone 1 (North)	66.6	0.0	6.6	0.2	32.2
Zone 2 (Central)	81.6	3.6	3.1	0.1	15.5
Zone 3 (South)	59.0	0.3	7.3	0.4	37.5

Source: Kaduna State General Household Survey 2015

**Note: See Appendix 2 for details.**

The state will work towards making electricity available to 80 per cent of urban settlements including commercial and industrial consumers, 75 per cent of schools and primary health centers, and 60 per cent penetration of electricity to rural and semi-urban communities by 2019. The State also intends to focus on tapping renewable energy sources by forging partnerships with

the Private Sector. The state will pursue rural electrification through off-grid solutions (stand-alone mini grids and IEDNs as applicable). To achieve these objectives the state is developing a portfolio of projects with financially sound off-takers and utilizing a mix of public and private finance. **This process is led by the Kaduna Power Supply Company (KAPSCO)**



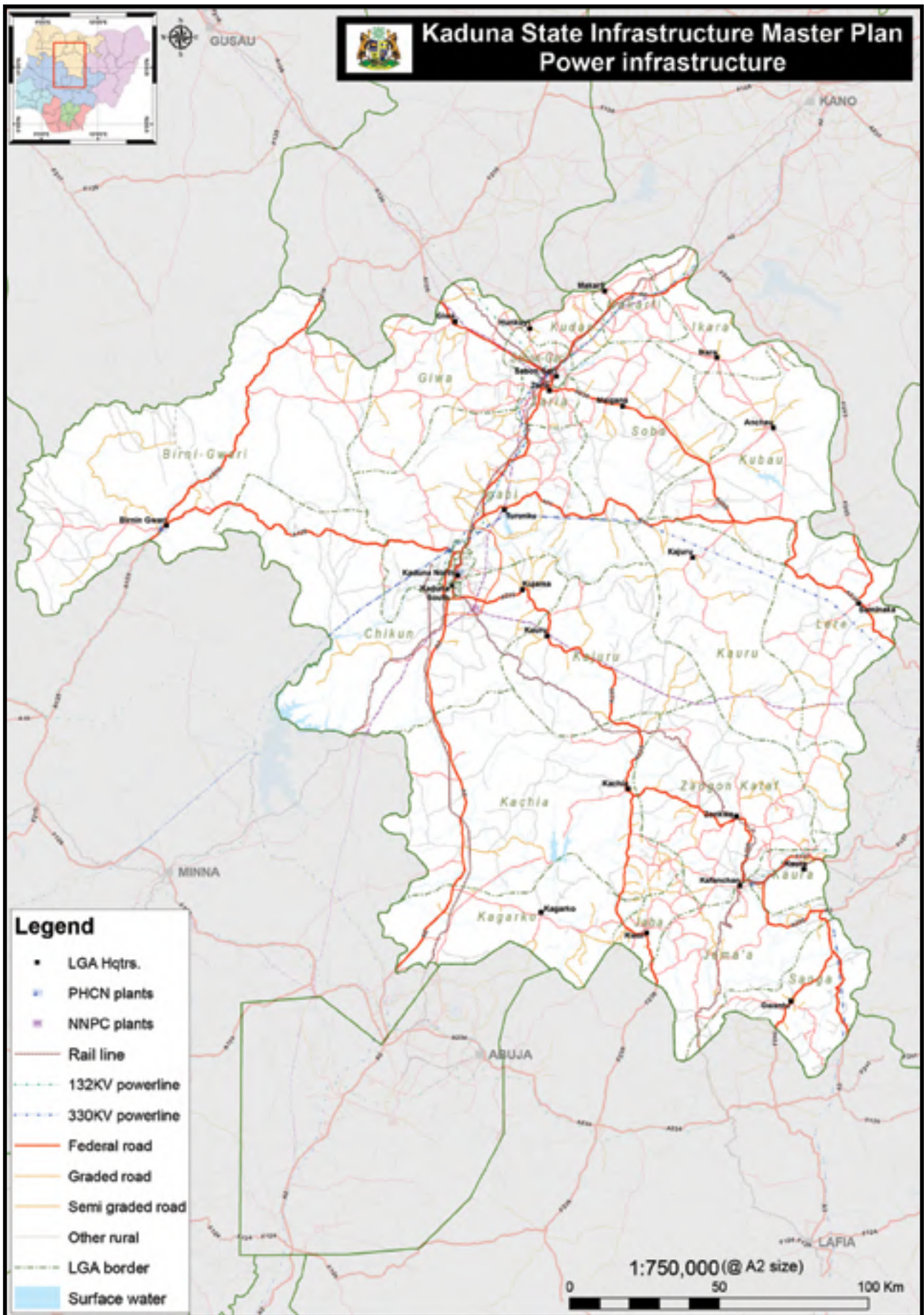


Figure 2.5: Kaduna State power infrastructure

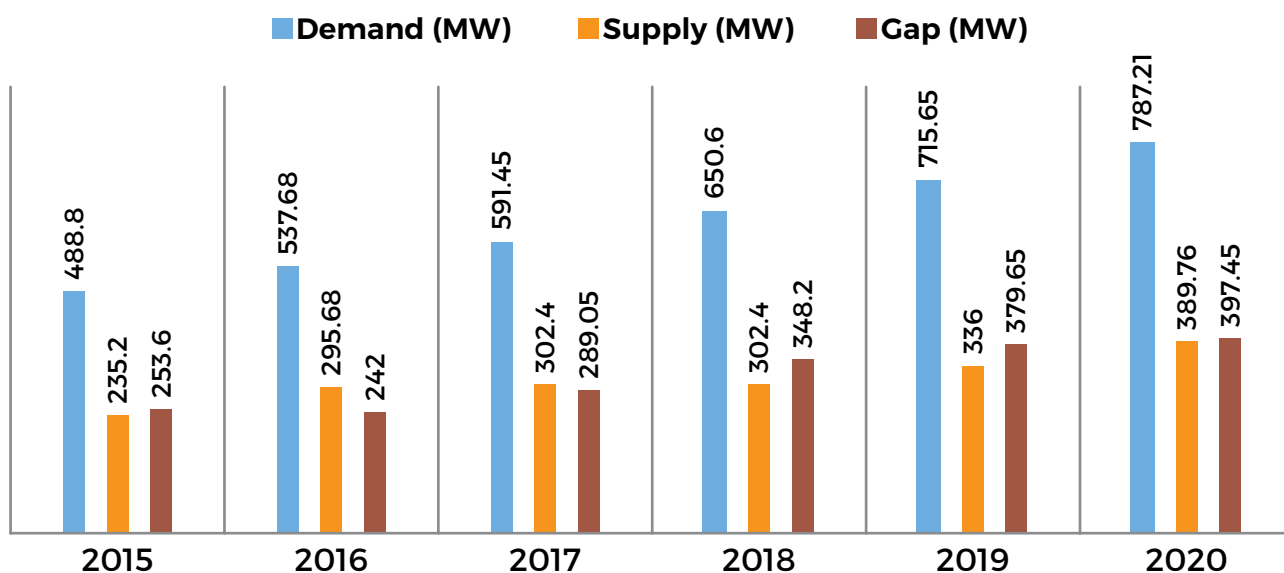


Figure 2.6: Kaduna State Energy Demand/Supply, 2015 - 2020

Source: Kaduna State Power Sector Implementation Plan

Figure 2.6 shows the estimated demand/supply gap for Kaduna State from 2015 to 2020, which ranges from 253MW to about 400MW.

The power sector infrastructure policy thrust is to improve power supply to Kaduna residents, recognizing the critical role of power infrastructure to the socioeconomic development of Kaduna people and the economy. Some of the priority strategic areas that will be addressed as part of the infrastructure development under the auspice of the ongoing power sector reforms include the following: (a) provision of electricity to all local government headquarters and major towns by 2019/2020; (b) provision of electricity to all 255 primary health centers; (c) create mini-grid framework for deployment of renewable energy in rural and semi-urban areas especially those not covered by the national grid; and (d) roll out of off grid / solar energy infrastructure in rural and in remote areas.

### 2.1.3 Information & Communication Technology (ICT)

Globally, Nigeria is among the top 10 economies with highest growth rates

in number of ICT users in 2015 with 87 million Internet users (UNCTAD 2017). The employment in ICT services stands at 1% of total employment as compared to South Korea (3%), Brazil (1.3%), and India (0.8%). In the World Economic Forum 2016 Global ICT Report, Nigeria ranks 119th out of 143 in the Overall Networked Readiness Index. This shows existing gap as a large proportion of Nigerians live in rural areas and most of these rural communities do not have access to basic ICT services. Most broadband operators do not consistently offer 256 kpbs connections and service reliability remains poor. Also, many urban areas are either not served or underserved. The good news, however, is that Nigeria reached full mobile coverage in 2016.

According to the GDP Report of Kaduna Bureau of Statistics, the telecommunication sector in 2015 contributed 15% of the State GDP which recorded a growth from 13.84% in 2014. The supply of graduates of ICT is expected to increase two fold in next 5 years. The sector is also expected to create more jobs. At present the neighbouring States depend largely on Kaduna State to provide them with IT services.

Since the telecommunication sector is private sector-driven, the State will partner with the telecom companies to expand coverage to the rural areas with focus on expanding internet usage in the rural areas as ICT is the future of development. IT infrastructure across the State is being improved so as to improve connectivity and communications across the State.

Information and communication technologies (ICTs), e-commerce and other digital applications are being leveraged to promote entrepreneurship, job creation and , creativity and innovation. Private sector-driven initiatives like CoLAB and the Kaduna ICT hub are typical examples. Both ICT outfits have the potential to be regionally and globally competitive.

## Box 2.1: Fostering strategic partnerships for software developers in Africa

CoLab is Kaduna's first innovation hub and collaborative community for start-ups, innovators, creators and entrepreneurs. It has 3 startups in incubation namely Payant (enables payments from anywhere in the world, automation of sales and invoicing easy); SchoolMo (a school management performance programme); and eCredit (an online micro-loaning service). A fourth start up Manoma is due for incubation and this is an AI-powered solution that assists farmers to sell their produce as well as to purchase inputs. Within one year the results show that Payant has processed over ₦100,000,000 worth of payments, SchoolMO has over 80,000 paying customers and through eCredit loans to the tune of ₦1,500,000 have been advanced with minimal defaults. It is building partnerships with local and international companies in the Tech space including Google and Facebook.

The Kaduna ICT hub is a hub for entrepreneurs, software development, testing and training. The hub focuses on cutting edge technologies such as Blockchain IoT and AI. The training

programme at Kaduna ICT hub is in collaboration with Coders4Africa one of the largest network of African software developers and IT software outsourcing companies and a partner company GEBEYA IT services marketplace in East Africa. The hub has trained 23 software development trainers including engaging in a student exchange programme with its strategic partners GEBEYA in East Africa. After only six months of operation KAD ICT Hub has provided digital literacy classes to more than 300 Kaduna residents mainly the youth on digital literacy, web development and other software related courses. It has also partnered with Google, the State Government and Samsung in its training programmes. It has helped Alliance forge alliances between Nigerian academic institutions including Ahmadu Bello University, Kaduna State University, University of Maiduguri, Yobe State University and US academic institutions including Drexel University, Temple University, North Carolina State Agricultural and Technical State University and University of Pennsylvania (through their Pennovation Center).

## 2.1.4 Water & Sanitation

Water and sanitation is very critical to the health and productivity of the people. The Estimated water demand in Kaduna State is put at 751 mld and current service coverage represents 23 per cent of the State's population. There are five existing dams built and owned by the State Government mainly for water supply and irrigation. These are:

1. Kangimi dam of 58.5 million cubic meters (mcm) for Kaduna town;
2. Shika dam of 15.3 mcm for Zaria Water Supply;
3. Bagoma dam of 3.95mcm for Birnin Gwari Town;
4. Gimbawa dam of 3.0mcm for Ikara town;
5. Saminaka dam of 0.5mcm.

The State has twelve waterworks for the supply of potable water to nine urban centres in the State (Figure 2.7). The current supply capacity of the water works is 380.80mld of water, while the requirement for the urban centre is 540.25mld. Actual production from the twelve water works has dropped to about 171mld from the 380mld available capacity due to erratic power supply and worn out equipment. The low production level coupled with inadequate capacity has resulted in service coverage of only 32% for the cities. This implies that only 32% of the urban population is receiving potable water from the municipal water supply system daily (see Appendix 3 for details of percentage of population and their access to different sources of water supply).

The Semi-Urban Water Supply Programme of the State provides potable water to all Local Government Council Headquarters. There are 27 Semi-Urban Water Supply

Schemes with two still under construction at Gure (Lere LGA), and Meyere (Makarfi LGA). Semi-Urban Water Supply Schemes are operated by the Local Government Councils. It is estimated that less than 20% of the inhabitants of the semi-urban areas have access to potable water.

Rural water supply is catered through the sinking of boreholes as well as concrete and hand-dug wells. There are a total of 1,667 boreholes constructed by the Ministry of Water Resources covering all the 23 LGAs. In addition to these boreholes built by the Ministry of Water Resources, Water and Sanitation Project (WATSAN) has constructed another 400 boreholes. Only 20% of the boreholes constructed are active and productive. Service coverage is, therefore, estimated at only 11%. Overall, there is an acute shortage of water in adequate quantity and in potable quality in Kaduna State. Streams and hand-dug wells are the prevalent sources of water that constitute more than 77% source of water supply. The supply of pipe borne water in urban and semi urban towns is erratic or non-existent. Water supply coverage in the State stands at about 23% of the total population.

Efforts will be intensified to ensure supply of potable water to all households in the State both in the urban and rural areas. Treatment plants will be built around the existing dams and distribution infrastructure will be put in place to achieve this goal. Also, many more motorized (solar-powered) boreholes will be sunk in some of the remote areas to ensure that every citizen of Kaduna has access to clean drinking water.

In terms of sanitation, there are drainages in some parts of the urban areas of the State (see Appendix 4 for types of drainage used by households). However,



Figure 2.7: Kaduna State Water Resources

some are in poor state due to inadequate maintenance. In the semi-urban and rural areas, drainages are inadequate and in some cases absent. This has potential of further damaging the roads and causing flooding. There are also cases of open defecation in most parts of the semi-urban and rural areas which could cause serious disease outbreaks and epidemics (see Appendix 5 for details on household by type of toilet facilities). Thus, water supply and sanitation infrastructure development and management becomes very imperative.

The importance Kaduna State attaches to water and sanitation impels the State to join the league of other 6 States in the country that are participating in the DFID/UNICEF Donor funded Sanitation Hygiene and Water in Nigeria (SHAWN II) Project. This is a tripartite collaborative water project between the State Governments and the development partners that involve cost sharing through counterpart funding. It aims to reach 7 million people in the 6 participating States by November 2018 with a view to reducing the transmission of faecal-oral diseases, improve health status and overall development of communities as well as strengthening water and sanitation-related service delivery systems. Implementation of this project commenced in Kaduna State in May 2014.

Through this intervention, the capacities of the executing agency – RUWASSA – and those of all the three targeted Local Governments – Chikun, Kubau and Kachia – have been undertaken. So far, Kaduna State has appropriated the total sum of ₦258 million as counterpart funding. By the first quarter 2016, 280 hand pump boreholes and 36 blocks of gender-sensitive ventilated improved pit (VIP) latrines have been provided. The good performance and commitment of Kaduna State to

this scheme has led to the upscale of the programme from the three participating Local Governments to additional 8 Local Governments. These are Kudan, Soba, Lere, Kajuru, Jema'a, Jaba, Zagon Kataf and Giwa. Thus, additional funding of ₦560 million was appropriated in 2016 as counterpart funds. This has helped in the construction of 227 hand pump boreholes, construction of 78 solar powered motorized boreholes, rehabilitation of 766 broken down hand pump boreholes and construction of 240 gender-sensitive VIP latrines. Igabi was added to the list of participating Local Governments in January 2017. Through an Executive order, the Governor of Kaduna State has directed that WASH departments be established in all the 23 LGAs of Kaduna State and this has been complied with, thus demonstrating the importance the current Administration attaches to water and sanitation.

Significant benefits have been reaped by the State through the water and sanitation infrastructure provided via this scheme. First, the number of additional people with access to water supply increased significantly to over 1,020,000. Second, WASHCOMs have been established in over 1,600 communities in the State. Third, certified open defecation-free communities have increased to over 600 with over 300,000 beneficiaries in these communities. Fourth, number of people with access to sanitation reached over 800,000. Lastly, the number of pupils, caregivers and markets with access to safe faecal waste disposal amounted to almost 40,000.

To further build on these achievements, the short-term strategic focus for the sector is to: increase access to water supply from 40% to 50% by end of December, 2019; develop and implement LGA-wide plans for elimination of open defecation in all the

23 LGAs in the State by December, 2019; eliminate open defecation in at least 3 LGAs by December, 2019; increase access and use of safe excreta disposal facilities from 38% in 2016 to 54% by December, 2019; and promote hygiene and effective hand washing behaviour from 47% to 70% by December, 2019.

### 2.1.5 Agriculture & Mining

For agricultural infrastructure, emphasis is on processing and storage as well as transport (rural feeder/earth roads). For Kaduna State to realize its ambition of being an agriculture hub in the country, a lot needs to be done to improve agriculture infrastructure in order to curb post-harvest losses being recorded by farmers. At the moment, most of the semi-urban and rural roads are earth roads which are in deplorable condition. This makes it difficult for transportation of farm produce to the towns and cities where they are in demand.

Furthermore, there is absence of storage facilities like silos, processing plants for storage of the produce which often result in huge losses to farmers. The existing silos built by the Federal Government has not been fully utilized. In this regard, the State Government will work towards constructing silos and processing plants in key agricultural areas of the State to boost agricultural production. Also, the State will partner the Federal Government to ensure full utilization of the existing silo which is built by the Federal Government. Enabling environment will also be provided for private sector to invest in the various agriculture value chains to make agriculture more profitable and productive. It is noteworthy that several private sector investors have started to take advantage of the enabling and facilitative role of the Kaduna State Government to invest in the State. For instance, Olam International has

committed over US\$150 billion to setting up state-of-the-art integrated animal feed mills, poultry breeding farms and a hatchery to produce day-old-chicks in Kaduna and Kwara States. The poultry feed mill has combined capacity of 720,000 metric tonnes of poultry feed annually with potential to create between 150,000 to 200,000 rural jobs. This is currently the largest direct investment in Kaduna State in decades. In terms of mining, Kaduna has a number of solid minerals which are untapped or being illegally mined with a lot of environmental hazards to the people. Kaduna State is highly endowed with mineral deposits that spread across almost all its 23 LGAs. Some of the identified mineral resources in Kaduna State that are found to be in commercial quantities include gemstones, industrial minerals, gold, cassiterite, tantalite, wolframite, columbite, manganese, molybdenum, lithium, and nickel. Currently, there are no less than 85 mineral exploration licenses, 40 Quarry licenses, 15 Mining Leases and 3 Small Scale Mining Leases within the state. There are claims that Birnin Gwari Local Government Area alone has significant gold deposits in commercial quantity. Going forward, the State will work with the Federal Government to ensure that mining activities are formalized and comply with international best practices that are environmentally friendly.

### 2.1.6 Housing

The housing sector in Kaduna State comprises modern houses in the well-laid out, fairly well-serviced and low density Government Reservation Areas, public and private estates in the key cities, and privately-owned houses in the medium to high-density urban and semi-urban areas. However, most of these locations are not adequately serviced by roads, potable water supply and electricity. Also, the quality

of houses in the rural areas are far from being of acceptable standards in the cities in terms of conveniences, road network, potable water and electricity supply. The major challenge of the housing sector in the State is adequate provision of standard housing to meet the needs of the increasing number of urban dwellers and to provide the infrastructure required to improve the living conditions of the rural dwellers (see **Appendix 6 for details on percentage distribution of types of housing units in Kaduna State**).

The current Administration is not oblivious of these challenges. Therefore, efforts are ongoing to expand access to affordable housing for residents. One of these efforts is to attract private investors and the forging of partnership by the Kaduna State Government with a private company to construct a 220 Housing Units in Millennium City in Kaduna North Senatorial District is one such example. The completion of rate of the project had reached 30 per cent by the end of 2016.

The State Government is also providing basic site and service infrastructure to ease the activities of private mass housing developers in the State. To this end, primary infrastructure are provided in new layouts to facilitate mass housing construction with

the private developers providing other requisite secondary infrastructure. This is in sync with the State Development Plan (2016–2020), which plans to construct at least 20,000 housing units within the Plan period. One interesting feature of this Plan is the geographical spread of the proposed mass housing units. It is planned that there will be 11 locations in Kaduna, 3 locations in Kafanchan and 5 locations in Zaria. All of these will be executed through the use of Public-Private Partnership framework. The State Government is also partnering with the relevant Federal Government agencies, especially the Federal Mortgage Bank of Nigeria (FMBN).

To further address the challenge of housing deficits in the State, many new layouts will be created around the city center and in all Local Governments of the State. Such new layouts will take cognizance of the existence of existing primary infrastructure and transportation nodes and planned infrastructure expansion. This will further increase the attractiveness of these housing projects to potential off-takers. To achieve these objectives, the Kaduna State Government is constantly looking for partnerships with innovative and cost-effective private sector housing developers to provide social housing for the poor and civil servants.

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## 2.2 Social Infrastructure

Social Infrastructure covers health, education, vital registration and security. These are often referred to as soft infrastructure which are equally significant for the growth and development of any nation or State.

### 2.2.1 Education Infrastructure

Kaduna State has 4,197 total public and private pre-primary and primary schools in 2015 with 421 and 331 junior and senior secondary schools, respectively (Figure 2.8). In recent times, there has been an increase



in private sector participation in providing educational services in the State. Total private schools increased from 1,018 in the 2014/2015 Kaduna State Annual School Census to 1,388 at the end of the 2015/2016 Census. With the introduction of the Universal Basic Education scheme (UBE), there is heightened demand for education by the various communities as evidenced

by the establishment and management of primary schools by some communities in the State.

The total registered students were over 2 million while teachers were a little over 65,000 at the end of 2015/2016 census (Table 2.2 and Figure 2.9). These figures indicate pupil - teacher ratio of 1:26.

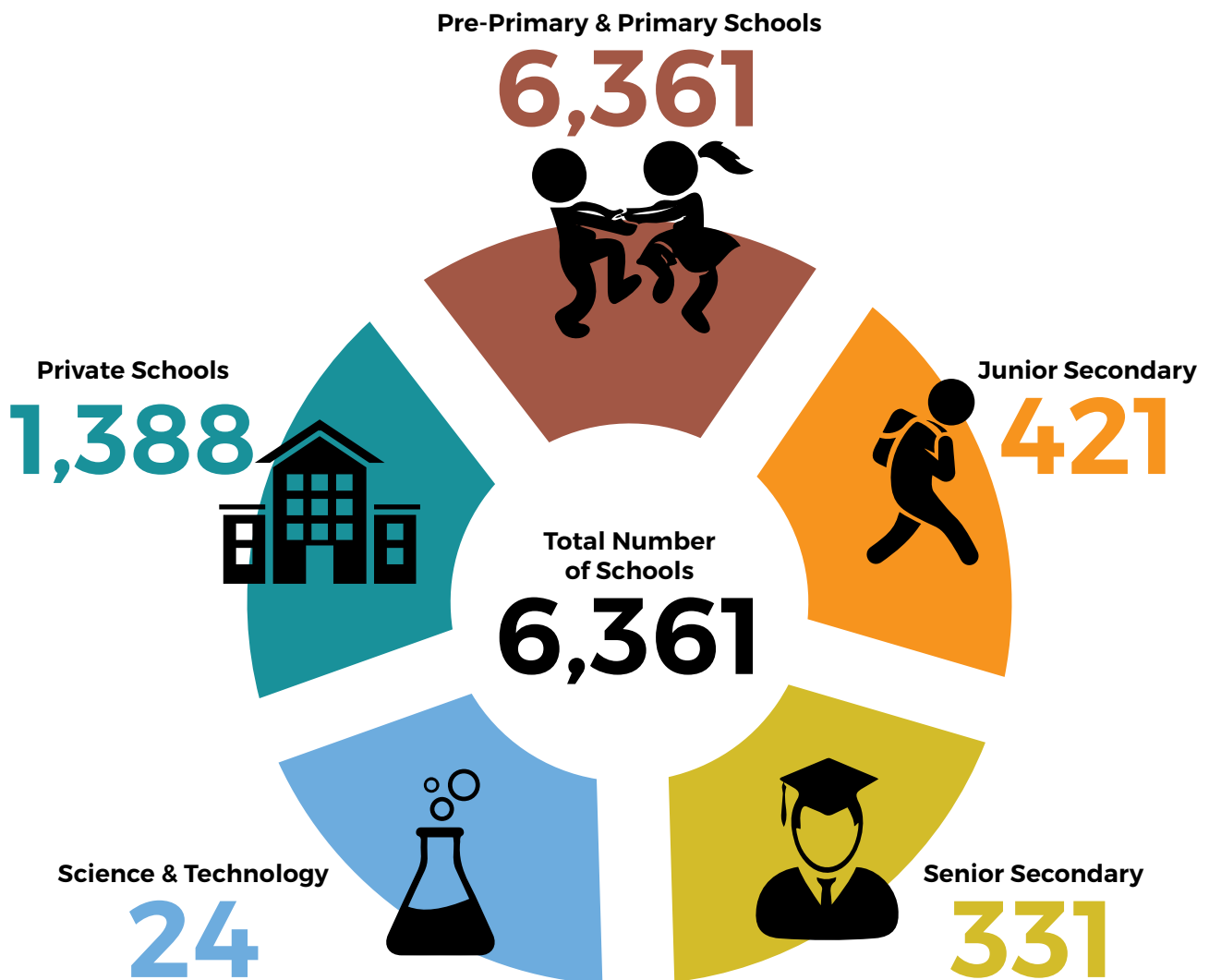


Figure 2.8: Total number of Schools in Kaduna State, by Education Levels  
Source: Kaduna State Annual School Census, 2015/2016

**Table 2.2: Total Number of Students and Teachers, by Education Levels**

	Students			Teachers		
	Total	Male	Female	Total	Male	Female
Pre-primary and Primary	1,737,572	912,732	820,640	31,251	16,544	14,707
Junior Secondary	256,310	140,088	116,222	6,181	3,782	2,399
Senior Secondary	131,712	72,343	59,369	5,662	3,729	1,933
Private Primary	76,799	39,652	37,147	13,546	4,807	8,739
Private Junior Secondary	46,214	22,054	24,160	5,344	3,333	2,011
Private Senior Secondary	15,404	7,277	8,127	5,840	3,556	2,284

Source: Kaduna State Annual School Census, 2015/2016

The figures for pupil – teacher ratios for the State are good. However, the ratios vary across the State, with rural ratios far worse than those of the urban. Also the level of qualified teachers to pupil ratio is considerably lower than those shown above (though this ratio is improving as a result of actions taken over recent years). Especially as we move up the grades to Junior Secondary School (JSS) and Senior Secondary School (SSS), there are severe shortages of teachers to teach particular subjects, especially the sciences.

There are also indications that students' progression from primary to secondary and secondary to tertiary is low and many children drop out of school when they complete primary and Junior Secondary Schools. In spite of this, the schools are pressured with a 'large demand' for educational services. This indicates that available facilities (especially classrooms

and teachers) to cater for current number of pupils and students are in short supply. Data available in the State Ministry of Education indicates that over 90% of children in Kaduna State are enrolled in public secondary schools. Only 10% attend private schools.

Kaduna State is indeed one of the most privileged States in Nigeria in terms of number and variety of tertiary institutions. The available tertiary institutions include National Institute of Transport Technology, Zaria, Civil Aviation Training College, Zaria and the Ahmadu Bello University Zaria, to mention a few. State-run tertiary institutions include: the recently established Kaduna State University; the State College of Education in Gidan-Waya; Nuhu-Bamali Polytechnic in Zaria; the State College of Nursing and Midwifery in Kafanchan; and the Shehu Idris College of Health Sciences and Technology in Makarfi.

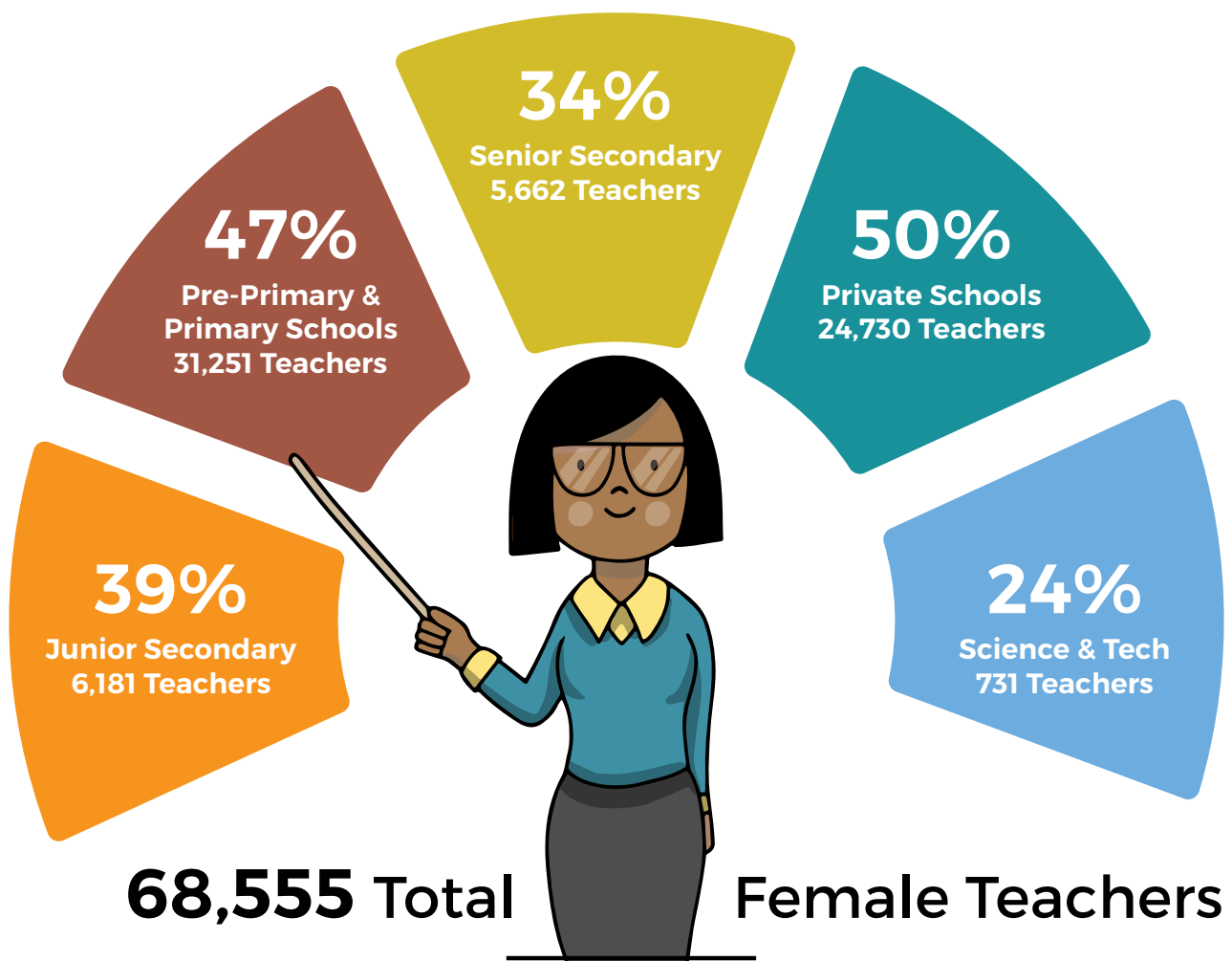


Figure 2.9: Number of Teachers by Gender  
 Source: Kaduna State Annual School Census, 2015/2016

These institutions provide access to tertiary education to the people of Kaduna State.

In addition to a number of Federal, State and privately-owned institutions, the State has a total of twelve Business Apprenticeship Training Centres (BATCs) in different locations. Women Training Centres are also established by the State and Local Government Councils to promote women empowerment and development. A total of 23 of such centres, one in each of the LGAs, are in operation in the State.

### 2.2.2 Health Infrastructure

The State has 23 hospitals and 3 dental centres, in 21 LGAs, except Sabon Gari and Kubau. The Federal Government also has specialized tertiary health institutions in the State. These are the Ahmadu Bello University Teaching Hospital, Psychiatry, Eye and Ear Hospitals among others. In addition, there are 608 Local Government health facilities which include Primary Health Centres (PHCs) and Health Clinics (HCs) and 656 private health facilities. These include private and faith-

based hospitals, clinics, laboratories and pharmacies and are spread across the 23 LGAs of the State. In addition, there are 2,500 registered Patent and Proprietor Medicine Shops caring for health needs of the people at local and community levels.

Health Care Services in the State are generally in short supply of specialists in medicine, pharmacy, laboratory science, x-ray, etc. Available statistics show that there are 133 doctors in the State service and 56 in private practice. Out of 133 medical doctors in the State service only 8 are specialists/consultants, 7 are dental surgeons and the remaining 118 are general medical practitioners.

The State Health Sector goal is to ensure all citizens of Kaduna state have quick and easy access to improved and affordable curative, preventive, rehabilitative and promotive health services. Kaduna State Policy on Healthcare focuses on key deliverables.

These include:

- Free healthcare for pregnant women and under-5 children, representing 40% of the population;
- Free malaria treatment and prevention for all;
- Other free services include: clinical consultation, counseling and testing for HIV, antiretroviral therapy and ambulance services;
- Other heavily subsidized services include: cost of drugs, haemodialysis, laboratory and catering services in hospitals.

The State has unacceptably poor health indices and heavy disease burden (Table 2.3). Leading causes of morbidity and mortality for under-5 children are malaria, diarrhea-related diseases, respiratory tract infections and childhood vaccine preventable diseases.

**Table 2.3: Selected Health Indicators in Kaduna State**

Infant mortality rate	103/1000
Maternal mortality rate	800/100,000
Under five mortality rate	170/1000
TB prevalence rate	4/1,000
HIV prevalence rate	5.1%
HIV prevalence rate among population	15 – 25 years – 4.5%
Fertility rate	6.1
Proportion of 1 year old immunized against measles	56.1%

Source: Sentinel Survey, 2010

## 2.3 Operations and Maintenance

Rapid infrastructure transformation in the State will require partnerships between the Federal, State and the Private Sector. Also, some existing legal and regulatory frameworks will need to be reviewed and some new ones put in place to achieve this objective.

### 2.3.1 Transport (Roads)

The Kaduna State Government will work with the Federal Government through the Federal Roads Maintenance Agency (FERMA) to repair and upgrade some of the Federal Roads in the State. In this regard, the State will identify some of the Federal roads that are in bad shape and renovate them with a view to being reimbursed later by the Federal Government. The State will also put in place a framework to upgrade most of the Local Government roads which are mostly earth roads to ensure that they are in sufficiently good condition for vehicles to pass during the rainy season. The State-owned construction company will also be strengthened to undergo construction and reconstruction as well as maintenance of many states roads.

Kaduna State Government has commenced a sequenced and prioritized actions for transport sector reform as well as institutional, regulatory and legal framework for managing the sector. It established the Kaduna State Roads Agency (KADRA) on June 15th 2017 through enactment of Law No. 9 by the House of Assembly. The agency has taken over the function of the Kaduna Public Works Agency (KAPWA) and the civil engineering department of the Ministry of Works. It is charged with the responsibility of: construction, upgrading, maintenance and rehabilitation of roads within the

State including project management and quality control; setting technical and other standards for roads and ensuring their implementation across the state; and coordination of feasibility and road design studies, and initiating and taking part in traffic studies and research. In addition the agency will establish and operate an information and management system for road transport. However, the operational model is that it will be run as a private sector business, using business processes and principles and ensuring the sector is opened up to competition with a view to promoting efficiency.

Another important regulatory and institutional development is the consideration for the establishment of Kaduna State Transport Authority (KASTA) to address the current multiplicity of agencies in the sector that has resulted in overlapping roles in regulating transport activities. This agency will be responsible for the planning and regulation of urban transport services in Kaduna State with a view to delivering an efficient, reliable and affordable public transport system. It will achieve this by performing effective oversight function over private transport sector operators and setting standards for their operations. It will also take over all transport-related regulatory function in the State as well as safety, mass transit infrastructure development, as well as transport policy planning, design and implementation. Other important issues the evolving institutional, legal and regulatory framework will achieve for the transport sector are transport system integration, road asset management, public transportation, market entry regulation, quality regulation, service regulation, tariff regulation, and urban traffic management.

### 2.3.2 Energy

The Kaduna Energy policy 2015–2019 provides a framework for actions to address Kaduna State challenges in increasing power supply to its citizens and to commercial/industrial consumers to advance the economic wellbeing of the state. The underpinning principle for the policy is to ensure energy security for the state that will strengthen economic recovery and welfare of its citizens. Promotion of renewable energy solutions as a priority is key to the objective of ensuring energy efficiency through low cost and savings in energy utilization.

In addition, it will set targets for state achievement in improving access to electricity to 2019 as well as govern steps and guide cooperation required in preparing action plans to implement the policy direction. It will also facilitate the preparation of framework and initiatives for sustainable financing of energy projects especially through private sector intervention. Institutional capacity strengthening is underway for both the Kaduna Electric Distribution Company which is responsible for electricity distribution and the Kaduna State power sector regulator known as the Kaduna Power Supply Company (KAPSCO).

### 2.3.3 Information and Communication Technology

The Nigerian Communications Commission (NCC) is responsible for the regulation of telecommunication activities. The State will partner with the NCC to ensure that a conducive environment is provided for ICT penetration in the State.

The renewed effort of the State Government to revive the ICT

policy would also assist in positioning ICT investments at the center of the development agenda. The State Government is fast moving towards creating an enabling environment for software outsourcing companies and other start-ups that provide a variety of information technology services. The use of IT technology is spread?

### 2.3.4 Water and Sanitation

The Kaduna State Government has approved a Water Policy in line with the National Water Policy. The Kaduna State Water and Sanitation Law 2016 provides clear policy direction and opportunity for cost recovery, promoting the user pay principle to help in sustainability and inter sectoral coordination. There are plans to establish water and sanitation departments in local government areas to promote sustainability of services across communities. In addition, a robust sectoral database will be set up to facilitate informed decision-making.

### 2.3.5 Agriculture and Mining

The Kaduna Land Use Regulations, 2017 are derived from the Kaduna Land Use Act 2004, the Kaduna Geographic Information Service Law, 2017, the Kaduna State Designation of Land Areas Order, 2015 and the Kaduna State Tax Codification and Consolidation Law, 2016. The Kaduna Land Use Regulations, 2017, ensure transparency and equity in the processing and execution of all land-related applications and transactions by the Kaduna Geographic Information Service (KADGIS). KADGIS is part of the key policy reforms instituted during the current administration and aims at expediting all land-related processes and transactions as long as applicants comply with the rules of the land use related data that is contained in

the KADGIS Digital Data Repository for the administration of land-related activities in Kaduna State.

Operationalisation of the Kaduna Mining and Development Company (KDMC), which is the umbrella body overseeing mining activities in the State is underway with a clear mandate and effective management so as to ensure delivery.

### 2.3.6 Education

The Education Sector in Kaduna is undergoing major reforms in an effort to improve access to and quality of education at primary, secondary and tertiary levels. This is underpinned by the education sector policy while improvement of regulation of specific aspects is guided by various boards including the state universal basic education board (SUBEB); the Kaduna State Quality Assurance Board (KADSQAB); the Kaduna

State Teachers' Service Board (KSTSB); and the Kaduna State Private Schools Board (KSPSB).

### 2.3.7 Health

The health sector policy thrust is centered on ensuring access to quality health care services by all citizens of Kaduna through the formulation, adoption and adaptation of relevant policies for the delivery of quality sustainable health in the State with the nucleus being primary health care (PHC). The State Primary Health Care Development Agency (SPHCDA) oversees the primary health care system and is working on strengthening community linkages to health service delivery. Government will also put in place a framework to attract private investment in health development in the State as the Government alone cannot do it.

# CHAPTER 3

## Infrastructure Targets and Investments





### 3.1 Global Benchmarks for Infrastructure Stock

Stock and quality of infrastructure are critical ingredients for development in any economy. Adequate road networks, standard airports and modern ports for instance reduce transportation costs and enhance transportation. Also, High-capacity telecommunication networks facilitate fast communication and efficient flow of information. Availability of Pipelines for oil and gas ensure constant energy supply and improved export, while high power generation capacity and functioning transmission and distribution networks ensure improved production of goods and provision of services. These underscore the relevance of infrastructure the growth of the economy and the wellbeing of the population

usually increase a country’s competitive strength substantially and sustainably, especially if coming off a relatively low base. With economic performance more and more closely tied to global competitiveness, building infrastructure that meets global standards has become a primary requirement for achieving ambitious growth targets. According to international benchmarks, more developed countries typically have a “core infrastructure” stock<sup>2</sup> (roads, rail, ports, airports, power, water, ICT) equal in value to about 70% of GDP, with power and transportation infrastructure usually accounting for at least half of the total value (Figure 3.1).

Building and maintaining a robust national infrastructure comes at a high cost but

<sup>2</sup> Nigerian Integrate Infrastructure Master Plan (NIIMP) Published by Ministry of Budget and National Planning in 2014

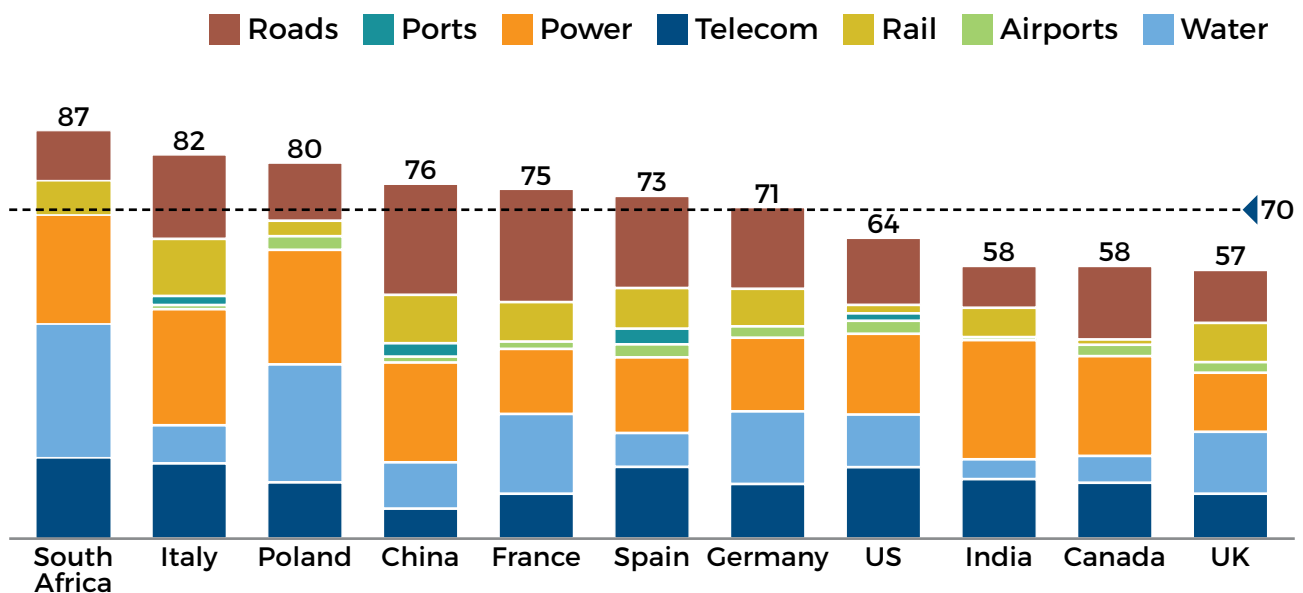


Figure 3.1: Overview of Total Core Infrastructure Stock per Country  
 Source: NIIMP, Ministry of Budget and National Planning, 2014

## 3.2 Kaduna's Infrastructure Targets, 2018-2050

According to the 2014 NIIMP Report, Nigeria needs to spend an estimated \$3 billion annually over a period of 30 years in order to fund the infrastructure needs of its growing economy. This investment will allow Nigeria to close its infrastructure gap both in core asset classes (bringing it to the desired 70% of GDP level) and in other key asset classes. In order to close the current infrastructure gap and reach the desired total investment levels, Nigeria

must aggressively increase infrastructure spending as a percentage of GDP. Spending will need to ramp up fairly quickly, from the current 3-5% to an average of 9% over the 30 year period.

Based on the NIIMP goals and targets, the total infrastructure investment requirement for each region for 30 years (2014 to 2043) is as shown in Figure 3.2 below:

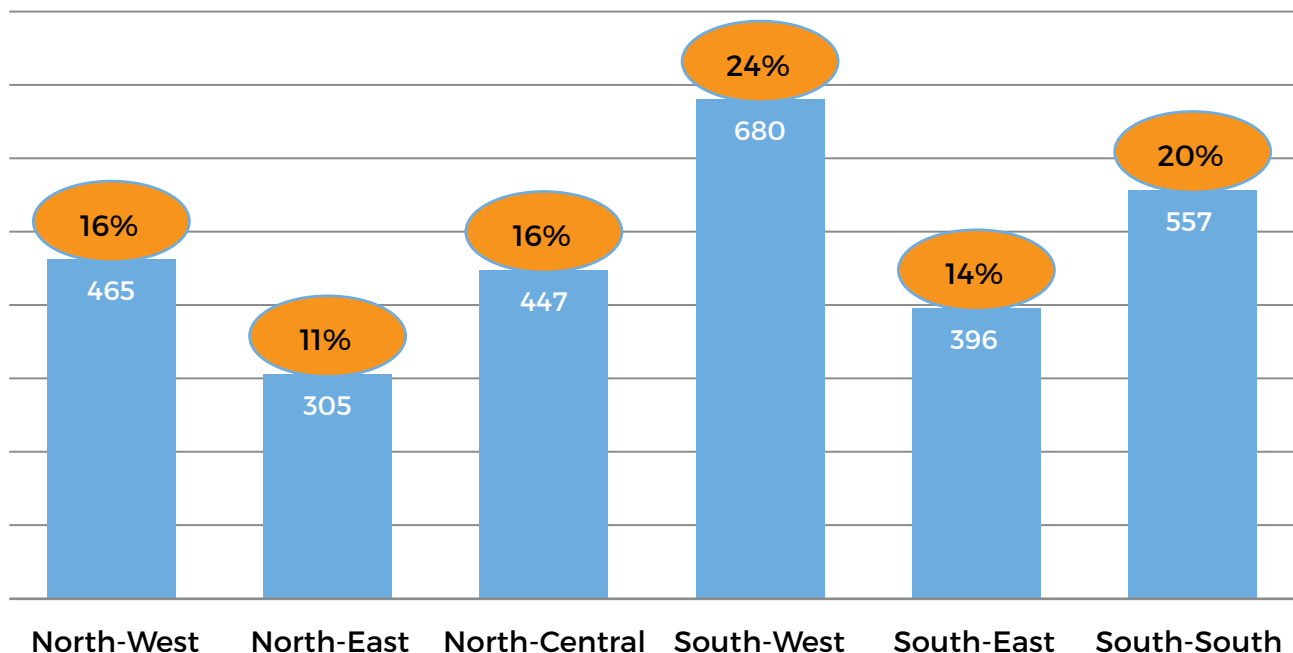


Figure 3.2: Nigeria's Infrastructure Requirement by Region

Source: NIIMP, Ministry of Budget and National Planning, 2014

Kaduna State is one of the States in the North-West Region that needs to contribute 16% of the total infrastructure requirement for the country over 30 years. To achieve this aspiration and Kaduna State's Medium to long-term goals, the State must set for itself high infrastructure targets and make commitment towards achieving them. Some of the Key infrastructure requirements and targets for the State

during 2017 – 2050 are presented along the key critical sectors of the economy as follows (Table 3.1):

- Transportation
- Education
- Health
- Water and Sanitation
- Agriculture

**Table 3.1: Selected Infrastructure Targets in Kaduna State, 2018 – 2050**

Infrastructure	Baseline	2023	2028	2038	2042	2050
<b>Transport</b> (Kilometres of State and LG Roads)	7,900	10,000	11,750	15,250	16,650	19,450
<b>Housing</b>	N/A	60,000	110,000	210,000	250,000	330,000
<b>Education</b>						
Pry & Sec. Schools	4,536	5,500	6,200	7,100	8,200	9,000
Tertiary Schools	3		4		5	6
<b>Health</b>						
Tertiary Health Facilities	1	2	3	4	5	6
Secondary Health Facilities	32	32	40	55	62	69
Primary Health Clinics	1,068	1,152	1,222	1,362	1,446	1,530
<b>Water</b>						
Boreholes	2,067	2,247	2,397	2,697	2,917	3,057
Dams	5	6	8	10	11	12
Treatment Plans/ water works	12	13	16	18	20	23
<b>Agriculture</b>						
Silos (20,000MT Capacity)	1	2	3	4	5	6
Processing facilities	N/A	3	6	12	20	23

\*Total (Public + Private Schools)

(See Appendix 7 on Methodological Note for details)

**Notes:** \***Housing:** The target is to build 5,000 units of mass/social houses annually across the 23 LGAs over the Plan period

\***Health:** Target is to have 6 PHCs in all the political 255 wards of the state to improve access to primary health

\***Water:** Target is to have at least twelve boreholes in each of the 23 LGAs

### 3.3 Kaduna's Infrastructure Targets and Investment Requirements, 2018 -2050

According to the Kaduna State Population Dynamics Report, 2016/2017, the State's population is estimated at 8.63 million in 2017 with an average population growth rate of 3.18 per cent. With this trend, the population is expected to hit 21,442,241

by 2050. At present there is a huge infrastructure deficit that is expected to be bridged given the level of inadequacy of existing infrastructure. Added to this is the need to ensure infrastructure provision subsequently keeps pace with the demands

for them as a result of the growing population. This will require reforms as well as huge financing, which government alone cannot provide. In order to bridge the existing infrastructure gap in the State, the Government will leverage its own funding as well as funding from the Federal Government as well as private sector and international development community. Some of the key targets for the critical infrastructure in the State are presented in

the subsequent subsections below.

In sum, the total projected expenditures for core infrastructure development interventions in transportation, education, health, water and sanitation, and agriculture amount to ₦20 trillion over the Plan horizon covering 2018 – 2050. And operations and maintenance should fall within the range of 20% of capital expenditure.

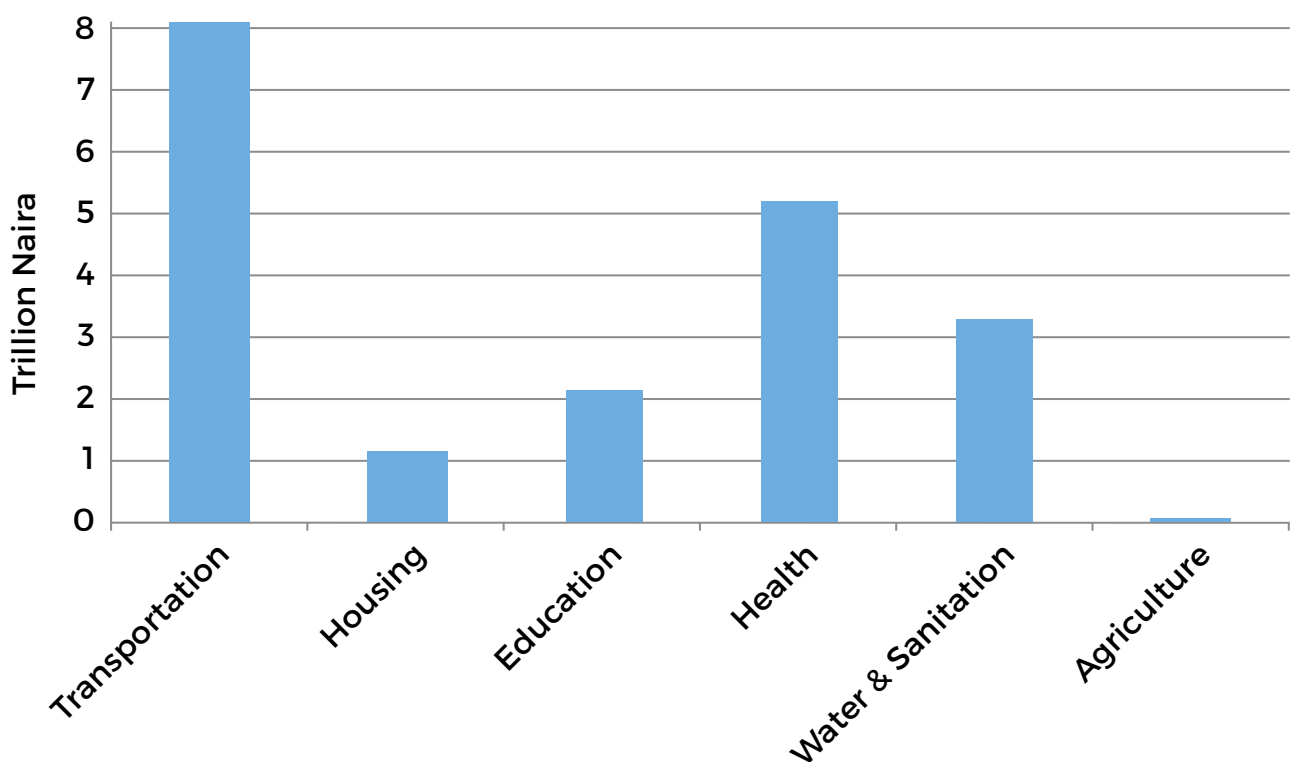


Figure 3.3: Projected infrastructure spending on core sectors, 2018-50

Source: Own estimations. Expenditure on roads in Agriculture is captured under Transportation.

### 3.3.1 Transportation

In total, Kaduna State has a total road network of about 9,500 kilometers. Out of this is a total of around 1,573kms of Federal Roads, 2,200kms of State Roads and 5,700kms of Local Government Roads. Of the Federal Government Roads, 29.45%

(463.50km) are in good condition, 64.25% (1,011.20km) are in a fair state while 6.30% (99.20km) are in a poor State. Also, nearly 700km of the Federal roads in Kaduna State are dual carriageways. The roads constructed by the State amount to a total of 2,133.59km, out of which only 49.20% (1,049.72km) are in good state, 22.09%

(471.25km) are in fair state and 28.71% (612.63km) are in a poor state. Out of the total State roads, 66.87% (1,426.79km) are paved (AC/SD) while the remaining 33.13% (706.80km) is earth road.

In the short to medium term (5 – 10 years), the target will be to renovate all the existing State Government roads and upgrade some of the earth roads to paved status. In the long run, the target is to leverage Federal Government roads expansion projects and private sector investments to pave all the State roads and expand existing paved roads where necessary. Also, special focus will be paid to creating access roads to mining sites, agricultural hubs and other industrial clusters in the state to boost economic activities for increased job creation for the teeming youth population. Overall, a total of ₦8.09 trillion (₦245 billion annually) will be required to address the roads renovation, construction and expansion envisaged in the State during the plan period.

### 3.3.2 Housing

Kaduna obviously has a huge housing deficits judged by the existence of slums in the State capital and major towns in the State. To address this phenomenon, the Government will open up new layouts across the LGAs of the State and provide the needed infrastructure to encourage the private sector to provide affordable housing for people. The Government targets construction of 5,000 housing units annually over the Plan period. This will be complemented by the Federal Government's Mass Housing Projects in States and private sector investments. An estimated cumulative investment of ₦1.16 trillion (₦35 billion annually) will be required to bridge the housing deficit in the state during the plan period.

### 3.3.3 Education/Schools

The existing capacity of the available schools in the State, both public and private pre-primary to secondary schools, which stood at 4,197 as at 2015 is grossly inadequate. In view of the number of out-of-school children and the population growth of the State, the number of the existing schools and classroom blocks need to be doubled to adequately cater for the school age children. The schools will be evenly spread across the political zones as well as wards in the State to ensure improved access to children of school age irrespective of their location. Furthermore, electricity and internet as well as modern learning gadgets would be provided in these schools to enhance learning. Similarly, all the existing tertiary institutions in the State will be renovated, expanded and equipped to provide the human capital needed in the State and its environs. It is expected that the private sector will complement the efforts of the State Government's in the provision of the required diverse educational infrastructure. An estimated cumulative investment of ₦2.15 trillion or annual investment ₦65.1 billion will be required to address the school infrastructure in the State.

### 3.3.4 Health

Kaduna State currently has six (6) Federal and one State-owned tertiary health care facilities, thirty-two (32) secondary health care facilities and one thousand and sixty-eight (1,068) primary health clinics. Most of these hospitals are either not fully equipped, not fenced or without cold rooms/stores for drugs and vaccines. The hospitals also do not have enough wards and equipment to provide the needed care to the citizens of the State. There is also a deficit of personnel, which requires upgrading of the medical schools of the State. The target for the tertiary health in the long run is to have

6 specialist hospitals, two (2) each in the three zones of the State, in addition to the State University Teaching Hospital. In the short to medium term, the target will be to improve the condition of the primary and secondary health facilities as well as the State University Teaching Hospital.

For Secondary Health, the target is to renovate, fence and equip all the 32 existing secondary health facilities in the State and thereafter establish new ones in areas that do not have any, taking note of geographical spread and distance from nearest existing health facility. Thus, at least three secondary health institutions per LGA is targeted. In the long run, there should be 69 well-equipped Secondary health facilities across the State to cater for the health needs of the people.

In the medium term, the target is to renovate all the 1,068 existing PHCs. The long-run target is to have 6 well-equipped Primary Health Centres each in all the 255 political wards of the State to improve access to primary health. Private sector will also be incentivised to build more hospitals. To provide the needed manpower, the existing Schools of Health and Technology and Nursing and Midwifery will be renovated, expanded and upgraded in the medium-term. In the Long run, the target will be to build additional ones to provide the needed manpower for the health care in the State.

Overall, total investment outlay of ₦5.23 trillion, translating into an annual investment ₦158.45 billion will be required to fix the health infrastructure of the State over the Plan period.

### 3.3.5 Water and Sanitation

Water is life because of its critical role in the survival of man and all living organisms. Its relevance to economic growth and development cannot, therefore, be overemphasized. Proper waste disposal is also critical for decent living as it will reduce epidemics, outbreak of diseases and flooding of settlements and farm lands.

The State currently has five dams and twelve waterworks for the supply of potable water to nine urban centres in the State. These facilities have a total supply capacity of 380.80 mld. This falls short of the requirement for the urban centre, which is expectedly 540.25 mld. Also, actual production from the twelve water works has dropped to about 171mld from the 380mld available capacity due to erratic power supply and worn out equipment. The low production level coupled with inadequate capacity has resulted in service coverage of only 32% for the cities. This implies that only 32% of the urban population is receiving potable water from the municipal water supply system daily.

The Semi-Urban Water Supply Programme of the State provides potable water to all Local Government Council Headquarters. There are 27 Semi-Urban Water Supply Schemes with two that are yet under construction at Gure (Lere LGA), and Meyere (Makarfi LGA). Semi-Urban Water Supply Schemes are operated by the Local Government Councils. It is estimated that less than 20% of the inhabitants of the semi-urban areas have access to potable water.

Rural water supply is catered for through the sinking of boreholes as well as concrete and hand-dug wells. There are a total of 1,667 boreholes constructed by the Ministry of Water Resources covering all the 23 LGAs. In addition to these boreholes

built by the Ministry of Water Resources, Water and Sanitation Project (WATSAN) has constructed another 400 boreholes. Only 20% of the boreholes constructed are active and productive. Service coverage is, therefore, estimated at only 11%. Overall, there is an acute shortage of water in adequate quantity and in potable quality in Kaduna State. Streams and hand-dug wells are the prevalent sources of water that constitute more than 77% source of water supply.

The supply of pipe borne water in urban and semi-urban towns is erratic or non-existent. Water supply coverage in the State stands at about 23% of the total population. To bridge this gap, as a short-to medium-term measure, the existing dams, waterworks and distribution lines will be renovated for improved access. In the semi-urban and rural areas, more boreholes will be sunk. In the long term however, the target will be to ensure that the existing dams are renovated and expanded and treatment plants built to ensure that all the local governments and communities have access to potable water

In terms of Sanitation, most drainages in the city center and other urban and semi-urban centers have collapsed. Most of the semi-urban and rural areas do not have drainages and waste disposal facilities. Also, there are inadequate and in some cases complete absence of VIP latrines in public places and private homes. To address these, the target will be to rebuild the collapsed drainages and ensure that all public places including markets, schools, hospitals, etc, have decent toilets and waste disposal facilities in the medium-term. In the long run, all the urban and rural areas are to be properly drained and waste disposal facilities, including VIP toilets to be made available in public places. Also, all houses will be encouraged and

regulated to have decent latrines and waste disposal facilities.

Achieving the targets for the water and sanitation goals will require a total investment outlay of ₦3.29 trillion or annual investment of ₦99.70 billion over the Plan horizon.

### 3.3.6 Agriculture Infrastructure

Agriculture is one of the mainstays of the State and the major growth drivers. At the moment, there are inadequate road networks to move farm produce from the farm gate to the market. Also, there are no silos and cold rooms or even processing centres for effective storage and processing of farm produce which often leads to huge post-harvest losses. Currently, there is only one silo in the State and is owned by the Federal Government. Negotiations are ongoing to transfer the ownership of this silo to the State. In addition, access roads will be handled under road infrastructure while dam constructions and renovation will be handled under water infrastructure. Agriculture infrastructure will, therefore, be limited to provision of silos, cold rooms and processing centres.

The target is to have at least two silos/cold rooms of at least 20,000 MT capacity in each of the 3 senatorial zones of the State for enhanced storage of agricultural goods across the State. Also, the Plan targets to establish a processing centre in each of the 23 LGAs. These will be equipped with a multi-purpose threshing machine with an industrial weighing bridge for weighing farm produce. All these will expectedly be complemented by private sector investments. A total investment of ₦93 billion will be required for the proposed 6 silos and 23 Processing facilities over the Plan period.

## 3.4 Assessment of Current Infrastructure Budget Allocations

The total 2017 budget of Kaduna State was ₦214.9 billion, made up of ₦83.46 billion in recurrent spending and ₦130.35 billion in capital expenditure. This represents a capital to recurrent ratio of 61:39. The budget maintains the Government’s pro-poor approach where the focus is on

investing in capital and infrastructure capable of unleashing the potentials of the State. It also focuses on social sector spending with high potentials for improving the welfare of the people. For example, a total sum of ₦24.5 billion was planned to be spent on Infrastructure.

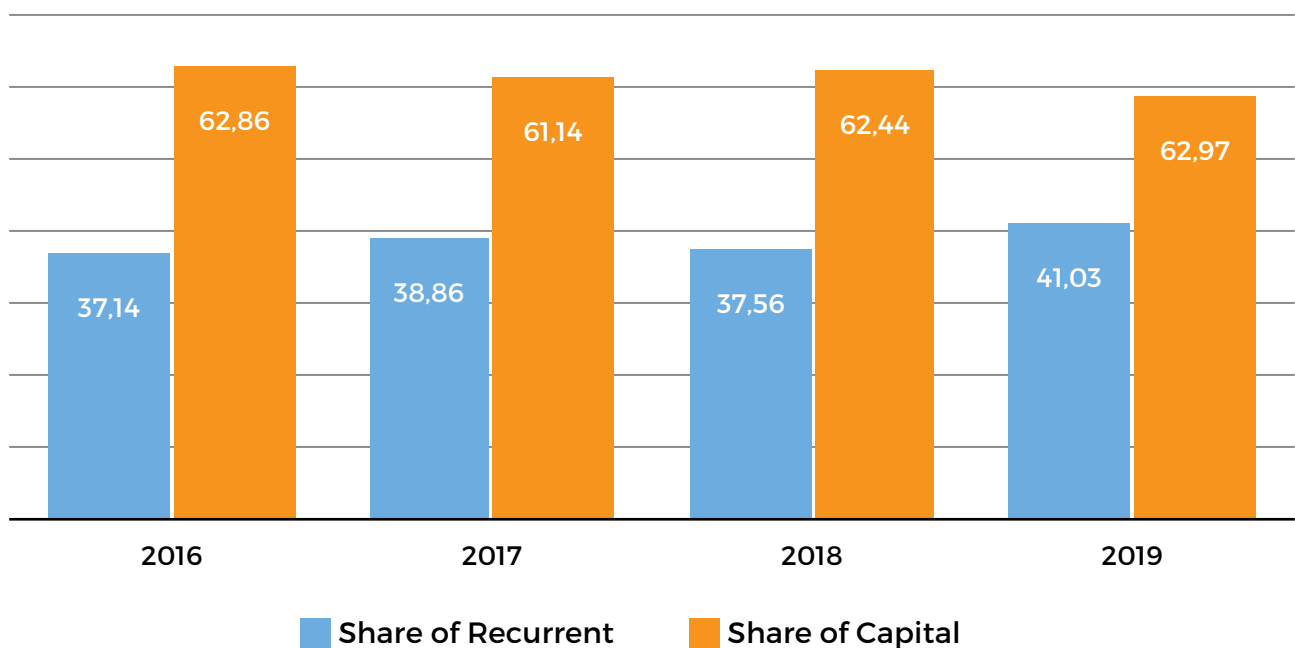


Figure 3.4: Kaduna State’s Share of Capital and Recurrent Expenditures (%)

### 3.4.1 Works, Housing and Transportation

A total sum of ₦24.5 billion was budgeted for works, housing and transportation. This is second largest received of capital spending in 2017 with percentage share of about 19 per cent. The spending on transportation focused on rebuilding and maintaining township roads and kick-off the first phase of the Kaduna mass transit scheme

### 3.4.2 Education/Schools

Education receives the lion share of capital expenditure totaling ₦43.9 billion of 33.7 per cent of total capita spending. This reveals the priority the Government places on education and capacity development of people of Kaduna. This is very encouraging and promises to tackle education-related challenges in the State, if this trend is maintained.



### 3.4.3 Health

The planned spending on health amounted to ₦10.4 billion in 2017. This represents about 8 per cent of the total capital spending for the year. Government focused on completing the refitting of 278 primary health centres and hospitals, with a view to improving access to health and health services to Kaduna State residents.

### 3.4.4 Water and Sanitation

A total sum of ₦8.1 billion of the total capital budget was planned to be spent on water. One of the key priorities of

the government in the water sector was the Zaria water project. Indeed, this was completed during the year and launched for the benefit of millions of residents of Kaduna State.

### 3.4.5 Agriculture

With a total spending amounting to ₦4.58 billion on agriculture in 2017, the Government focused on improving the investment profile and job-creation capacity for the sector through establishment of an agro-industrial zone.

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## 3.5 The future of Kaduna Metropolis

Kaduna City is one of the fastest growing metropolitan areas in Nigeria, and as such land use planning around the existing metro area is key to ensuring proper, controlled development.

The Kaduna City Eastern Sector (over 24,000-hectare extent), is defined by Kaduna River to the west (excluding extensions of the city) and an additional 3km to the East of the Eastern By-Pass, was declared a Designated Planning Area in 1994. The Kaduna Geographic Information Service (KADGIS) has now developed a comprehensive land use plan for the entire sector, dividing it into three sub-sectors and 25 districts, containing over 68,000 parcels, with appropriate transport and utility corridors.

The land use coverage comprises High Medium Low Residential, Commercial,

District Center, Educational, Industrial Heavy Light, Mixed used, Parks and Recreation, Public Community Facilities, Public Utilities, Religious Institution, Urban Agriculture and Existing Developments.

Where possible the retention of Existing Developments is the achieved through integration of these settlements within the new districts. In addition, waterways are protected by setbacks which are dedicated to urban agriculture, preserving the livelihoods of local communities while ensuring that waterways are not encroached.

Work on this modernized metropolitan area will commence in 2018 to be followed by similar developments in the western sector.

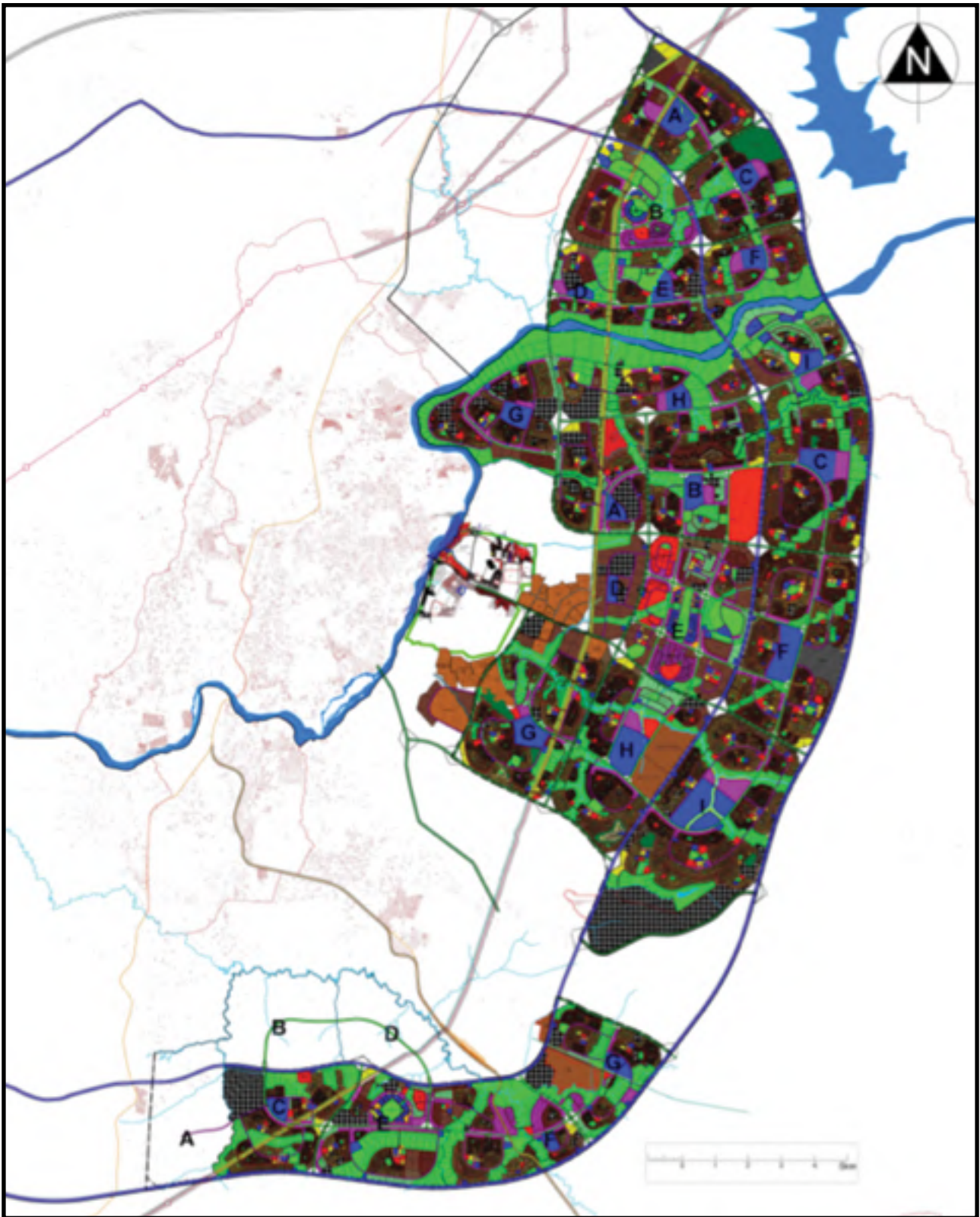


Figure 3.5: Kaduna Eastern Sector Plan

## 3.6 Socio-economic & Political Considerations

Social development spending received ₦2.3 billion while environment and natural resources got ₦4.6 billion. Furthermore, governance that aimed at promoting inclusiveness was allocated ₦3.7 billion while business and community development received ₦1.6 billion.

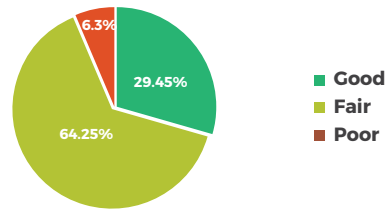
The structure of capital-recurrent expenditure ratio of 61:39 is very encouraging and should be further improved. This is the only way significant resources can be devoted to achieving the goals and aspirations set out in KADIMP.

The trends in financial resource allocation to the sectors also indicate Government's priorities in evolving Kaduna State that is capable of improving the lives of the people through poverty reduction, wealth creation and employment. Thus, the type and quality of infrastructure investment in the key sectors through capital investment of the Government and complemented by private sector and donors would determine the extent to which current and successive Governments are able to achieve the long-term objectives of KADIMP.

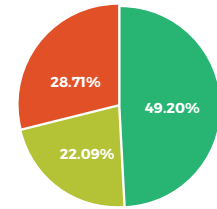
## Transportation



### Federal Roads



### State Roads



**Short term goal:** Rehabilitate all existing state and local government roads (7900km)

**Long term goal:** Road expansion to a minimum of 20,000km of good road network

**Funding required:** ₦ 8.09 Trillion or ₦245 Billion Annually

## Housing



# 5,000

Units to be developed Annually

**Funding required**

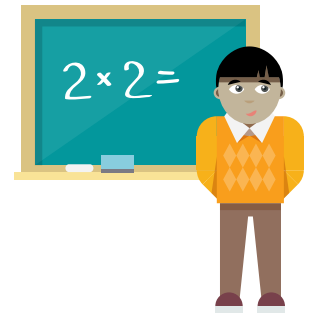
₦ 1.16 Trillion OR  
₦35 Billion Annually

# 9,006

Minimum number of schools including 6 Tertiary institutions

**Funding required**

₦ 2.15 Trillion OR  
₦65.1 Billion Annually



## Education

## Health



### Federal & State Hospitals

6 Federal and 1 State owned Hospitals

**Long term goal:** Build; 6 Specialist Hospitals, 2 in each of the three zones of the State.

State University Teaching Hospital

### Secondary Health Care Facilities (SHC)

**Short term goal:** Fence and Equip all 32 existing SHCs

Build 3 SHCs per L.G.A. to have a total of 69 SHCs in the State.

### Primary Health Care Facilities (PHC)

**Short term goal:** Renovate existing 1,068 PHCs

**Long term goal:** Build 6 fully equipped PHCs in each of the 255 political wards

Improve school of Nursing and midwifery to increase manpower

**Funding required:** ₦ 5.23 Trillion or ₦158.45 Billion Annually

## Water



**Long term goal:** Build;

**3,057** Boreholes

**12** Dams

**23** Treatment Plants

**Funding required**

₦ 3.3 Trillion OR  
₦99.7 Billion Annually

**Long term goal:** Build at least;

**6 Silos/cold rooms**

(of at least 20,000 MT capacity) in each of the 3 senatorial zones of the State,

**23 processing centres**

in each of the 23 LGAs.

**Funding required:** ₦ 93 Billion over the plan period

## Agriculture



Figure 3.6: Long Term Minimum Infrastructure Investment Requirements

# CHAPTER 4

## Investments by Local Governments



The unique role of the Local Government Areas (LGAs) in Nigeria is that it is the closest governance structure to the people. There are 774 of such in Nigeria, 23 of which are in Kaduna State (see Figure 4.1). Statutorily, these LGAs are responsible for the maintenances of law and order and promotion of local socioeconomic developments. They play this role through the provision and management of key infrastructure either in their exclusive purview or on the concurrent list. Given

this unique role, the LGAs are the most suited level of governance that could serve as agent of development of the local, community and rural areas. To play this role effectively, there is need for the LGAs to tap into the infrastructure provided by the State and undertake their own investment in key areas of social and economic infrastructure that include roads, bridges, security, schools, libraries, hospitals, water supply, markets, electricity and telecommunication.



Figure 4.1: Administrative Map of Kaduna State

## 4.1 Current State of the LGAs and Economic Priorities

The current state of LGAs in Kaduna State is examined in the context of the some key infrastructure that include roads, housing, potable water supply, power supply (electricity), health, and education. The information used for this review is drawn from the General Household Survey conducted by Kaduna State Bureau of Statistics in December 2015 to fill the gap identified in the basic data needed to measure performance of the State towards the actualization of the Restoration Master Plan (RMPF) and the Sustainable Development Goals (SDGs).

For Kaduna State and, indeed, the LGAs in the State, key areas of infrastructure that will directly touch on the fundamental pillars of economic development, social welfare, security, justice, and governance are those enumerated above and highlighted in this chapter. These are sine qua non for long-term sustainable development of the State. Added to these are social infrastructure that include health and education services. A review of the condition of these key infrastructure and investments devoted to them in the LGAs are provided in this chapter.

### Box 4.1: Local Government-focused capital projects in 2017/18 budgets

Further insight into the 2017 and 2018 annual budgets has shown that the deliverables of the budget will directly help to address the infrastructure investment demand at the LGAs level. Some of the main capital budget outcomes of the 2017 budget include LGA level capital projects that are at various stages, and subject to resource availability some may be rolled over to the following two to three years before completion, of which the main priorities are :

- Completion of the Zaria Water Project that covers 7 LGAs
- Rehabilitation of 12 Water Treatment Plants in Kaduna North
- Construction of boreholes so as to ensure 1 access point per community by 2025
- Rebuilding and Equipping of Schools across the state
- Roll out of solar power to all 255 primary health centers
- Rehabilitation, maintenance or rebuilding Township and Rural Roads
- Construction of the Jere–Buari transport corridor covering 6 train stations and 2 satellite towns
- Provision of integrated community infrastructure in selected Mining Sites of Birnin Gwari and Dangoma

### 4.1.1 Roads

The State is uniquely situated to service the other Northern States and the Federal Capital Territory. Hence, there is strong presence of network of roads that connects the State with other parts of Nigeria. Major roads are the Kaduna – Abuja road linking the State to the Southern parts of Nigeria; the Kaduna – Zaria – Kano road and Kaduna – Saminaka – Jos road. The state of some of these roads is such that they are in a fairly good condition with exception of a few. In the case of the State-owned roads, they connect major towns and local government headquarters and their conditions are also fairly good. However, roads in LGAs are feeder roads and they help link rural communities with urban centres.

Despondently, most of the LGAs roads, which are feeder roads (earth roads) have deteriorated badly, thereby affecting the economic life of the people in the rural economy of the State. For example, farm produce cannot be transported with ease to urban centres where they can be sold at good prices, especially during the raining season. Results from 2015 household survey of the State reveal that LGAs have divergent levels of access to motorable roads. For example, Jaba LGA recorded the highest percentage of access to motorable road (98.7 %), while Kauru LGA reported the least percentage of access to motorable road of 10.2% (see Figure 4.2). It has also been observed that there is no strong divergence between the level of access to motorable roads in the rural and urban LGAs in the State as they have 65.5 per cent and 69.1 per cent, respectively.

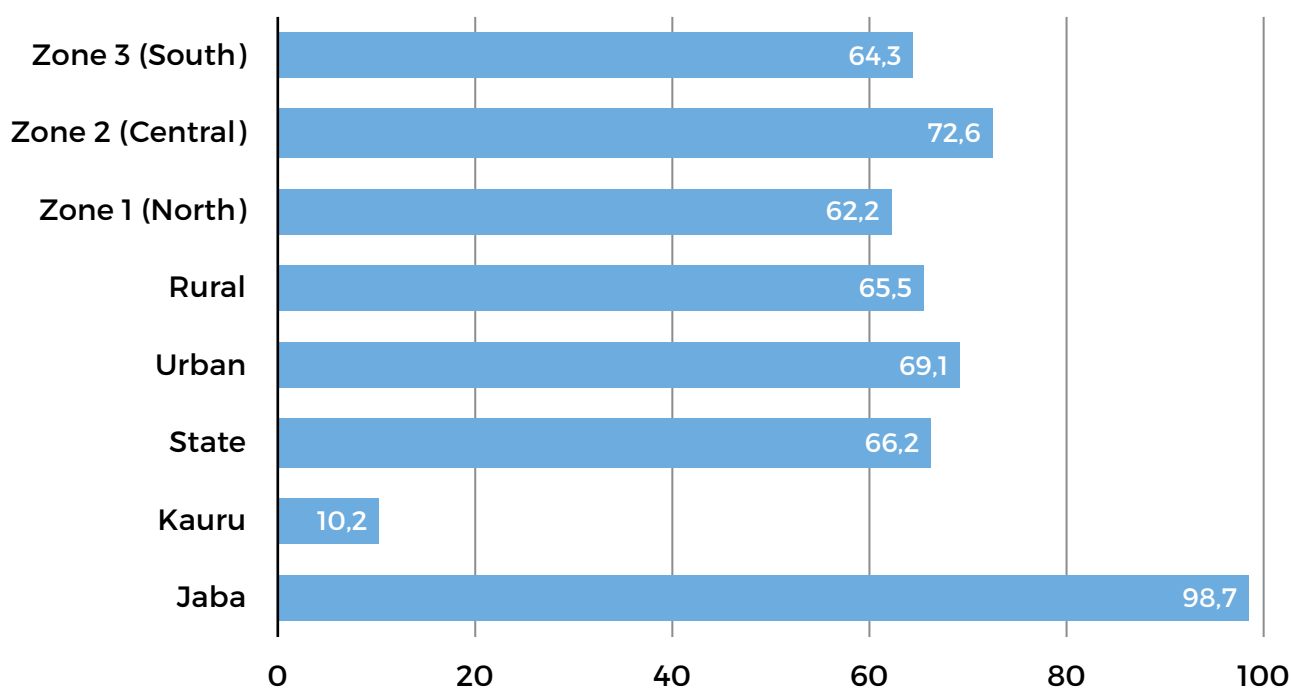


Figure 4.2: State of Motorable Roads in the State  
Source: Kaduna State 2015 Household Survey Report



### 4.1.2 Housing

The housing sector in Kaduna State is characterized by great diversity. On one hand are modern houses in the well-laid out, fairly well-serviced and low density Government Reservation Areas (GRAs), public and private estates in the key cities. On the other hand, there are houses in the medium to high-density urban and Semi-urban areas that are not of close quality to those in the first category described above. Houses in the rural areas often fall far below the standards of those in the cities in terms of conveniences, road network,

potable water and electricity supply. The major challenge of the housing sector in the LGAs is inadequate provision of standard housing to meet the need of the increasing number of rural dwellers and to provide the infrastructure required to improve their living conditions. For example, Figure 4.3 indicated that the practice of open defecation was found to be 10 percent in the rural areas while only 41.1 percent utilized covered pit latrine and 12.5 percent use soak away type of toilet facilities. The act of open defecation was at the peak in Kaura LGA with a significant statistics of 38.3 percent.

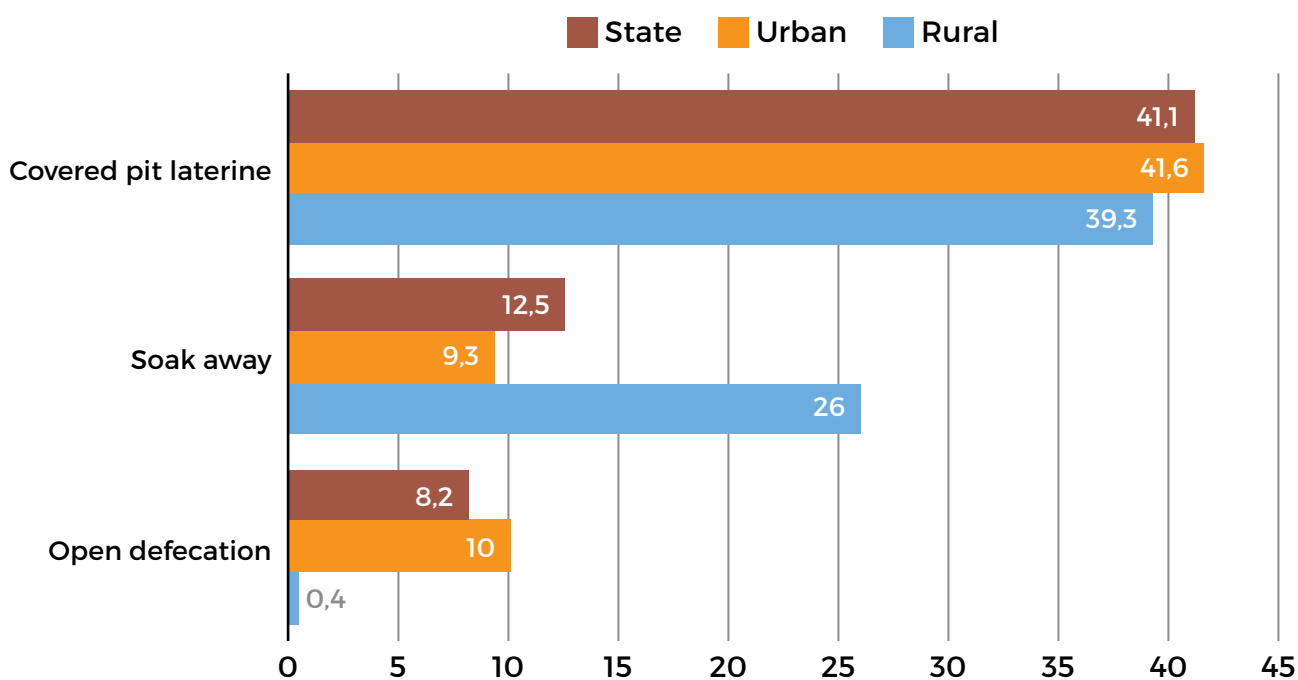


Figure 4.3: Types of Toilet Facilities Used (%)  
Source: Kaduna State 2015 Household Survey Report

### 4.1.3 Potable Water Supply

In Kaduna State, estimated water demand is put at 751mld and current service coverage stood at 23 percent of the State’s population. For the purpose of water supply and limited irrigation, there are five existing dams built and owned by the State Government

(Figure 4.4). These are: (i) Kangimi dam for Kaduna town; (ii) Shika dam for Zaria Water Supply; Bagoma dam for Birnin Gwari Town; Gimbawa dam for Ikara town; Saminaka dam. The State has twelve (12) water works for the supply of potable water to nine (9) urban centres in the State.

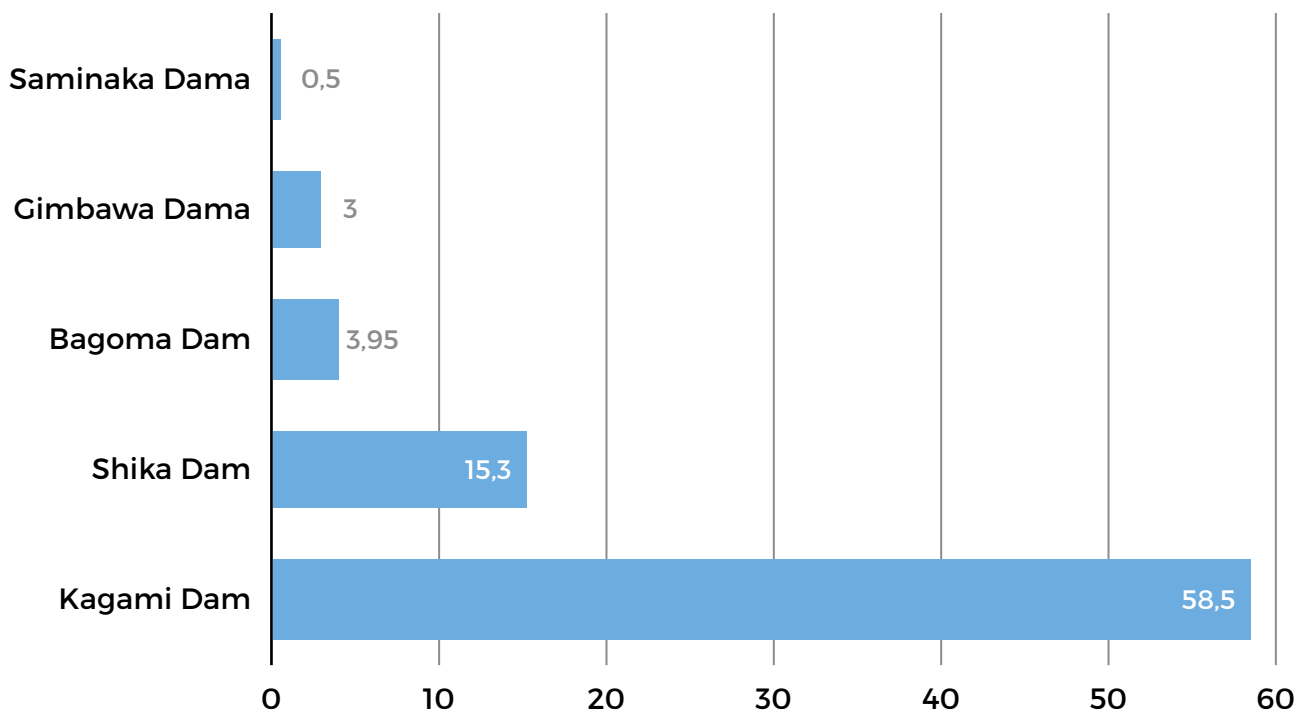


Figure 4.4: Existing Dams in Kaduna State with their Capacities (Million cubic metres)  
 Source: Kaduna State Ministry of Water resources

The current supply capacity of the water works is 380.80mld of water, while the requirement for the urban centre is 540.25mld. Unfortunately, it has been discovered that production from the 12 water works has dropped to about 171mld from the 380mld available capacity due to erratic power supply and worn out equipment. The low production level coupled with inadequate capacity has resulted in service coverage of only 32% for the cities. This implies that only 32% of the urban population is receiving potable water from the municipal water supply system daily, indicating a significant deficit in terms of supply of potable water to the urban population.

The Semi-Urban Water Supply Programme provides potable water to all Local Government Council Headquarters. In this respect, there are 27 Semi-Urban Water Supply Schemes that are operated by the Local Government Councils. Estimates

have shown that less than 20% of the inhabitants of the semi-urban areas have access to potable water, indicating supply deficit. Rural water supply is catered for through the sinking of boreholes, concrete and hand-dug wells, etc. Available records have shown that there are a total of 1,667 boreholes constructed by the Ministry of Water Resources covering all the 23 LGAs.

In addition to the number of boreholes built by the Ministry of Water Resources, Water and Sanitation Project (WATSAN) has constructed another 400 boreholes. Only 20% of the boreholes constructed are active and productive. Service coverage is, therefore, estimated at only 11% of the rural populace. Against the background of statistical evidence available, there is an acute shortage of potable water quantity and quality in Kaduna State. Streams and hand-dug wells are the prevalent sources of water that constitute more than 77%. The supply of pipe borne water in urban and semi-

urban towns is epileptic. In all, water supply coverage in the State stands at about 23% of the total population (see Appendix 3).

#### 4.1.4 Power Supply (Electricity)

One of the major challenges in Nigeria is the supply of electricity and concerted national effort is currently on-going to address the problem of generation and distribution across the nation. This will however involve a major re-structuring of the power sector. In Kaduna State, the power distribution network is fair in the cities but grossly inadequate in the

rural areas. However, locations that are adequately connected cannot be guaranteed of 24- hour power supply, hence, just like the rest of the nation, there is high dependence on privately owned generators. About 28.7 percent of the population of the State has no access to electricity supply even though the proportion in the urban areas is as low as 3.3 percent as against 34.8 percent in the rural areas. Rural electrification has remained fairly insignificant as only 1.5 percent of the rural population relied on electricity supply through this channel (see Table 4.1).

**Table 4.1: Sources of Electricity (%)**

Local Government	NEPA/PHCN/ Kaduna Electric	Rural Electrification	Private Generator	Solar Power	None
State	68.7	1.2	5.7	0.2	28.7
Urban	96.7	0.3	4.5	0.3	3.3
Rural	62.1	1.5	6	0.2	34.8
Zone 1 (North)	66.6	0	6.6	0.2	32.2
Zone 2 (Central)	81.6	3.6	3.1	0.1	15.5
Zone 3 (South)	59	0.3	7.3	0.4	37.5

Source: Kaduna State 2015 Household Survey Report

#### 4.1.5 Health

Health Apart from 23 hospitals, 3 dental centres, and specialized tertiary health institutions in the State, there are 608 Local Government health facilities which include Primary Health Centres (PHCs) and Health Clinics (HCs). In addition, 656 private health facilities which include private and faith based hospitals, clinics, laboratories and pharmacies are spread across the 23 LGAs of the State. Despite these volume of health facilities, health care services in the State

are generally in short supply of specialists in medicine, pharmacy, laboratory science, x-ray, etc. Statistically, as at 2014, there are 133 doctors in the State service; comprising of 8 specialists/consultants, 7 dental surgeons and the rest general medical practitioners. Health service delivery indicators suggest unacceptably poor health indices as well as heavy disease burden as earlier presented in Table 1.4. Household survey report gave further insight into the status of health services at the LGAs

level. Table 4.2 shows that 22.8 percent of pregnant women could not access antenatal care at State-wide level. For rural women, the proportion increased to 23.6 percent and as high as 46.7 percent of pregnant women in Sanga LGA enjoyed no antenatal

care. In terms of patients' satisfaction with health services/facilities, the performance ranges between 41.2 percent (the lowest) in Jaba LGA to 93.1 percent (the highest) in Soba LGA.

**Table 4.2: Antenatal Care and Satisfaction with Health Facility**

Local Government	% of female without antenatal care	Level of satisfaction with health facility
State	22.8	74.4
Urban	20.5	83.3
Rural	23.6	73
Sanga	46.7	-
Jaba	-	41.2
Soba	-	93.1

Source: Kaduna State 2015 Household Survey Report

#### 4.1.6 Education

As at 2012, Kaduna State had 4,026 public primary and 5,211 secondary schools, respectively. In recent times, there has been an increase in private sector participation in providing educational services in the State. Again, in 2012, there were 860 and 527 private primary and secondary schools, respectively. Sequel to the introduction of the Universal Basic Education scheme (UBE), demand for education went up by the various communities as evidenced by the establishment and management of primary schools by some communities in the State. According to the Kaduna State Annual School Census 2015/2016, there were 1,737,572 pupils and 31,251 teachers in public primary schools in the State. These figures indicate pupil - teacher ratio of almost 56. Similarly, there were 388,022 students and 11,843 teachers in

public secondary schools in the State, which translates to Student- teacher ratio of about 33. The figures for pupil - teacher ratios for the State are good. However, the ratios vary across the State, with rural ratios far worse than urban ones. Also the level of qualified teachers to pupil ratio is considerably lowered than those shown above (though this ratio is improving as a result of actions taken over recent years). Especially as we move up the grades to Junior Secondary School (JSS) and Senior Secondary School (SSS), there are severe shortages of staff to teach particular subjects, especially sciences. There are also indications that progressive enrolment from primary to secondary and secondary to tertiary is low and many children drop out of school when they complete primary and Junior Secondary Schools (see Table 4.3).

Nevertheless, the schools have pressure of 'large demand' for educational services. This indicates that available facilities (especially classrooms and teachers) to cater for current number of pupils and students are in short supply. Data available in the State Ministry of Education indicates that over 90% of children in Kaduna State are enrolled in public secondary schools. Only 10% attend private schools. This suggests that there is disequilibrium in the supply and demand

for education services in the State. In addition to a number of Federal, State and privately owned institutions, the State has a total of twelve Business Apprenticeship Training Centres (BATCs) in different locations. Women Training Centres are also established by the State and Local Government Councils to promote women empowerment and development. A total of 23 of such centres, one in each of the LGAs, are being operated in the State.

**Table 4.3: Highest School Completion Grade (%)**

	Pre-Primary	Primary	JSCE	SSCE	OND/ND	NCE	HND	BSC
State	22.6	36.1	13	5.4	0.1	0	0	0.1
Zone 1 (North)	18.8	35.9	10.8	3.7	0.1	0	0	0.2
Zone 2 (Central)	20.4	35	13.5	5.8	0.2	0	0	0.1
Zone 3 (South)	30.3	37.4	15.5	7.4	0.1	0	0	0
Urban	24.9	39.6	14.5	7.1	0.2	0.1	0.1	0.3
age 6-11	34.5	39.4	2.1	0	0	0	0	0
age 12-18	7.7	31.9	26.7	12	0.3	0	0	0.3
rural	22	35.2	12.6	4.9	0.1	0	0	0.1
female	22.9	35.1	12.2	4.7	0.1	0	0	0.1
male	22.4	36.9	13.7	6	0.2	0.1	0	0.1

Source: Kaduna State 2015 Household Survey Report

## 4.2 Infrastructure Investment Levels Required

The review of state of infrastructure in Kaduna State, particularly the LGAs, suggests that there are gaps in terms of the supply of most of the infrastructure and the demand arising from the increasing population of the State. It is therefore expected that the level of infrastructure

required will have to be on the rise over time in order to bridge this gap.

Interestingly, fiscal policy stance of the current administration is found to be significantly more favourable to the improvement of the level of infrastructure

investment in the State. In 2017 fiscal year for instance, education, infrastructure and health got the biggest budgetary allocation. As seen in Figure 4.5 pro-poor programmes and supply of infrastructure that will attract

job creating investments to the State got budgetary allocations of ₦93.03 billion. Education had the highest allocation of ₦44.84 billion (48%), followed by infrastructure with ₦24.5 Billion (27%).

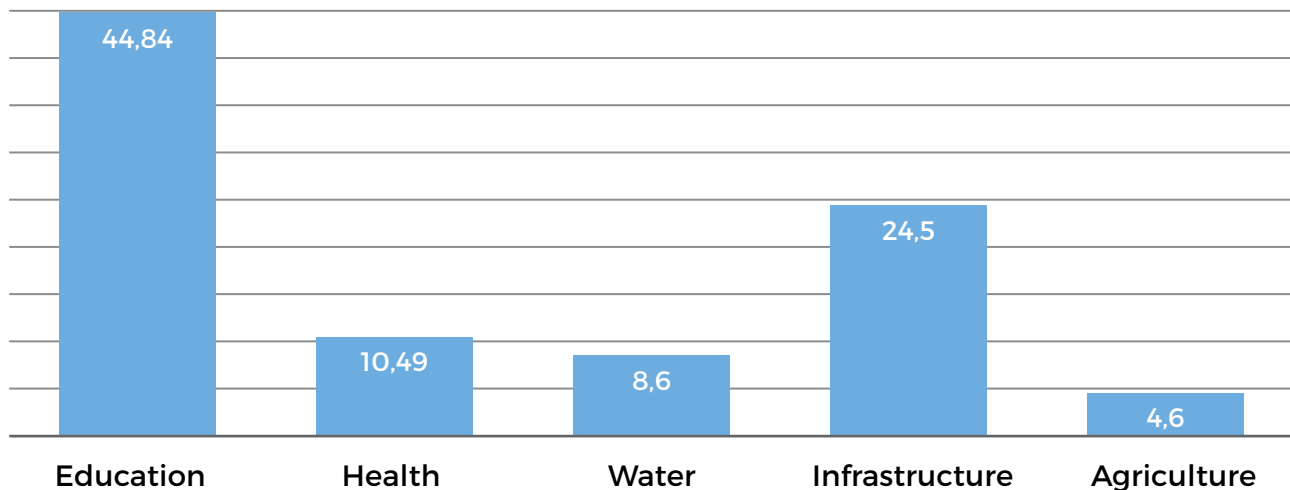


Figure 4.5: Kaduna State Budgetary Allocations (2017) to Pro-poor and Infrastructure Development (₦ billion)

Source: Kaduna State 2015 Household Survey Report

### 4.3 Kaduna State LGAs Capital expenditure

Local Governments Areas are veritable channels for capital expenditure (CAPEX) in Kaduna State and thus represent outlets for driving infrastructure investment proposed in KADIMP. From a total of ₦11.4 billion in 2016, proposed CAPEX budget more than doubled in the following year, reaching ₦26.6 billion. Birnin Gwari received the highest allocation among the LGAs with ₦1.2 billion and ₦1.9 billion in 2016 and 2017, respectively. Between 2016 and 2017, Kaduna South witnessed the highest growth in CAPEX allocation with almost 500% increase from ₦130.4 million to ₦778.9 million over the period. This was followed by Lere and Kaduna North at far distance with growth rate of 295% and 270%, respectively.

Actual CAPEX of all the LGAs for which data are available in 2016 amounted to a total of ₦3.6 billion. Kabau is the only LGA that outperformed by 386%, spending ₦1.5 billion against proposed spending of ₦386.5. Other good performers are Soba and Sanga with CAPEX execution of 53% and 38%, respectively.

Four infrastructure-related sectors were that were budgeted for are agriculture and natural resources; works, transport and housing; education and social development; and primary health care. These sectors accounted for a total CAPEX budget of ₦9.6 billion and ₦23.9 billion in 2016 and 2017, respectively. Birnin Gwari received the highest CAPEX allocation in 2016

amounting to ₦1.1 billion followed by Kauru and Igabi with total allocation of ₦730.4 and ₦585.4 billion, respectively.

One important challenge that needs to be pointed out, though, is the limited capital project execution capacity of the LGs. For example, while a total of ₦11.4 billion was approved for CAPEX in 2016, only ₦3.6 billion was spent. This implies

that capital project execution was mere 31.2 per cent of the proposed budget. Similarly, while infrastructure-related CAPEX budget was ₦9.6 billion in 2016, actual spending stood at ₦3.3 billion, just a little over one-third. This suggests that there is serious need for capacity development regarding CAPEX project execution and implementation.

**Table 4.4: LGAs Infrastructure-related Capital Expenditures in Kaduna State**

	2016 Approved	2016 Actual	2017 Approved
Birnin Gwari	1,081,863,685	441,102,835	1,719,868,684
Chikun	438,636,986	0	1,284,496,722
Giwa	570,691,167	154,319,511	1,205,097,889
Kajuru	293,175,845	45,739,221	840,653,164
Igabi	585,362,803	84,494,690	1,464,119,578
Ikara	443,814,664	69,220,625	1,282,599,271
Jaba	370,371,749	12,847,718	867,211,988
Jema'a	364,225,213	18,163,000	936,240,512
Kachia	492,737,974	93,929,622	1,021,921,510
Kaduna North	100,335,360	3,100,000	517,376,276
Kaduna South	19,289,040	0	660,654,689
Kagarko	532,646,548	83,543,508	981,742,231
Kaura	97,086,684	800,000	641,030,723
Kauru	730,401,239	23,099,986	1,141,753,330
Kubau	355,425,551	1,493,259,473	1,230,056,979
Kudan	277,324,142	0	972,278,510
Lere	268,608,473	75,613,224	1,000,466,531
Makarfi	351,224,561	4,361,628	1,070,918,969
Sabon Gari	544,893,555	108,116,317	1,111,506,483
Sanga	285,085,894	145,654,648	797,752,651
Soba	578,937,532	318,627,420	1,052,231,297
Zangon Kataf	320,426,949	56,629,326	741,400,158
Zaria	515,719,776	46,303,511	1,331,718,253
Grand Total	9,618,285,390	3,278,926,263	23,873,096,398

Source: Kaduna State Ministry of Budget and Planning.

Note: The infrastructure-related activities are: agriculture and natural resources; works, transport and housing; education and social development; and primary health care.

## 4.4 Status of LGA project performance in Kaduna State

The LGA Performance through the Eyes and Ears Project provides evidence-based assessment and analysis around implementation of projects in LGAs, which are required to develop strategic action plan for infrastructural financing across critical sectors in the 23 LGAs. This is necessary so as to provide the right context and required needs assessment for financing infrastructure in the LGAs.

Analysis of the status of infrastructure implementation across the 23 LGAs of the

states points to: (1) improved performance outlays in urban areas when compared to rural areas due to better enabling environment and enabling environment; (2) fiscal constraints relating to financing projects completion, especially cash management issues; and (3) extenuating circumstances like the security and governance administration in Local Governments. Figure 4.8 below provides a depiction of infrastructural performance across the 23 LGAs of the state.

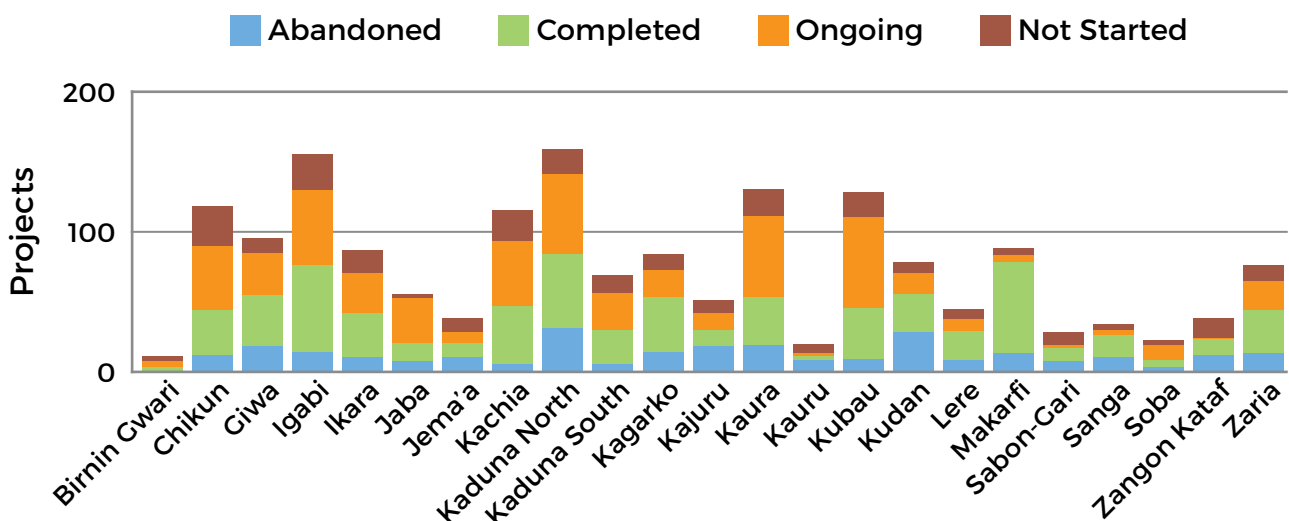


Figure 4.6: LGAs Project Status Performance

Source: Kaduna State Ministry of Budget and Planning

A review of a number of outlier data from the LGA Status performance reports points to a number of interesting findings as it relates to infrastructure implementation and financing at the LGA level. The observations are categorized into the following components.

- a. **Adverse Security environment affecting infrastructure coverage and monitoring implementation in Birnin Gwari LGA and pockets of communities in other LGAs.**

One of the outlier data points to lower project coverage especially in Birnin Gwari LGA, some communities in



Chikun and Kafanchan under Jema'a LGA can be attributed to the volatile security situation in some communities of the Local Governments.

This further explains the low monitoring and implementation coverage because a number of contractors are not mobilizing to site. Thus, pointing to the direct correlation between declining infrastructure project implementation and adverse security environment. This further stifles investment and full participation.

For example, the security situation in Birnin Gwari had restricted the Eyes and Ears Team from covering only 15 projects out of the numerous contracts awarded by Government. To ensure sustainable implementation of Government policies especially as regards social infrastructure, there is a conscious effort by the State to tackle the security situation in Birnin Gwari and provide much needed stability for infrastructure development to continue.

**b. Infrastructure Implementation in urbanized LGAs have better rate of return when compared to LGAs that are rural in nature.**

Analysis of outlier data shows that LGAs that are more urban especially Kaduna North, Kaduna South, Chikun and Igabi Local Governments (**within the Kaduna City axis**), Zaria, Sabon Gari and Giwa Local Governments (**within the Zaria City axis**) and Jema'a (**within Kafanchan axis**) had mostly larger sized projects that had better completion rates when compared to other LGAs.

Investments in these areas tend to focus more on provision of urban renewal

Infrastructure particularly water supply infrastructure, township, intercity and state trunk roads, renewal of public secondary schools, street lighting projects and investments in General Hospital as part of the state's strategy to creating modern cities. In contrast, the remaining 15 LGAs had most of the infrastructure implementation sited in remote areas where the focus is on achieving rural development especially in the social sectors targeting investments in primary healthcare, public primary schools, water and sanitation (Hand Pumps and VIP), etc.

Projects sited in the remote areas had varying completion rates with more in the "not started" or "abandoned" quadrant when compared to their urban counterparts. This can be attributed to a number of factors especially the remote nature of projects, financing constraints, access to information and supporting infrastructure in remote areas.

**c. Responsive Administrative support structure in some Local Governments has contributed to improved completion rates of infrastructural projects.**

Some noticeable performance outliers in Makarfi, Kubau, Kaura and Kachia LG data feeds points to improved completion rates as a result of structured administrative systems that have support contractors with provision of accurate information on sites location and raw material sourcing and securing of assets and personnel to implement infrastructure projects both at the administrative level and the traditional institutions at the ward level. This is partly responsible for contractor performance.

For example, 68 out of 95 projects had been completed and delivered in Makarfi Local Government especially through delivery of social outcomes in Education, Water & Sanitation and Health Sectors.

on the implementation of infrastructural investments in the State across various sectors of the State (Figure 4.9). The timeline series provides a monthly status updates from January to December. The timeline interpretation of the project implementation during the period is further provided in Figure 4.9 below:

The timeline status trend performance analysis provides monthly status updates

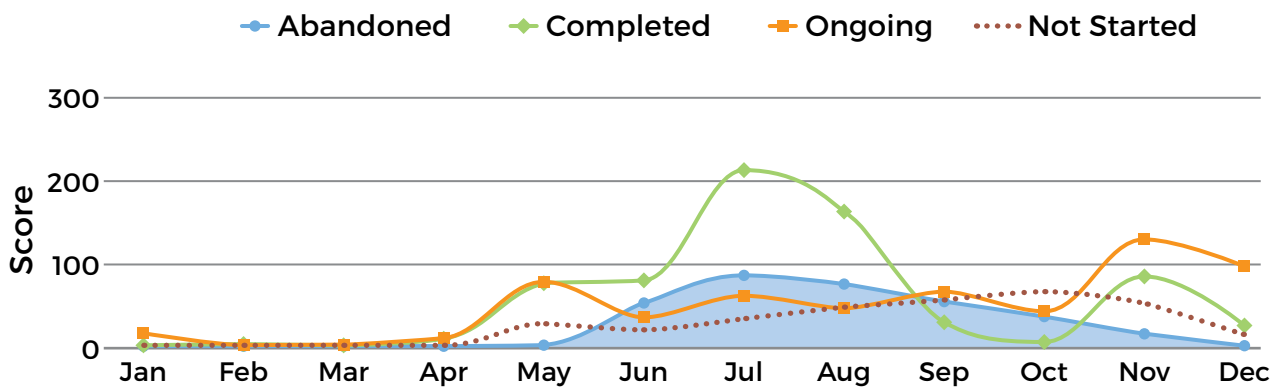


Figure 4.7: Results of Timeline Status Trend Performance Analysis

Analysis of timeline status trend shows a large number of completed projects implemented were executed within the corridor months of June to August. This is usually before the peak of rainy season where seasonal variation sets in with increased pace in project execution to cover significant milestones before the rainy season fully sets in and as a result of highest revenues receipt from FAAC allocation & IGR due to peak collection of Company Income Tax, Value Added Tax and other collectible revenues.

Correspondingly, the first quarters of the year from January to April were the lowest period of implementation. This is as a result of commencement of procurement processes which are required to be rounded up before formal award of the contract processes. The underlying reason for delays in project implementation is weak institutional capacity of LGAs as well as inefficiency on the part of contractors. However, a number of projects that overlap into the next year were either ongoing or about to pick up steam.

The timeline trend analysis shows that within the months of June to August a total of 459 projects were completed with July having the highest completed projects of 214 projects as compared to 127 projects ongoing, 298 projects in abandoned or not started status within the same period under review.

The chart further illustrates that activities begin to pick up in the month of May as illustrated in the chart while they begin to ebb in the last quarter of the year especially from the months of October to December.

## 4.5 Integrated Infrastructure for Local Socio-economic Development

Local government administration in Nigeria is classified as the third tier of government. Kaduna State will therefore look to scaling up the millennium village concept. The approach is community-led development with simultaneous integrated, science-based interventions in five main areas: agriculture, education, health, infrastructure (roads, power, water, sanitation, connectivity) and business development (Sachs, 2011).

The Kaduna State Government is host to the first millennium village in Nigeria and this provides a model example of what can be achieved with the plan to scale up this initiative (see Box 4.2).

### Box 4.2: Pampaida Millennium Village Project

Pampaida is located in the northern Nigerian state of Kaduna. At inception in 2006 the Pampaida millennium village comprised 28 settlements with an estimated population of 5,666 residents and it was later called up to cover three additional villages with estimated population of 17,000. The interventions include: (i) agriculture with improved resource management technologies; high value crop production; diversified crop production of rice, soybean, cowpea and groundnuts; fish farming (ii) education with construction of new classrooms; provision of free educational materials; introduction of school feeding programme (iii) health focus was on construction of a clinic and provision of integrated PHC services for all; renovation of three other health centers; staffing of health care centers with appropriate

medical personnel; (iv) infrastructure included paved road of 12km; clinics, classrooms; electricity grid connection; solar power; and GSM base station; and improved water and sanitation facilities 24 boreholes constructed, VIP laterines, intensive community enlightenment on environmental hygiene and sanitation; and (v) agribusiness with improved access to markets and diversification of crop production.

Key development results: Agro-processing introduced to add value to agricultural produce; access to safe water increased from 0 to 71%; access to sanitation increased from 0 to 28%; improved mobile telephony coverage in the area and connects it to other parts of the state; easier access to markets.

# CHAPTER 5

## Financing Plan



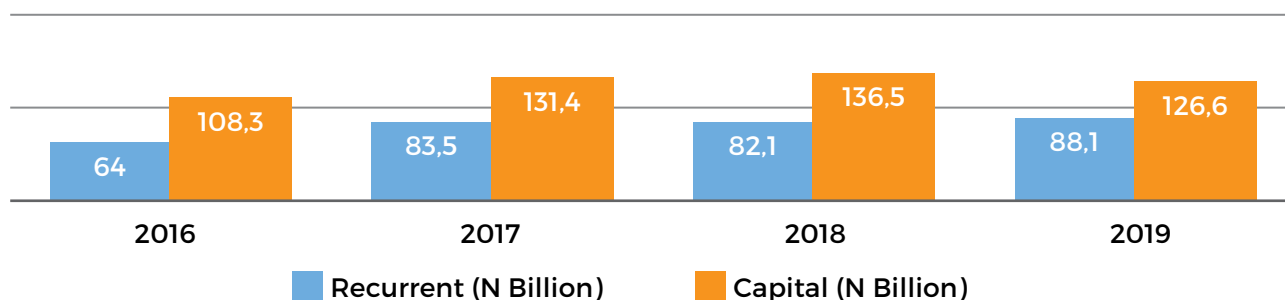
## 5.1 Financing Options

Globally, there are about four main options available for financing infrastructure projects. These include: Budget (Public current accounts); Public debt; Public Private Partnership (PPPs) and Other Public Sources (e.g., the Sovereign Wealth Fund, public pension funds). Though the traditional budget approach has been what is used in the past for infrastructure development, the State intends to adopt all other financing options in implementing the infrastructure Master Plan in view of the fact that the existing infrastructure gap and population growth of the State.

### 5.1.1 Budget (State and LGAs)

The State will focus efforts on improving the share of capital spending in total budgets and ensuring that priority projects are truly prioritized. In this regard, the State has adopted a Multi-year Budget approach, the latest approved being 2017 - 2019. The State has projected to improve its capital spend at an average of about 61% of budget in medium-term (See Figure 5.1). The capital expenditure is expected to increase in the long-term. This has a potential of drastically raising the total infrastructure expenditure during the plan period.

Kaduna State's Share of Capital and Recurrent Expenditures in the Budgets (N'Billion), 2016 - 2017



Kaduna State's Share of Capital and Recurrent Expenditures in the Budgets (%), 2016 - 2017

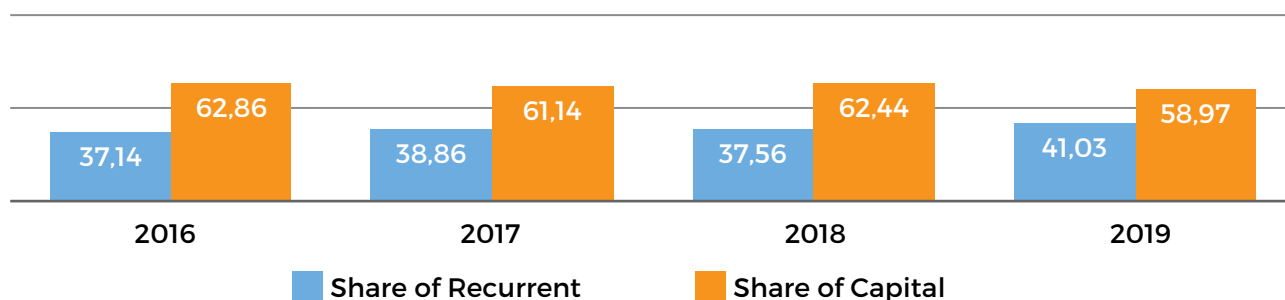


Figure 5.1: Kaduna State's Budgets for 2016 and 2017 - 2019 (Multi-Year)

Source: Kaduna State Ministry of Budget & Planning

Achieving these ambitious budgets will require that Government improve its revenue sources. Based on the States Development Plan (SDP), 2016 - 2020, it is projected that in the medium-term,

statutory allocations from the Federation account will account for 31.9 percent of revenue; VAT 9.2 percent; aids and grants 12.2 percent and IGR 46.6 per cent.

In view of the significant drop in federally collected revenue and its implication for allocation to States, Kaduna State will intensify efforts on increasing IGR to effectively finance its budgets. Thus, legislation has been enacted to enable the State raise IGR substantially. Also, the State, being mindful of the need to improve the budgeting system by streamlining the budget size and aspirations with revenue mobilisation and budgetary controls, has implemented a number of fiscal reforms. The State set the pace for other sub-national governments by adopting the Treasury Single Account (TSA) as a preferable way of managing the finances of the State.

The State Government has also passed tax reform Laws in January 2016 and declared state of emergency on revenue generation to grow IGR such that it attains parity with Federal Government statutory allocations. The State has also adopted the Zero-based budgeting (ZBB), a departure from the former incremental budgeting that turned out to be inefficient. The ZBB ensures that projects are well costed and only relevant projects are admitted into the Budget. This will ensure that the budgets of MDAs are realistic, implementable and effectively funded.

The Government is also pursuing the passage of a number of critical legislation. Examples of these are the proposed Fiscal Responsibility Bill (FRB) and the passed Public Procurement Act to improve accountability, transparency and service delivery.

### 5.1.2 Public Debt

Public Debt is usually available to augment the capital spend for the annual budgets because government is generally considered a risk-free borrower. This can be a good source of funding

infrastructure development for the State. External and Domestic loans will account for 25.4 per cent of aggregate capital expenditure envelope in the medium term. Government is mindful of the need to borrow reasonably and within the debt carrying capacity of the State so that internationally acceptable debt sustainability benchmarks are maintained. A framework will be established to ensure that necessary mechanisms are put in place for proper utilisation of the borrowed funds.

#### Domestic

Domestic debt is always a quick source of funding for infrastructure but usually at high interest rates. This, however, becomes inevitable in some critical cases. This will provide a window for quick fund in case there are delays with finalising foreign loan agreements. Efforts will however be made to ensure that attention is shifted more to external loans which are often at concessionary terms with long grace periods and repayment periods.

#### External

External debt is the cheapest source of funding for big infrastructure projects the world over. In addition to being cheap, it also comes with some conditionality which makes its application more productive than domestic loans, provided it is not tied. Well packaged infrastructure projects have possibility of being considered for funding from external sources. It normally has a longer moratorium and low interest rates. The downside to foreign loans, however, that needs to be borne in mind is its susceptibility to exchange rate and inflation risks. The guidelines by the Debt Management Office of Nigeria which is the agency charged with the responsibility of regulating borrowings in the country does not allow States to borrow from external sources directly. The States are expected

to obtain guarantee from the Federal Government through the Federal Ministry of Finance/Debt Management Office.

Kaduna States' external loans stood at \$223 million at the end of 2016 according to the Debt Management Office (DMO).

Based on the State's GDP figures<sup>3</sup> and information from the DMO, the State's debt/GDP and debt repayment/revenue ratios for 2016 are 3 per cent and 4.8 per cent, respectively (See Table 5.1).

<sup>3</sup> Source of data: 'Kaduna State GDP Report,' published by MoBP and National Bureau of Statistics showed State 2015 GDP was ₦2.25t. This is translated in the exchange rate of US\$1= ₦300.

**Table 5.1: Kaduna State's External Debt Ratio**

Total state External Debt 31 December 2016	State 2015 GDP	2016 External Debt as % of 2015 GDP	Budgeted Public Debt Repayment 2017	Budgeted Total of 2017 IGR & FGN Allocation	2017 Debt Repayment as % of Total IGR & FGN Allocation
US \$223m	US \$7.5b	3%	₦4.1b	₦85.1b	4.80%

The State's 2017 Debt Repayment as percentage of total IGR and FGN Allocation ratio (4.8%) is higher than the

Federation's combined debt service-to-revenue ratio of 2.1 per cent in 2016 and 2.6 per cent in 2017 (Table 5.2).

**Table 5.2: External debt sustainability indicators (FGN, states & FCT) in percent, 2016-2036**

Descriptions	Inter-national Threshold	2016	2017	2018	2019	2020	2021	2026	2036
PV of Debt/GDP	40	3.6	5.3	6.1	6.5	6	5.3	2.9	0.7
PV of Debt/ Exports	150	27.1	31.9	38.3	42.6	39.2	36.4	22.5	5.8
PV of Debt/ Revenue	250	66.8	82.2	97.8	91.6	86.6	82.9	62.3	29.44
Debt Service/ Exports	20	0.9	1	2.3	2.2	2.7	3.5	2.4	0.9
Debt Service/ Revenue	20	2.1	2.6	5.9	4.8	6	8	6.8	4.7

Going forward, the State intends to maximize the external borrowing sources to improve its infrastructure investment. External borrowings by the State will be from multilateral agencies and other sources that are able to provide loans on concessional basis in terms of low interest rates, long grace period and repayment period. External loans will be for productive and self-financing capital projects only. Though there may be concerns of exchange rate volatilities and inflation on debt management and sustainability of the State, external debts will still be a better option than domestic debt. This is because the domestic pressure often arise for the short-term nature of domestic debts which usually have short repayment periods as well as implication on private sector borrowing through crowding out effect.

### 5.1.3 Public-Private Partnerships (PPPs), including Joint Ventures (JVs)

Public-private partnerships (PPPs) provide a huge opportunity for raising the needed funds to bridge the huge infrastructure gap existing in the country and Kaduna State in particular. PPPs provide a framework for mobilising private funds for infrastructure

development. A lot, however, needs to be done to be able to tap from the potentials that exist in this window, particularly in the area of legal and regulatory frameworks as well as other policies and incentives. Some of the specific issues to be addressed to crowd in private sector participation in infrastructure development include: access to low interest credit, security, incentives, policy consistency, ease of doing business and sound legal and regulatory policies.

The State in recent times has commenced some PPP projects which include: Agro-allied industries starting with the Olam project; Partnerships between the State and Vodacom to implement ICT solutions to improve service delivery in healthcare, education and agriculture; and the ‘Affordable Housing Scheme’ for providing 2000 houses to low-income earners. A number of other PPP Projects are being identified for implementation in the area of roads construction, Power, etc. Necessary mechanisms are being put in place to ensure workability of PPPs in the State. Lessons are also to be drawn from other countries where PPP arrangements have been successful and underpinned by strong institutional set frameworks as is the case in Pakistan (see Box 5.1).

## BOX 5.1: Pakistan PPP mechanism

In Pakistan the Infrastructure Project Development Facility (IPDF) was set up under the auspices of the Ministry of Finance, Government of Pakistan to be managed by the Infrastructure Project Development Unit (IPDU). The IPDU was established for the primary purpose of driving the PPP process. It provides financial modeling, legal and project transaction advisory services for PPP

projects. It is a full-fledged unit with 30 staff and an Independent Board. At the provincial level PPP nodes are established and work under the administrative control of provincial governments as is the case in Sindh, Punjab and KPK provinces.

To date it has successfully driven PPP projects to the tune of US\$ 1.43 billion in the road sector. IPDF’s project pipeline



is diversified and expects to close mega infrastructure project financing deals to the tune of US\$ 2.3 billion in its current fiscal year ending June 30, 2018.

The IPDF runs as a self-sustainable entity; it meets all its expenses out of interest income earned on the one-time funds' placement with commercial bank (the

one time funds were available to IPDF at the time of its formation). IPDF is soon going to be transformed into Public Private Partnership Authority by virtue of Public Private Partnership Act, 2017 passed by the parliament of Pakistan. This will give the IPDF more authority in regulating the overall PPP regime in Pakistan.

### **State Government's Efforts to Increase Private Sector Participation**

Given the constraints to public sector resources, the State will make conscious efforts to crowd-in the private sector through strategic and mutually beneficial PPPs. To this end, the State has set up the Kaduna Investment Promotion Agency (KADIPA) and charged it with the responsibility of leading its PPPs. The KADIPA is a one-stop investment promotion and facilitation agency with mandate to “develop and implement a comprehensive strategy and action plans to attract and facilitate new investments”. Its mandate also requires the agency to “Initiate, promote, facilitate, and coordinate investments through PPPs, privatization and commercialization” and to “develop and implement a comprehensive strategy and action plans to attract and facilitate new investments”. KADIPA has very robust and well-designed website which provides an overview of the opportunities and challenges in the 9 principal sectors and information on recent projects initiated in the agribusiness, power and energy, and housing and construction sectors, with private sector involvement.

Also, the World Bank's 'Doing Business 2017' rankings for Nigeria shows that

the procedures for starting a business in Kaduna City cost an equivalent of 54% of per capita income. Also, a total of 31 days is required to complete Business Registration, involving 11 steps, starting from reserving a unique company name at the Corporate Affairs Commission and ending with obtaining a business premises permit from the State Ministry of Commerce and Industry. To improve the State's ease of doing business rankings, the State Government has initiated a number of relevant key legislations, including the Public Procurement Law, Geographic Information Service Law, Civil Procedure Bill, Kaduna State Road Authority Bill, and Kaduna Metropolitan Transport Authority Bill. All of these are expected to further facilitate private sector engagements in the State for undertaking PPP infrastructure projects.

Significant progress has been made in this regard with a number of investments in the pipeline. The State expects an infusion of ₦800 billion in private investments in the medium term (5 years). A highlight of some of the pipeline projects are presented in Figure 5.2.



Figure 5.2: Flagship Infrastructure Projects  
Source: KADIPA, 2018

### 5.1.4 Other Sources (Pension funds, Sovereign Wealth Funds)

Some other sources that would be leveraged to fund the infrastructure development of the State include pension funds, Insurance Fund, and special investment funds like the Sovereign Wealth Funds. The State will put in place a framework for accessing pension funds of the State for use in infrastructure development. Also, the State will explore the possibility of accessing funds from the

National Sovereign Wealth Fund, insurance fund and other potential innovative financing sources. Norway has one of the biggest National Sovereign wealth funds in the world with a worth of over \$900 billion. The Fund has helped the country to expand its infrastructure and currently exploring investment on unlisted infrastructure projects, including renewable energy. This could be a good example that Kaduna State can learn from in its quest for infrastructure transformation in the State.

## Box 5.2: Potentials of Sovereign Wealth Fund for Infrastructure Financing

Sovereign wealth funds (SWFs) are increasingly becoming major sources of finance in many African countries. Globally, assets under management by SWFs have grown rapidly in recent years, rising above US\$7.2 trillion in 2015 (Sovereign Wealth Fund Institute, 2015). While countries like Norway, Kuwait, Qatar, and Dubai are key players in this regard, several African countries have joined the train. For example, sovereign wealth funds managed by African countries are estimated to be over US\$159 billion, and equivalent of 6.4% of Africa's GDP in 2014. The top 5 African countries with the highest SWF are Libya, Algeria, Botswana, Angola and Congo, with Nigeria coming behind in the 6th position.

A good chunk of these funds have been channeled into infrastructure development. For example, about 33% of African sovereign wealth funds have been invested in infrastructure. Several SWFs are investing in Africa's infrastructure. Examples are the Abu Dhabi Investment Authority with investment in Egypt's EFG Hermes and the Dubai Investment Corporation having stakes in North African companies like Tunisia Telecom. Istithmar World (subsidiary of Dubai World) has also invested in Rwanda, Mozambique, Comoros and Senegal. The funding mechanisms employed by these SWFs for investing in infrastructure projects vary from direct investments, co-financing, joint ventures or public private partnerships (PPPs), listed funds and indirect financing.

Hove (2016) listed the numerous benefits of tapping into SWF for infrastructure development for both the fund manager and infrastructure developers. First, the Infrastructure projects such as roads, harbors, and airports developed through SWF provide relatively predictable and stable streams of long-term cash flow which aligns appropriately with the investment time horizon and risk profile of SWFs. Second, SWFs can be designed to maximize investments' risk-adjusted returns and accumulate resources for future generations when they invest in infrastructure. Third, SWFs are better positioned to channel resources into economic diversification and development activities like infrastructure development given their size and ownership structures. Fourth, SWFs can increase the confidence of foreign investors in local infrastructure development financing by improving the government's ability to meet its investment obligations. Fifth, the scarcity of long-term finance on the continent and the low liquidity of African financial markets, coupled with huge demand for infrastructure financing, provides an opportunity for sovereign wealth funds to finance infrastructure projects. Lastly, the cost of capital from sovereign wealth funds is likely to be low because of the source of funds.

The foregoing shows that SWF holds high potential for Kaduna State Government for raising funds to finance KADIMP. One lesson that could be learned from African countries like Rwanda that have succeeded in attracting global SWF to invest in

infrastructure in their countries is that they maintained good, stable and predictable macroeconomic policies and environment as well as appropriate incentives. Kaduna

State needs to keep eye on undertaking appropriate reforms and deploy suitable policies and incentives that aim at attracting both local and global SWFs.

In Nigeria, the Sovereign Wealth Fund was established in 2011 and commenced operations in 2012 with the seed fund of US\$1 billion. The Fund is managed by the Nigeria Sovereign Investment Authority (NSIA). NSIA operates three (3) funds, namely the Stabilisation Fund the Future Generations Fund and the Nigeria Infrastructure Fund. The strategic asset allocation to these Funds stands at 40% for the Nigeria Infrastructure Fund, 40% for the Future Generations Fund, and 20%

for the Stabilisation Fund. Over the years, NSIA sustained its infrastructure strategy anchored on three core principles: direct investment in focus sectors; establishment of co-investment funds; and creation of financial institutions and instruments to enable investment infrastructure. The sector focus of the fund are real estate development, healthcare, power, agriculture and motorways. This fund is a veritable source of financing for KADIMP and should be appropriately explored.

# CHAPTER 6

## Implementation Plan



## 6.1 Institutional Framework for Implementation and Delivery

A very ambitious Infrastructure Plan like KADIMP will require a strategic institutional framework for implementation and delivery, otherwise the plan will just be an addition to the numerous development plans lying fallow at bookshelves. Nigeria, and indeed, many States have never lacked credible plans. What has been a major issue is implementation. As a departure from the old way of doing things, the KADIMP

will have medium term operational or implementation plans which will form the basis for capital allocations in the annual Budgets. The Government has also indicated its commitment to implement the KADIMP. Some of the structures that will be put in place to ensure effective implementation of the KADIMP include establishment of a Results Delivery Unit (RDU) and M&E Unit among other things.

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## 6.2 M&E Framework

For effective implementation of the infrastructure projects contained in KADIMP, a Semi-autonomous M&E Office has been established under the State Planning and Budget Commission to work closely with the M&E Departments or Units of the various Ministries in the State. SMART Key Performance Indicators (KPIs) are being developed and deployed for the respective MDAs to achieve based on the projects that they are scheduled to implement. The M&E Reports will form the basis for release of capital allocations to the Ministries and sectors. The M&E Unit will also train and upscale the capacities of M&E officers both at the State and Local Government levels.

To ensure effective monitoring of the infrastructure projects, the Eyes and Ears Project (E&E) has been established as a strategic M&E Tool for tracking the implementation of the KADIMP Plan. The Eyes and Ears Project is a local, home grown solution and one of the strategic performance assessment tools used by the

State Planning and Budget Commission to track performance information on various projects and programmes in Kaduna State and progress towards achieving various performance indicators as provided in the State Development Plan (SDP) and KADIMP.

In this regard, it is important to identify the strategic gaps that are required to strengthen the usage of the E&E Platform as a policy tool to track delivery of the KADIMP results. In order to ensure successful performance tracking and provision of evidence-based information to support decision-making on the implementation of the infrastructure master plan, it is necessary to bridge the identified gaps (see Appendix 8). These include the need to:

1. **Scale up the Primary level data collection (Field Monitoring Exercise) to handle both horizontal and vertical integration that connects Planning and Budget Commission to the RDU and priority MDAs responsible for**

**delivering critical infrastructure.** The implementation of KADIMP requires vertical and horizontal integration in such a way that the pivot MDAs driving infrastructure implementation would handle technical milestone reporting while Planning and Budget Commission tracks result delivery as it relates to the KADIMP performance indicators. This coordination is required to effectively track the implementation of the infrastructure master plan and path towards successful achievement of the strategic goals and objectives.

## 2. Develop Strategic Results

**Framework that identifies critical Key Performance Indicators to measure implementation and results delivery through the performance monitoring plan.**

In order to ensure the targets in the KADIMP are being tracked, it is important to codify and streamline the results delivery especially on issues around PPP financing and documenting the infrastructure register by building a performance monitoring plan that identifies critical baseline data and performance targets required to be achieved within the plan. It is well known that baseline data strengthening is required through the State Statistical System to ensure that the right priorities are focused on to deliver the KADIMP.

## 3. Setup an evaluation framework that institutionalize learning and

**develop a knowledge management framework that assesses the impact of the infrastructure implementation to critical areas of the SDP.** It is important to assess the effect and impact of the infrastructure master plan implementation through series of policy evaluation, process evaluation and financing evaluation across well-defined areas through sector performance reviews that analyzes the intended or unintended consequences of implementing the KADIMP. The ultimate aim is to determine the relevance and achievements of the strategic objectives of the plan in addition to understanding the effectiveness, efficiency, impact and sustainability of infrastructure implementation.

## 4. Build a dedicated and holistic executive dashboard that tracks implementation of the KADIMP and provides early warning system on several components of the KADIMP like PPP Financing, Implementation Progress & Results Delivery.

The executive dashboard provides a global view of the implementation of the KADIMP by ensuring that the various performance indicators are tracked and data analysis and interpretation are handled via a business intelligence dashboard and data trend analysis. This ensures regular reporting for feedback and corrective actionable steps.

# PUBLIC EXPENDITURE TRACKING SYSTEM



Figure 6.1: Public Expenditure Tracking System



## 6.3 Performance Measurement

Performance management has come to be the norm in assessing success of projects all over the world. Thus, performance management will be central in the implementation of the KADIMP. During the drafting of the operational plans for the Master Plan, detailed Key Performance Indicators (KPIs) will be provided for all the selected priority infrastructure projects, highlighting the inputs, outputs and timelines. This will ensure effective tracking of the implementation of the KADIMP with a view to ascertaining compliance or otherwise with the objectives and execution priorities of the Plan, detecting deviations and ensuring remedial actions are taken.

As part of the institutional approach to implementing KADIMP, the implementation framework for monitoring infrastructure financing and delivery has an early warning component under the **Eyes and Ears Project** that provides real time feedback on the rate of return and implementation progress of infrastructural projects through budgetary investments in the State. The Early Warning System is a 3-staged indicator tracker (Red, Amber & Green Progress Indicator) that assesses

infrastructure implementation from a fiscal, process and results perspective (see Figure 4.6). It operates under the 80/20 rule by ensuring that 80% of budgetary investment are meeting fiscal, process and results targets while ensuring the efficiency and effectiveness of infrastructural investments by reducing systemic risks to only 20% of projects funded.

A review of the early warning reporting index as at December 15, 2017 shows that institutional reforms undertaken by the State Government had begun to take shape with 554 (40%) out of the 1,365 projects monitored on track to deliver on their strategic objectives while systemic risks associated with financing to completion and implementation issues were reduced to 457 projects or 33% (Figure 6.2). This indicates that 67% of total infrastructural investments were in the positive quadrant and more probable to be completed given the right fiscal framework (out of which 40% are in line to deliver on strategic results). A further sector-by-sector analysis of projects under the early warning framework are further shown below:

### On Track/Early Warning System

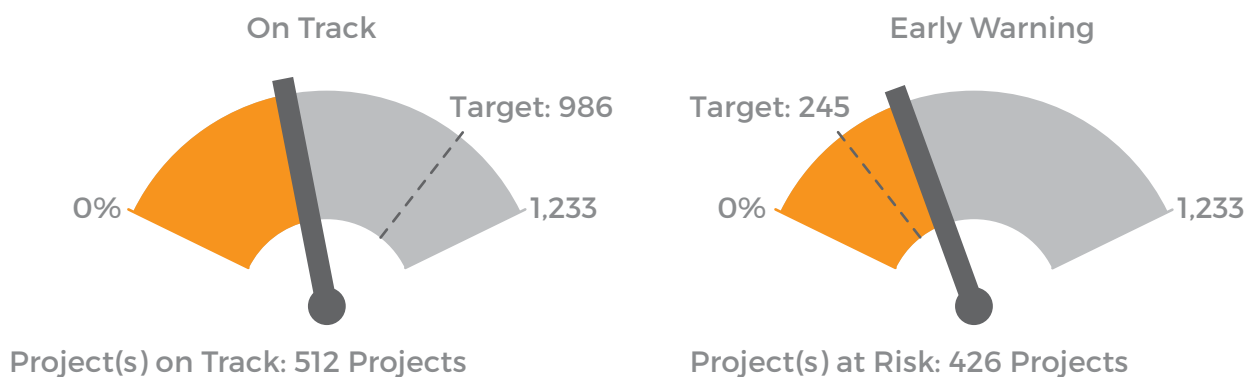


Figure 6.2: On Track/Early Warning System

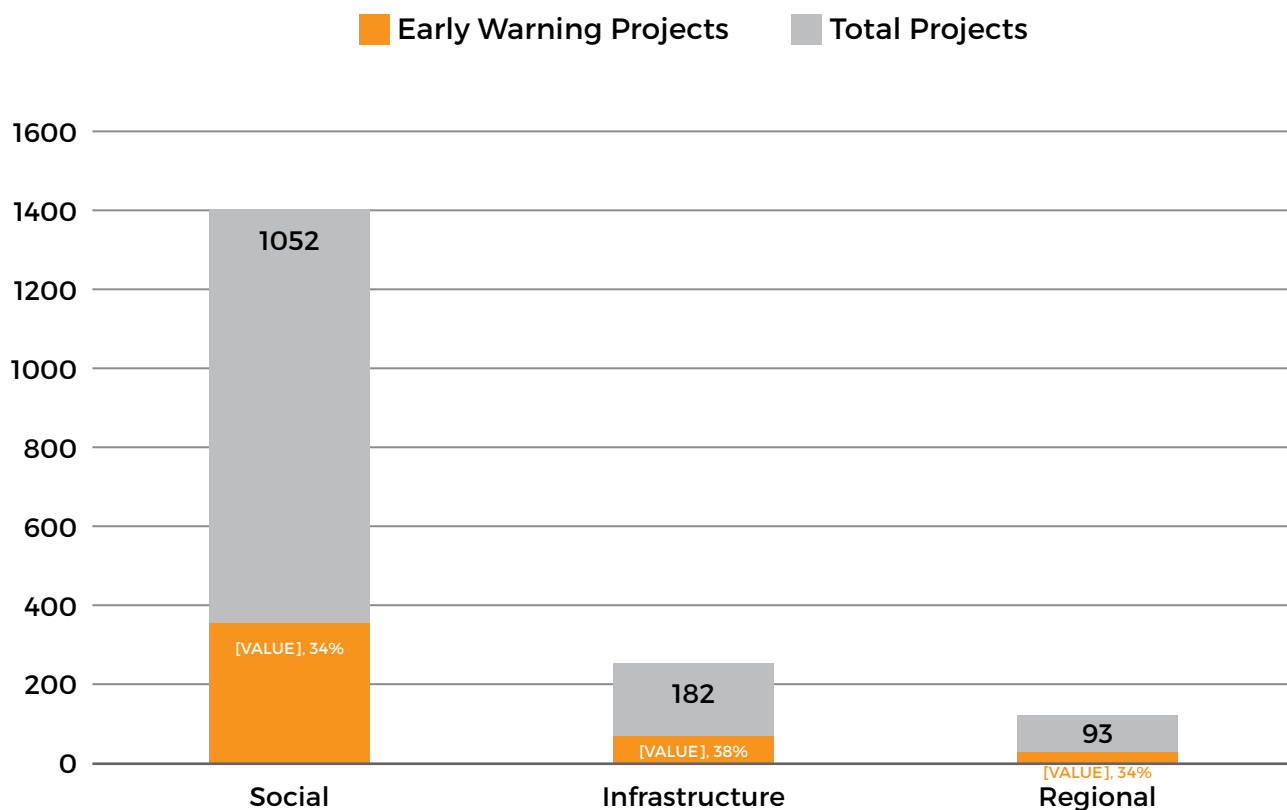


Figure 6.3: Results of Early warning System for Project Monitoring

Analysis of the early warning system shows that 1 out of every 3 projects monitored was at risk of systemic failure due to a number of issues. This is especially common in the **Social Sector** consisting of investments in Education and Health Subsector particularly public primary schools and primary healthcare. Similar findings are discernible in the **Infrastructure Sector** consisting of township roads, state trunk roads and environmental infrastructural assets like erosion control and refuse management as well as **Regional Sector** consisting of rural development especially hand pump boreholes and rural electrification. The causative issues that need to be resolved or mitigated include:

- a. **Financing constraints affecting completion of a number of infrastructural projects:** Financing under the annual budgetary framework is not sufficient to fund infrastructural investment gaps. This is further compounded by fiscal constraints due to revenue shortages especially from FAAC allocation and huge amount of resources required to revamp infrastructure at both rural and urban areas. Given that the State alone cannot fund existing infrastructure gaps, there is a need for financing partnership to ensure systemic risks to project implementation are reduced to the barest minimum so as to build a sustainable infrastructure model that partners with private sector to drive financing to completion of such projects.

**b. Size and Quality of Contractors contributing to early warning status due to financing capability to successfully execute awarded contracts without Government's support**

Given Kaduna State's policy of supporting SMEs by providing opportunities for them to participate in Government contracts, a number of infrastructural projects were observed to be under the early warning state due to full dependence on Government resource mobilization and staged payments to execute contractual obligations.

A number of the infrastructure development projects were stopped while waiting for further cash injections from Government because the SMEs executing

the contracts did not have the financial capability to implement them without support from the State. This affects the quality of implementation and creates cash management challenges for both Government and Contractors.

Within the KADIMP framework, Government needs to continuously improve the level and quality of implementation by supporting SMEs to bridge their financing gap through special financing windows like Infrastructure Trust Fund that can provide access to finance at an affordable cost. This will also allow for the opportunity to provide mechanism for MSMEs to upscale using appropriate tools/machinery and skilled labour to improve quality of implementation.

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## 6.4 Reporting/Communication

Emphasis will be placed on preparing reports on the status of infrastructure projects. The monitoring and evaluation team is expected to produce an annual report. This will provide the basis for review of the projects with the view to improving on successes recorded and addressing the challenges encountered during the implementation. There will be the need

to have a communication plan for the KADIMP to ensure that stakeholders and benefiting communities are aware of the plan so that they can effectively support its implementation. The Planning Commission intends to produce a citizens' guide to the KADIMP to kick off sensitisation meetings within each LGA.

## 6.5 Institutional Capacity Development.

### Budget and Planning Commission

A Budget and Planning Commission has been established by provision provided in the Kaduna State Budget and Planning Law, 2016. It is charged with performing all functions relating to state budget and planning and some of these impact on implementation of KADIMP directly.

These include:

- Attract, co-ordinate and monitor domestic and international donor support, projects and programmes for the benefit of the State;
- Provide guidelines, advice and give support to Ministries, Departments and Agencies in relation to budgeting, planning monitoring, review and policy implementation;
- Provide State guidance and oversight on Local Government planning, budgeting and economic development;
- Provide a focal point for the coordination and formulation of State economic planning and budgeting policies and programmes;
- Enhance the efficiency of public sector spending and general economic management; and
- undertake evaluation of the performance of key sectors across the State and make recommendations on areas for improvement.

### Infrastructure Project Development Unit (IPDU)

Given the importance of infrastructure development which is at the heart of creating a vibrant economy for improvement of the living standards of the people of Kaduna State, a dedicated

Infrastructure project development unit is being set up within the Planning Commission. This IPDU will work closely with MDAs in the key sectors.

The IPDU should strive to achieve the following important objectives:

- To direct private sector investment towards development of public infrastructure
- To supply numerous bankable infrastructure projects in various sectors to enable private sector to play key role in developing efficient and state of the art infrastructure
- To facilitate and assist MDAs in identifying and developing appropriate PPP projects that should create win-win solution for both public and private sectors
- To facilitate private sector, in collaboration with MDAs, in effectively marketing the projects that have potential to be undertaken on PPP basis
- To assist MDAs in creating value for money solutions out of infrastructure project financing deals
- To provide guidelines to MDAs, private sector sponsors, financiers and advisors in order to create an enabling private sector investment environment
- To mobilize local commercial finances towards building infrastructure

The functions of the IPDU will include the following:

- To provide a blend of technical, financial and legal expertise to MDAs in identifying, developing and procuring infrastructure projects on PPP basis;

technical expertise may be brought in-house or procured from the market on case to case basis;

- To identify the infrastructure projects which should have the potential to offer private sector appropriate rate of return on its investment along with creating value for money solution for public sector;
- To trigger feasibility studies of the potential infrastructure projects to be undertaken on PPP basis. In this regard effective collaboration of relevant MDAs will be sought to ensure timely and purpose-oriented deliverables;
- To propose innovative project financing solutions apart from traditional commercial banks' lending, such as issuing infrastructure bonds, creating pebble structures (allowing state pension

and insurance institutions to invest in long-tenor projects);

- To assess and structure infrastructure projects through using a wide variety of private sector participation models; and
- Impart necessary PPP knowledge and training in various MDAs so that they can be capacitated to take ownership of PPP projects and ensure their effective implementation and monitoring.
- Strengthen the capacity for effective management and maintenance of all infrastructure in the State.

The IPDU will need to develop its service policy which will address the following important aspects as shown in the Figure 6.4 below.

Scope	Sectors	Investment Threshold
<ul style="list-style-type: none"> <li>• IPDU will make its service offering available to relevant MDAs</li> <li>• IPDU will only focus on infrastructure project that are either initiated by MDA on its own or received as unsolicited proposal by an MDA</li> </ul>	<ul style="list-style-type: none"> <li>• Electricity generation, transmission and distribution</li> <li>• Renewable Energy</li> <li>• Roads, highways and bridges</li> <li>• Telecommunications and data transfer technologies</li> <li>• Transportation and logistics</li> </ul>	<ul style="list-style-type: none"> <li>• IPDU consider infrastructure projects of an initial investment of not more than US\$ 5 million</li> <li>• IPDU will not go ahead with PPP project whose viability is seriously questioned and involves out of proportion capital subsidy (say 60% of total project cost)</li> </ul>

Figure 6.4: Role of the IPDU

Figure 6.5 below illustrates the services to be provided by the IPDU.



Figure 6.5: Services of the IPDU

## 6.6 Strategic Partnerships

For both the financing of projects and for technical support for the Planning Commission, the State authorities will deepen strategic partnerships to ensure effective implementation of the KADIMP. The whole process of project development from conception to viability through to bankability requires seasoned expertise and transfer of knowledge to State institutions to assure sustainability. Some examples are provided here of where knowledge sharing is available and extensive but this list is by no means exhaustive. Institutions like EU, JICA and USAID among others have programmes for pre-feasibility support while the African Development Bank, Islamic Development Bank and World Bank have a depth of knowledge, network and expertise for undertaking feasibility studies of large infrastructure projects.

For many of the priority projects more work needs to be done to bring them to the stage of bankability and the support of institutions like the African Finance Corporation (AFC) should be sought in areas where AFC is likely to invest. The State Government through its investment promotion arm should also consider having infrastructure project EXPOs on an annual basis and invite prospective private sector investors (both local and external) to have bilateral meetings on specific projects.

The KADIMP provides the framework for strategic partnerships and resource mobilisation both domestic and external and if effectively leveraged will serve to provide a solid foundation to achieve the aspirations of the current Administration and its citizens to **Make Kaduna Great Again!**



**KADRA**

**MAINTENANCE**

**MEN AT WORK**



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# APPENDICES

## Appendix 1: Distribution of Household with Access to Motorable Road

Classification		Accessible*
<b>LGA</b>	Bimin Gwari	72.7%
	Chikun	84.4%
	Giwa	75.3%
	Igabi	42.2%
	Ikara	77.5%
	Jaba	98.7%
	Jema'a	73.2%
	Kachia	71.8%
	Kaduna North	87.5%
	Kaduna South	70.7%
	Kajuru	76.7%
	Kagarko	79.7%
	Kaura	80.1%
	Kauru	10.2%
	Kubau	63.4%
	Kudan	59.3%
	Lere	64.2%
	Makarfi	77.0%
	Sabon Gari	59.8%

Classification		Accessible*
	Sanga	30.5%
	Soba	41.1%
	Zangon Kataf	75.2%
	Zaria	59.2%
	State	66.2%
<b>Senatorial Zone</b>	Zone 1 (North)	62.2%
	Zone 2 (Central)	72.6%
	Zone 3 (South)	64.3%
	Urban	69.1%
	Rural	65.5%

\* Is the road to your house accessible by a normal car throughout the year

Source: Kaduna State General Household Report 2015

## Appendix 2: Distribution of Household by Sources of Electricity

Classification		Sources of electricity supply:				
		NEPA/PHCN/Kaduna Electric	Rural electrification	Private generator	Solar power	None
<b>LGA</b>	Bimin Gwari	72.7%	6.7%	0.6%	0.6%	21.2%
	Chikun	83.2%	0.0%	5.6%	0.0%	16.2%
	Giwa	59.6%	12.0%	1.2%	0.0%	30.1%
	Igabi	80.0%	5.6%	0.6%	0.0%	20.0%
	Ikara	47.0%	0.0%	0.7%	0.0%	53.6%
	Jaba	86.0%	0.0%	10.0%	0.0%	12.7%
	Jema'a	75.4%	0.5%	2.2%	0.0%	24.6%
	Kachia	60.2%	0.0%	26.0%	0.6%	29.3%
	Kaduna North	99.4%	1.1%	1.1%	0.0%	1.1%
	Kaduna South	99.5%	0.0%	2.1%	0.0%	0.5%
	Kajuru	72.0%	0.0%	11.3%	0.0%	22.7%
	Kagarko	79.7%	0.0%	0.0%	0.0%	20.3%
	Kaura	76.8%	0.0%	0.0%	0.7%	23.2%
	Kauru	6.0%	0.0%	3.0%	0.0%	92.2%
	Kubau	51.2%	0.0%	11.6%	0.0%	42.7%
	Kudan	88.0%	0.0%	0.0%	0.0%	12.0%
	Lere	49.7%	0.0%	5.5%	0.6%	48.5%
	Makarfi	59.7%	0.0%	8.6%	0.0%	38.1%
	Sabon Gari	98.2%	0.0%	1.8%	0.6%	1.8%
	Sanga	57.3%	1.8%	3.0%	0.0%	37.8%
	Soba	42.3%	0.0%	11.0%	0.0%	58.3%
	Zangon Kataf	35.2%	0.0%	12.1%	1.8%	56.4%
	Zaria	90.5%	0.0%	11.9%	0.5%	9.0%
<b>State</b>		68.7%	1.2%	5.7%	0.2%	28.7%
	Urban	96.7%	0.3%	4.5%	0.3%	3.3%
	Rural	62.1%	1.5%	6.0%	0.2%	34.8%
<b>Senatorial Zone</b>	Zone 1 (North)	66.6%	0.0%	6.6%	0.2%	32.2%
	Zone 2 (Central)	81.6%	3.6%	3.1%	0.1%	15.5%
	Zone 3 (South)	59.0%	0.3%	7.3%	0.4%	37.5%

Source: Kaduna State General Household Report 2015

## Appendix 3: Households by Main and Improved Source of Drinking Water

Classification	Main Source of drinking water:								
	Borehole/ hand pump	Other	Pipeborn water	Protected well	Rain water	River, lake or pond	Un- protected well	Vendor, truck	Improved sources of drinking water
Bimin Gwari	8.5%	0.6%	2.4%	22.4%	0.6%	13.9%	49.7%	1.8%	33.9%
Chikun	10.6%	0.6%	25.7%	41.3%	0.6%	3.4%	10.1%	7.8%	78.2%
Giwa	13.3%	0.0%	0.6%	21.1%	0.6%	4.8%	54.2%	5.4%	35.5%
Igabi	18.3%	0.0%	0.6%	18.9%	0.0%	3.3%	55.0%	3.9%	37.8%
Ikara	16.6%	0.0%	9.9%	7.9%	0.0%	0.0%	63.6%	2.0%	34.4%
Jaba	4.7%	0.0%	32.7%	21.3%	0.7%	9.3%	30.7%	0.7%	59.3%
Jema'a	19.1%	0.0%	13.1%	51.4%	0.0%	7.7%	7.1%	1.6%	83.6%
Kachia	33.1%	0.0%	8.8%	29.8%	0.6%	14.4%	12.7%	0.6%	72.4%
Kaduna North	10.2%	0.6%	50.0%	4.0%	0.0%	0.0%	10.2%	25.0%	64.2%
Kaduna South	22.5%	0.0%	49.7%	16.2%	0.0%	0.0%	8.4%	3.1%	88.5%
Kajuru	30.0%	0.7%	0.0%	30.7%	0.0%	0.0%	38.7%	0.0%	60.7%
Kagarko	34.5%	0.0%	0.7%	14.2%	0.0%	16.2%	34.5%	0.0%	49.3%
Kaura	14.6%	0.0%	34.4%	28.5%	0.0%	9.3%	13.2%	0.0%	77.5%
Kauru	9.6%	0.0%	0.0%	12.6%	0.6%	37.1%	40.1%	0.0%	22.8%
Kubau	0.0%	0.6%	3.0%	23.2%	0.0%	0.0%	73.2%	0.0%	26.2%
Kudan	4.7%	0.0%	4.7%	24.0%	0.0%	0.0%	66.7%	0.0%	33.3%
Lere	26.1%	1.8%	3.0%	12.1%	0.0%	6.1%	49.7%	1.2%	41.2%
Makarfi	2.9%	0.0%	0.0%	33.8%	0.0%	0.0%	62.6%	0.7%	36.7%
Sabon Gari	18.3%	0.0%	18.3%	23.2%	0.0%	0.0%	13.4%	26.8%	59.8%
Sanga	42.1%	0.0%	0.0%	6.1%	0.0%	32.3%	18.9%	0.6%	48.2%
Soba	9.2%	0.6%	0.0%	23.9%	0.0%	10.4%	49.7%	6.1%	33.1%
Zangon Kataf	9.1%	1.8%	4.8%	47.3%	0.0%	9.7%	26.7%	0.6%	61.2%
Zaria	17.4%	0.5%	5.5%	29.4%	0.0%	0.0%	25.4%	21.9%	52.2%
Urban	17.2%	0.3%	30.6%	18.4%	0.0%	0.0%	14.6%	18.9%	66.3%
Rural	16.3%	0.4%	7.6%	25.0%	0.2%	9.5%	39.2%	1.8%	49.1%
Zone 1 (North)	12.3%	0.5%	5.6%	22.3%	0.0%	2.1%	49.3%	8.0%	40.2%
Zone 2 (Central)	16.1%	0.3%	19.5%	21.9%	0.2%	3.6%	31.6%	6.9%	57.7%
Zone 3 (South)	21.0%	0.2%	11.5%	27.0%	0.2%	17.0%	22.5%	0.5%	59.7%
<b>State</b>	<b>16.5%</b>	<b>0.3%</b>	<b>12.0%</b>	<b>23.8%</b>	<b>0.2%</b>	<b>7.7%</b>	<b>34.5%</b>	<b>5.1%</b>	<b>52.4%</b>

Source: Kaduna State General Household Report 2015

## Appendix 4: Households by Type of Drainage Used

Classification	What type of drainage system is on your street?				Drainage system cleaned at least twice a year?	Who cleans the drainage system?		
	Covered concrete drain	Mud	None	Uncovered concrete drain		Community	Government employed personnel	Individual
Bimin Gwari	0.0%	24.2%	47.3%	28.5%	67.8%	6.8%	0.0%	93.2%
Chikun	16.2%	9.5%	52.5%	21.8%	65.9%	3.6%	1.8%	94.6%
Giwa	0.0%	19.3%	54.8%	25.9%	70.7%	11.3%	0.0%	88.7%
Igabi	0.0%	15.6%	57.8%	26.7%	71.1%	7.4%	0.0%	92.6%
Ikara	2.0%	31.1%	39.7%	27.2%	69.2%	3.2%	0.0%	96.8%
Jaba	2.7%	30.0%	50.7%	16.7%	97.3%	0.0%	0.0%	100.0%
Jema'a	0.5%	10.4%	87.4%	1.6%	91.3%	57.1%	0.0%	42.9%
Kachia	1.7%	9.9%	86.2%	2.2%	64.0%	6.3%	0.0%	93.8%
Kaduna North	5.7%	9.1%	26.7%	58.5%	85.3%	19.1%	2.7%	78.2%
Kaduna South	12.0%	11.0%	30.4%	46.6%	76.7%	2.0%	13.7%	84.3%
Kajuru	0.0%	15.3%	84.0%	0.7%	33.3%	0.0%	0.0%	100.0%
Kagarko	0.0%	13.5%	79.1%	7.4%	87.1%	18.5%	3.7%	77.8%
Kaura	0.0%	19.9%	76.8%	3.3%	77.1%	18.5%	0.0%	81.5%
Kauru	0.6%	9.6%	88.2%	3.6%	82.6%	36.8%	0.0%	63.2%
Kubau	0.0%	14.0%	84.1%	1.8%	92.3%	50.0%	0.0%	50.0%
Kudan	0.7%	30.0%	42.7%	26.7%	65.1%	1.8%	0.0%	98.2%
Lere	0.6%	26.1%	61.2%	12.1%	79.7%	9.8%	0.0%	90.2%
Makarfi	1.4%	37.4%	41.7%	19.4%	77.8%	19.0%	0.0%	81.0%
Sabon Gari	4.9%	42.1%	16.5%	36.6%	81.8%	13.4%	1.8%	84.8%
Sanga	0.0%	0.0%	95.7%	4.3%	28.6%	0.0%	0.0%	100.0%
Soba	0.6%	49.1%	40.5%	9.8%	58.8%	1.8%	0.0%	98.2%
Zangon Kataf	0.0%	9.1%	85.5%	5.5%	95.8%	8.7%	0.0%	91.3%
Zaria	7.5%	24.9%	27.4%	40.3%	53.4%	6.4%	5.1%	88.5%
State	2.7%	19.6%	58.6%	19.1%	73.0%	10.8%	2.2%	87.1%
Urban	7.7%	21.3%	25.5%	45.5%	73.8%	10.7%	5.7%	83.6%
Rural	1.5%	19.2%	66.4%	12.8%	72.6%	10.8%	0.3%	88.9%
Zone 1 (North)	2.4%	31.5%	43.9%	22.2%	69.2%	10.5%	1.2%	88.3%
Zone 2 (Central)	5.1%	14.7%	49.5%	30.7%	72.6%	8.8%	4.1%	87.1%
Zone 3 (South)	0.7%	12.5%	81.5%	5.3%	85.5%	15.5%	0.5%	84.1%

Source: Kaduna State General Household Report 2015

## Appendix 5: Households by Type of Toilet Facilities Used

Classification of LGAs	What type of toilet facility does your household use most frequently?								
	Covered pit latrine	Flush to sewer	Flush to septic tank (Soak away)	None, open defecation	other	Pail/ bucket	Toilet on water	Ucovered pit latrine	Ventilation improved pit latrine
Bimin Gwari	54.5%	0.0%	3.0%	0.0%	0.0%	0.0%	0.0%	42.4%	0.0%
Chikun	39.7%	6.1%	42.5%	1.1%	0.0%	0.0%	3.9%	5.6%	1.1%
Giwa	39.8%	0.6%	4.8%	3.0%	3.6%	0.0%	0.0%	48.2%	0.0%
Igabi	48.9%	0.6%	7.8%	0.6%	0.0%	0.0%	0.0%	42.2%	0.0%
Ikara	46.4%	0.0%	3.3%	0.0%	0.0%	0.0%	0.0%	49.7%	0.7%
Jaba	54.7%	0.0%	19.3%	0.0%	0.0%	0.7%	0.0%	24.7%	0.7%
Jema'a	35.5%	3.3%	26.8%	21.3%	0.0%	0.0%	0.5%	12.0%	0.5%
Kachia	37.6%	7.7%	13.8%	24.3%	7.2%	0.0%	2.2%	6.1%	1.1%
Kaduna North	34.1%	21.0%	30.7%	0.0%	0.0%	0.0%	0.6%	13.6%	0.0%
Kaduna South	29.3%	17.8%	38.2%	1.0%	0.5%	0.5%	0.5%	12.0%	0.0%
Kajuru	40.7%	0.7%	4.7%	13.3%	11.3%	0.0%	0.0%	27.3%	2.0%
Kagarko	16.9%	4.7%	4.7%	7.4%	19.6%	0.0%	0.0%	46.6%	0.0%
Kaura	41.7%	6.0%	24.5%	3.3%	0.0%	0.0%	0.7%	23.8%	0.0%
Kauru	25.1%	2.4%	0.6%	38.3%	6.6%	0.0%	1.8%	22.2%	3.0%
Kubau	54.9%	0.0%	0.6%	0.0%	0.6%	0.0%	0.0%	42.7%	1.2%
Kudan	50.7%	0.0%	2.0%	0.0%	0.0%	0.0%	0.0%	47.3%	0.0%
Lere	38.2%	3.0%	0.6%	7.9%	0.6%	2.4%	0.0%	39.4%	7.9%
Makarfi	51.1%	0.0%	1.4%	10.1%	0.0%	0.0%	0.0%	34.5%	2.9%
Sabon Gari	31.1%	11.6%	24.4%	0.6%	0.0%	0.6%	0.0%	31.7%	0.0%
Sanga	42.1%	10.4%	1.8%	14.6%	0.6%	0.0%	0.0%	30.5%	0.0%
Soba	36.2%	0.0%	1.2%	8.0%	1.2%	0.0%	0.0%	53.4%	0.0%
Zangon Kataf	37.6%	3.6%	7.3%	32.1%	1.8%	0.0%	0.0%	16.4%	1.2%
Zaria	60.2%	0.5%	11.4%	0.0%	0.5%	0.0%	1.0%	22.9%	3.5%
<b>State</b>	<b>41.1%</b>	<b>4.5%</b>	<b>12.5%</b>	<b>8.2%</b>	<b>2.3%</b>	<b>0.2%</b>	<b>0.5%</b>	<b>29.6%</b>	<b>1.1%</b>
Zone 1 (North)	46.3%	1.9%	5.9%	3.2%	0.4%	0.4%	0.2%	39.6%	2.1%
Zone 2 (Central)	40.8%	7.0%	19.6%	2.5%	2.0%	0.1%	0.7%	26.8%	0.4%
Zone 3 (South)	36.4%	4.8%	12.5%	18.3%	4.4%	0.1%	0.7%	22.1%	0.8%
Urban	39.3%	12.4%	26.0%	0.4%	0.3%	0.3%	0.5%	19.8%	1.0%
Rural	41.6%	2.7%	9.3%	10.0%	2.7%	0.2%	0.5%	31.9%	1.2%

Source: Kaduna State General Household Report 2015

## Appendix 6: Percentage Distribution of Household by Type of Housing Units

Classification		Type of housing unit:					
		Bungalow	Duplex	Flat	Other	Single room	
LGA	Bimin Gwari	12.7%	0.0%	17.0%	17.6%	52.7%	
	Chikun	0.0%	0.0%	25.1%	8.9%	65.9%	
	Giwa	7.8%	0.0%	28.9%	19.9%	43.3%	
	Igabi	2.2%	0.0%	30.6%	10.6%	56.7%	
	Ikara	20.5%	0.0%	16.6%	0.0%	62.9%	
	Jaba	2.7%	0.7%	52.7%	0.0%	44.0%	
	Jema'a	9.8%	0.0%	26.2%	8.2%	55.7%	
	Kachia	1.1%	0.0%	23.8%	18.2%	56.9%	
	Kaduna North	1.7%	4.5%	41.5%	11.9%	40.3%	
	Kaduna South	9.9%	3.7%	30.9%	5.2%	50.3%	
	Kajuru	0.0%	0.0%	7.3%	20.7%	72.0%	
	Kagarko	0.0%	0.0%	45.3%	0.7%	54.1%	
	Kaura	10.6%	0.0%	25.8%	0.0%	63.6%	
	Kauru	20.4%	0.0%	6.6%	10.2%	62.9%	
	Kubau	4.3%	4.3%	51.2%	3.7%	36.6%	
	Kudan	22.7%	0.0%	22.0%	0.0%	55.3%	
	Lere	9.1%	2.4%	31.5%	7.3%	49.7%	
	Makarfi	19.4%	0.0%	17.3%	1.4%	61.9%	
	Sabon Gari	1.2%	1.2%	53.7%	36.0%	7.9%	
	Sanga	2.4%	0.6%	38.4%	14.0%	44.5%	
	Soba	7.4%	0.6%	35.0%	36.2%	20.9%	
	Zangon Kataf	21.2%	0.0%	24.8%	4.2%	49.7%	
	Zaria	18.4%	4.5%	48.8%	6.5%	21.9%	
	Urban	8.3%	3.6%	43.4%	14.1%	30.6%	
	Rural	9.0%	0.5%	27.7%	9.8%	53.0%	
	Zone 1 (North)	12.7%	1.8%	35.5%	11.6%	38.3%	
	Zone 2 (Central)	5.0%	1.2%	26.4%	13.2%	54.2%	
	Zone 3 (South)	8.6%	0.2%	29.9%	7.3%	54.0%	
	Household size	1-2	5.8%	0.7%	26.8%	8.9%	57.8%
		3-4	7.2%	0.6%	29.3%	9.6%	53.4%
5-6		9.5%	0.7%	30.9%	10.7%	48.2%	
7+		12.3%	2.2%	34.9%	13.2%	37.3%	
State		8.9%	1.1%	30.7%	10.7%	48.7%	

Source: Kaduna State General Household Report 2015

# Appendix 7: Methodological Notes

## Housing

Assumptions were based on:

- Target of 10,000 housing units annually (built by Govt and private investors in the ratio of 50:50 spread across the 23 LGAs over the Plan period.
- The houses are to be mass/social houses so average unit cost (1,2 & 3 bedrooms pegged at ₦7 million.
- There was no information on available housing/deficit
- Also took note of population dynamics

## Roads construction

Assumptions were based on:

- Target is to build/renovate an average of 15 kilometers of Roads in each of the 23 LGAs annually by Government and Private investors (amounting to a total of 350km annually.
- Dualized road cost per km is ₦900,000,000 while undualized road is ₦500,000,000 based on Kaduna State Road infrastructure plan estimates – so we took average of ₦700,000,000 million per km.
- Also took note of population dynamics

## Education

Assumptions were based on:

- Universal 10% threshold for education budget
- Share of education in last 3 year budgets of the State
- School needs of the State based on population dynamics

## Health

### Tertiary

- Target is to have at least one tertiary hospital per each of the political zones of the State in addition to the State University Teaching Hospital
- Average size of the Hospitals is 500 beds with state of the art equipment
- Average cost of such hospital based on US standard (model tertiary hospital 530 beds) is \$800 million dollars (Also took note of population dynamics ₦244 billion).



## Secondary

- Baseline is 30 Secondary health centers across the 23 LGAs
- Target is to have 69 (i.e 3 per LGA)
- Deficit is 39 Secondary Health centers

## Primary

- Baseline is 1,068 PHCs
- Target is 1,530 PHCs (6 per political ward)
- Deficit is 462 PHCs
- Note: The share of capital budget threshold for health of 15% of the State Budget was also used in addition to other extrapolation from the past 3 years budgets of the State

## Agriculture

Assumptions based on:


No of Silos (20,000MT)	6
Unit cost of a sillo (₦ billion)	4
Total Cost	24.00
Processing Facilities (Units)	23
Unit cost of a sillo (₦ billion)	69.00
Agric Total (Naira Billion)	93.00

## Appendix 8: M&E Infrastructure Gaps

Strategic Objectives	Infrastructure Gaps
<p>Scale up the Primary level data collection (Field Monitoring Exercise) to handle both horizontal and vertical integration that connects PaBC to the Governor’s Delivery Unit and priority MDAs responsible for delivering critical infrastructure.</p>	<ul style="list-style-type: none"> <li>• Mobile Data Collection Tool for Primary Level Data Collection</li> <li>• Development of Infrastructure Register Portal</li> <li>• Mobile Hand Held GPS Devices</li> <li>• Computer Systems</li> <li>• Private Cloud Storage Area &amp; Localized Server Infrastructure for asynchronous processing</li> <li>• Dedicated Internet Provisioning for PaBC &amp; Priority MDAs</li> <li>• SPSS</li> </ul>
<p>Develop Strategic Results Framework that identifies critical Key Performance Indicators to measure implementation and result delivery through the performance monitoring plan.</p>	<ul style="list-style-type: none"> <li>• Expansion of E&amp;E to include Results Based Reporting &amp; Balance Scorecards</li> </ul>
<p>Setup an evaluation framework that institutionalize learning and develop a knowledge management framework that assesses the impact of the infrastructure implementation to critical areas of the SDP.</p>	<ul style="list-style-type: none"> <li>• Setup of Survey Evaluation Module to measure effectiveness, efficiency, impact and sustainability</li> <li>• Evaluation Reporting Analysis Module</li> <li>• Big Data &amp; Data Quality Triangulation</li> </ul>
<p>Build a dedicated and holistic executive dashboard that tracks implementation of the KADIMP and provides early warning system on several components of the KADIMP like PPP Financing, Implementation Progress &amp; Results Delivery.</p>	<ul style="list-style-type: none"> <li>• Infrastructure Master Plan Executive Dashboard</li> <li>• Dedicated Situation Room &amp; Engagement Center</li> <li>• Transitioning E&amp;E Call Center to a Toll-Free Line, SMS Crowd Sourcing</li> <li>• Provision of Referral Feedback Service Centers for Citizen Engagement</li> <li>• Geospatial Mapping of Critical Infrastructure Investments</li> <li>• Engagement of Data Scientist, Subject Matter Experts</li> </ul>



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