
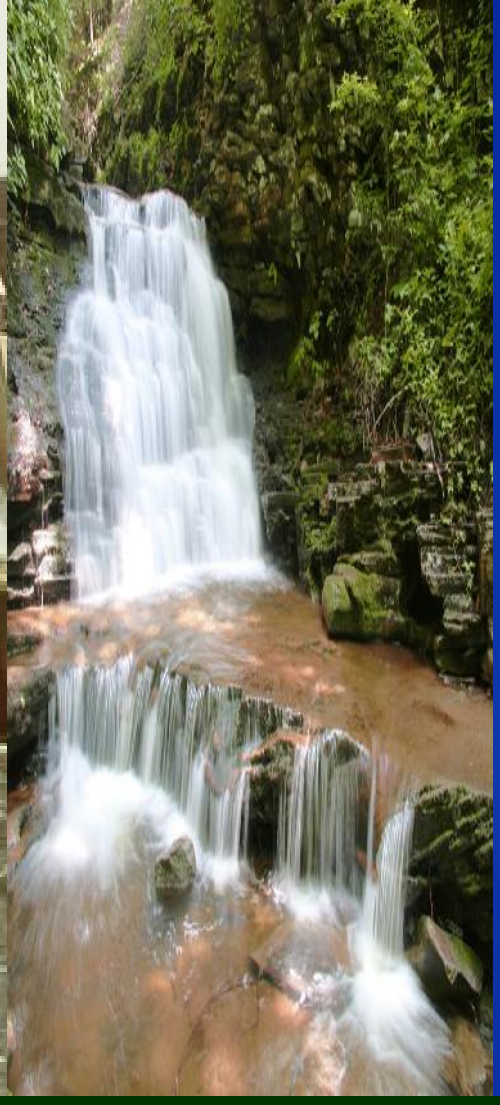


EXECUTIVE SUMMARY OF THE NIGERIA WATER SECTOR ROADMAP

FEDERAL GOVERNMENT OF NIGERIA 2011

FOREWORD

When the Ministry of Water Resources was re-created by the President, Commander-in-Chief of the Armed Forces, H.E. Dr. Goodluck Ebele Jonathan, GCFR, in April last year, he instructed me and my team to go and provide water to all Nigerians at the shortest time possible. I immediately set off to work and along with other stakeholders, including the Commissioners of Water from the States and the Chairmen of the Water Boards, developed what we present to you today as Strategic Roadmap.

These thoughts are the products and the result of consultation at Ordinary and Emergency National Council on Water held in April last year. These thoughts have also been shared with Mr. President.

The emphasis is on partnership and proper role ascription for all stakeholders. In other words, we have endeavoured to set roles and targets for the State Governments, Federal Government, private sector and even the beneficiary communities. If eventually followed through and all stakeholders made to play their deserved role, the Nigerian water sector should be positioned effectively to achieve the 2015 MDGs, the Vision 20:2020 and ultimately the African Water targets.

This is our hope.

Chief Obadiah Ando

Honourable Minister of Water Resources

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EXECUTIVE SUMMARY

The relevance of water to our national development has progressively increased over the years with rapid population growth, urbanisation, agriculture and industrial development. Because of its usefulness in different capacities for direct human consumption, agricultural irrigation, fisheries, hydropower, industrial production, recreation, environmental protection and industrial effluents, it is considered mankind's most unique and indispensable natural resource to manage.

The imbalance in the water infrastructure development, population increase and rapid urbanisation rates has created a serious deficiency in the quality of life of an average Nigerian with its dire consequence on sanitation, food, security, health, employment and standard of living. It is the recognition of this critical issue and gap that led to the necessity for the re-birth of the Nigerian water sector reform. A major step taken by the administration of President Goodluck Ebele Jonathan (GCFR) towards the reform is demerger of the Federal Ministry of Water Resources from the erstwhile Federal Ministry of Agriculture and Water Resources in April 2010.

The current administration has also identified programmes and initiatives capable of transforming the Ministry and encouraging private sector participation in the management and execution of government's aspiration. Accordingly, the Federal Government through the Federal Ministry of Water Resources has observed the need to develop a roadmap for water resources development to put the nation back on track in achieving the Vision 20:2020 targets, Millennium Development Goals (MDG) targets for 2015 and the Africa Water Vision in 2025.

The desired reform in the water resource sector is centred on a number of key imperatives.

- Harnessing the current and potential opportunities and addressing operational challenges within the water resources sector with a view to ascertaining the nature and level of investment required in the sector.
- Ensuring the supply and utilisation of water in the country meets acceptable quality and standards.
- Establishing the means to acquire, collate, manage and disseminate hydrological, hydro meteorological and hydro geological information for each of the river basins in Nigeria.
- Harnessing the power generation potentials of dams across the country for better improvement.

Additionally, some of the on-going programmes and initiatives of the Ministry of Water Resources are targeted at strengthening the legal and institutional framework. The enabling legal framework to be instituted by the ministry will ensure:

- that water resources in the country are put to beneficial use to the optimum level
- that funds from both Public and Private sector participation in the development of the water sector would be prudently managed in order to serve the best interest and welfare of the people

In order to ensure a holistic approach and systemic overhauling of the sector, the water sector reforms will be conducted over short term, medium term and long term periods. In view of this, strategies have been developed for each time frame dovetailed into specific projects and programmes which we believe will facilitate the achievement of our overall objective for the sector

Whilst the Federal Government through the Ministry of Water Resources is committed to resolving specific obstacles against the Reform, it is also conscious that the quality of Reform is a clear indication of its overall Investment and funding philosophy. Accordingly, the Government has defined broad-based investment and funding strategies. Some of these strategies are tailored towards the construction of dams, irrigation, water supply projects and other related projects across different states of the Federation.

This roadmap articulates the objective of the Federal Government in developing the nation's water resources towards the actualization of the sector's potentials over a short term, medium term and long term period.

INTRODUCTION

Water as a basic human right has received global acceptance. The importance of this life-dependent resource has attracted the concern of many nations across the world. The strong desire to attain optimal human benefit from the use of water has compelled many countries to evolve a clear roadmap for the development, effective management and utilisation of their water resource potential for the present and unborn generation.

This roadmap has received major inputs from the National Water Resources Master Plan document and the outcomes of the Emergency Meeting of the National Council on Water Resources held in Abuja between 17th and 18th of May, 2010 following the re-creation of the Ministry in February, 2010. Additional inputs were also obtained from the "Jos Declaration on Water" at the 20th Regular Meeting of National Council on Water Resources held between 11th and 12th of November, 2010. Furthermore, consultations have been held with Development Partners, Civil Society Organisations, and other key stakeholders and inputs received integrated into the roadmap.

Nigeria is endowed with adequate fresh water resources, with a coastline of about 800 km in the south and also Lake Chad basin in the north. From big rivers like, Niger, Benue, Kaduna, Anambra, Imo, Gongola etc. to small lakes, streams and ponds in the rural areas, these water resources are sources of livelihood and wealth creation to many families on a daily basis. This shows the immense potential and opportunities in the water resources sector for the Nigerian economy. However the challenge of development of the sector has been the inability to implement the

integrated, demand driven approach and effective resource management. It has however been observed that what Nigeria has is a top down, supply driven approach of water resource management. This has instigated the need for reform, restructuring and repositioning f the water sector for more effective water delivery

THE REFORM IMPERATIVES

The Federal Government is committed to bringing an end to the nation's stunted growth and usher in the fresh air of prosperity by pursuing a new era of sector-wide reform which is driven by improved service delivery to all Nigerians using water resources in one capacity or the other. The desired reform in the water resource sector is therefore centred on a number of key imperatives.

Creation of Opportunities and addressing operational challenges

- To harness the current and potential opportunities and addressing operational challenges within the water resources sector with a view to ascertaining the nature and level of investment required in the sector.
- To explore opportunities for possible private sector participation in the water resources management in the sector.

Maintenance of Water quality and Sanitation standard

- To ensure easy accessibility of supply of water to all Nigerians, including the poor and the most rural.
- To reduce the pollution of surface and groundwater due to human and industrial waste.

Water Resource Assessment

- To establish an optimum hydrological network and collect baseline data and information on the River basins in Nigeria in order to aid better decision making

regarding the abstraction, storage, flows and associated risks in the management of the river basins.

Dams and Irrigation

- To improve the operations, maintenance and safety of dams.
- To harness the power generation potentials of dams across the country for better improvement.
- To organise the irrigation system so that participatory irrigation management can be practised in Nigeria.
- To minimise the effect of flooding in Nigeria.

The Federal Ministry of Water Resources is determined not only to implement this reform devotedly but also to conduct its operations methodically and efficiently in a manner that will achieve sustainability and good governance. More importantly, the Ministry has acknowledged that the chronic debilitation of the sector can only be reversed through radical changes in the ownership, control and regulation of the sector.

MITIGATING THE IMPACT OF CLIMATE CHANGE

It is common knowledge that the world is rapidly going through a period of climate change. This global phenomenon has the capacity to change the water supply levels and the requirements of managing water resources in Nigeria. With about 1.4% of Nigeria land mass drained with surface waters, it is an unavoidable fact that the Country is also vulnerable to these climatic changes. Some of the changes prevalent in Nigeria include:

- The rise of sea level which may lead to increasing coastal inundation and flooding of low lying areas like Lagos, Calabar and Port Harcourt. There are estimates that a one meter rise in the sea level could lead to the submergence of about 75% of the Niger Delta.
- Potential of experiencing drought and desertification in the northern part of the Country. The Sahara desert is increasing at the pace of 0.6sq km per year or 350,000 hectares of farmland.
- It is also disturbing to know that the Lake Chad has experienced water loss from 27,000 sq. km in 1963 to its present 1,800 sq. km.

DEVELOPING LEGAL AND INSTITUTIONAL FRAMEWORK

Some of the on-going programmes and initiatives of the Ministry of Water Resources targeted at strengthening the legal and institutional framework include:

- Collaboration with National Assembly for passing into law:
    - River Basin Development Authority Bill
    - Nigeria Integrated Water Resources Commission
- Strengthening the operation and efficiency of newly created Nigeria Hydrological Services Agency (NIHSA) and National Water Resources Institute/UNESCO regional water centre
- Signing of agreement with the Ministry of Power on Hydropower sector development.
- Initiation and conclusion of agreement with the Ministry of Agriculture on development of Joint Master Plan on Irrigation Development across the country.
- Initiation and conclusion of agreement with the Ministry of Environment on environment management and climatic condition management.

- Creation of the Nigeria Hydrological Services Agency (NIHSA).
- Creation of the Nigeria Integrated Water Resources Commission.
- Enhancement of the framework and institutional arrangements for the management of the nation's River Basins which will enhance wider coverage, promote efficient services delivery and ensure equitable distribution of resources.
- Creation of regional offices for Dams, Irrigation, Water Supply , Quality control and Sanitation who report to the Directors at the Federal Ministry of Water Resources.
- Development of Model State Water Supply Services Regulatory Law in August 2006.
- Development of National Water Resources Bill in April 2007. The Ministry is in the process of updating the law to cater for other areas to be addressed by the reform

The enabling legal framework to be instituted by the ministry will ensure that:

- Water resources in the country are put to beneficial use to the optimum level
- Funds from both Public and Private sector participation in the development of the water sector would be prudently managed in order to serve the best interest and welfare of the people
- Government is planning to indigenise the construction of handpump within the next five(5) years and also to encourage the partnership of foreign firms in building capacity and training of local employees within the sector
- The Government will work with other line ministries such as Ministry of Health, Education, Information, National Orientation Agency, Environment, External

Support Agencies (ESAs), NGOs, CBOs etc. to create conducive environment towards scaling up sanitation in the country.

STRATEGY FOR INVESTMENT AND FUNDING

The government is saddled with the responsibility of developing the Nigerian infrastructure sector because of the huge demand that is placed on it. The sector which includes transportation, health, roads, rail etc is currently facing a severe challenge of resource constraint because of population and urbanisation growth. Considering that the water sector is relevant to the survival of this infrastructure sector, there is an urgent need to deploy right funding strategy for the achievement of the sector's programmes and projects

Whilst the Federal Government is committed to resolving specific obstacles against the Reform, it is also conscious that the quality of Reform is a clear indication of its overall Investment and funding philosophy. Accordingly, the Government has defined investment and funding strategies over short, medium and long term periods. Some of these strategies are tailored towards the construction of dams, irrigation, water supply projects and other related projects across different states of the Federation. The strategy for projects' conceptualisation, development and selection has been driven by a broad-based consideration of the various interventions required to meet the overall objectives for the water resources sector.

- Construction of Motorised/ Solar Powered Boreholes
- Supply and Installation of package water treatment plants
- Completion of abandoned urban/semi-urban water supply projects
- Continuation of small Earth Dam projects

- Completion of MDG and abandoned Dam projects
- Creation of enhanced centre pivot irrigation project
- Construction of drainage and farmland reclamation projects

CHAPTER ONE: CURRENT STATUS OF THE WATER SECTOR

Based on the assessment of the water resources sector in Nigeria, projects and programmes can be broadly categories into the following seven (7) areas:

- Water Supply and Sanitation,
- Dams and Reservoirs,
- Irrigation and Food Security,
- Hydrology and Flood Control,
- Integrated Water Resources Management
- Development of River Basin Development Authorities(RBDAs)
- Capacity Building for Water Resource Sector.

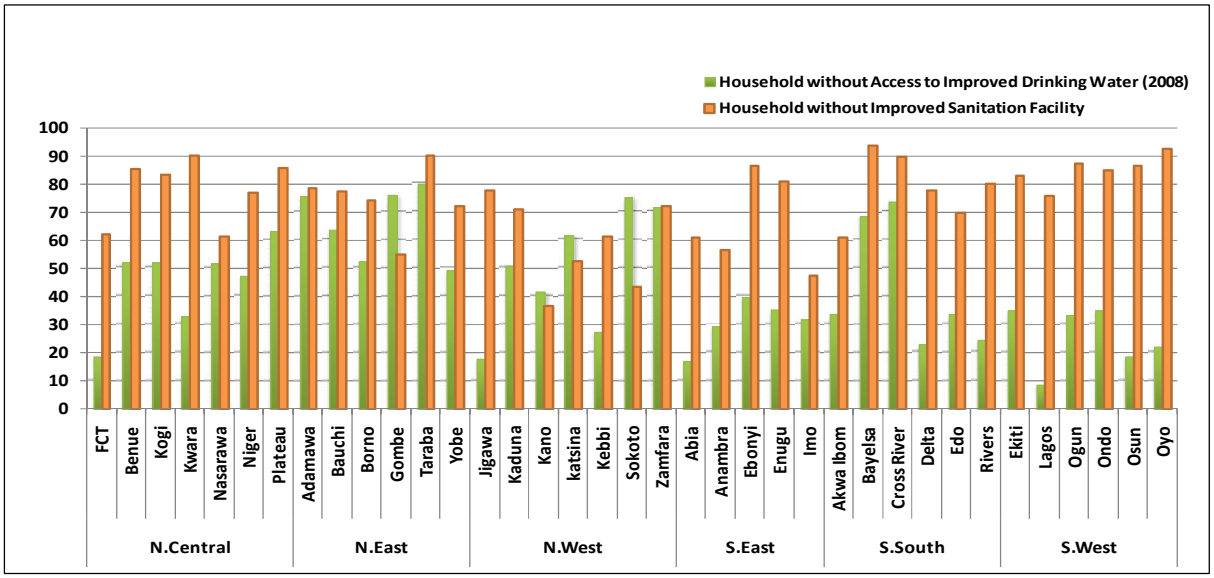
Water Supply and Sanitation

Nigeria has huge water resources potential estimated at **267 billion** cubic meters of surface water and **92 billion** cubic meters of ground water. The current water supply service coverage in the country is **58%, i.e. 87 million** people while sanitation is **32% i.e. 54 million.** About half of the Nigerian population, i.e. **70 million** people, is without access to potable water supply. This represents about 6% of the world's population who do not have access to safe drinking water. According to the World Health Organisation, 1.8 million people die annually from water borne diseases; 90% being children less than 5 years old, with these deaths concentrated largely in developing countries such as Nigeria. About 194,000 of children under 5 years old die annually in Nigeria due to cholera, diarrhoea and other related water borne

diseases, translating into the water-related death of 868 children on a daily basis in Nigeria.

Most of the affluent neighbourhoods and government reservation areas in urban centres have piped domestic connections. The less affluent use yard taps, protected hand-dug wells and water tankers. The poor water vendors are often the only choice or open wells dug by individual householders. Urban piped water is subsidised with flat rate tariffs kept low in order to make water available to the poor. The people who are actually benefiting from subsidised water are the relatively well-off people; the poor are generally not connected to a piped water supply. Many are buying their water from water vendors and paying many times more than the more affluent consumers.

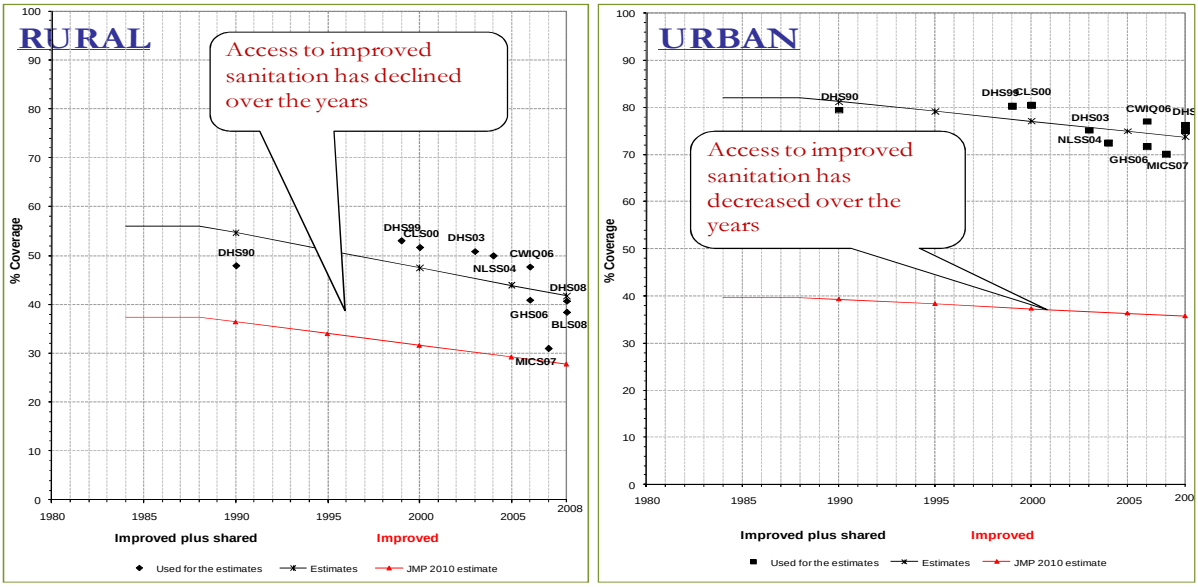
Table 1: Current Status of Water Supply and Sanitation



Water quality falls into two categories – general water quality and drinking water quality; the former deals with raw water in its natural form that can support aquatic life as well as the ecosystem; the latter is raw water that has been treated and is of a

quality fit for human consumption. Standards are required for all water, surface and ground water, in all of its uses in order to protect water as a usable resource.

Fig 1: Use of Improved Sanitation

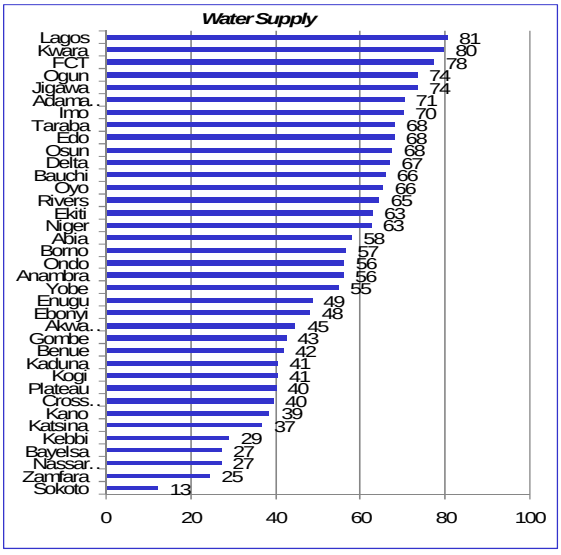


In terms of overall perspective, the relatively low development of water resources in Nigeria among the sub-Saharan African countries that lose about **5%** of their GDP annually or **US$28.4 billion** annually and **40 billion** work hours annually is apparent. This figure exceeds the total foreign aid and debt relief inflow into the region as a result of under-development and poor management of water resources.

Population with Access	Joint Monitoring Programme(JMP) 1990	Joint Monitoring Programme(JMP) 2008	Nigerian Demographic and Health Survey(NDHS)	Water supply and sanitation baseline survey (WSSBS) 2007
Improved Water Supply				
Rural	30	42	43.8	49.9
Urban	79	75	79.7	69.3
National	48	58	55.8	54.3

Population with Access	Joint Monitoring Programme(JMP) 1990	Joint Monitoring Programme(JMP) 2008	Nigerian Demographic and Health Survey(NDHS)	Water supply and sanitation baseline survey (WSSBS) 2007
Improved Sanitation				
Rural	36	28	28.1	59.6
Urban	39	36	37.5	85.2
National	37	32	31.2	65.6

Table 2: Water supply and Sanitation coverage data



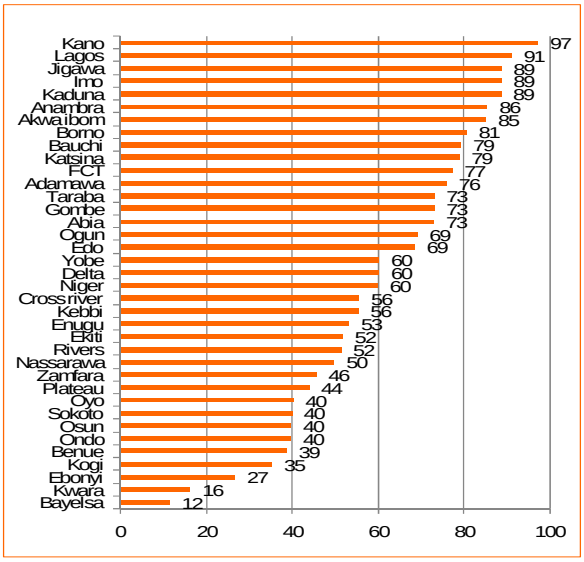


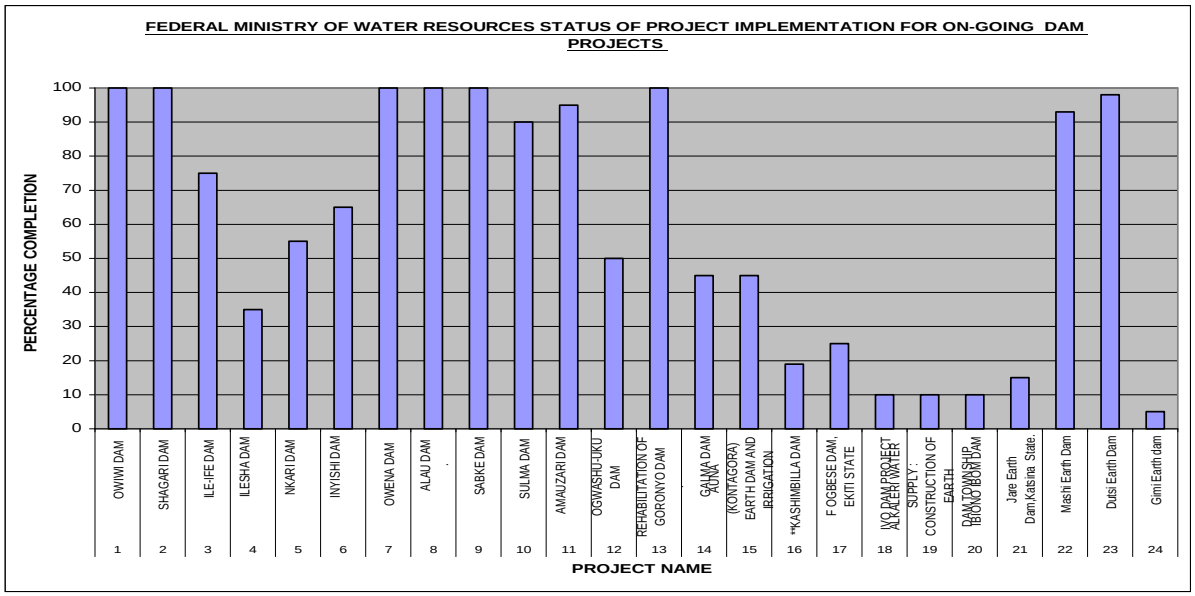
Table 3: Water supply and sanitation baseline survey (WSSBS)

Dams and Reservoir

Nigeria has witnessed an upsurge in dam construction in the past three decades. Nigeria currently has over **200 dams** with a combined storage capacity of **34 billion** cubic metres. This is capable of irrigating about **500,000** hectares of land. The effect of the sahelian drought of 1972 – 1975 aggravated the food shortage in the country prompting the various levels of government to embark on a rigorous policy to increase food production. To achieve this, impoundment of river basins was seen as

inevitable to provide sufficient water for year-round irrigation. Out of these, **19** dams have hydropower potential to generate about **3,600 MW** of electricity. The country also has additional potential of **7,000MW** electricity generation if more of Dams are built.

Fig 2 Status of On-going Dam Projects



Irrigation and Food Security

Nigeria has the potential to irrigate about **3.1 million** hectares of farmland but only **150,000** hectares has been fully developed. Irrigation has potential of increasing agricultural productivity by as much as ten-folds. Fishery can be greatly enhanced by effective utilization of Dams/irrigation facility.

River Basins and Water Management

The involvement of the Federal Government in water resource development is through the River Basin Development Authorities (RBDAs). The first two RBDAs to

be set up were the Chad Basin and the Sokoto-Rima, which were formally established in 1973 with the promulgation of Decrees Nos. 32 and 33 of 19738. Subsequently, nine additional RBDAs were created by Decree No. 25 of 1976 as federal parastatals to ensure that a nationwide systemic and consistent programme of water resources development was achieved to stem the rapid rural/urban migration and its attendant problems during the oil boom era and to reduce the effects and devastation of nationwide erosion and flooding.

Since 1976, the RBDAs have undergone some operational and structural changes to improve their relevance and efficiency as spelt out in Decree No 35 of 1986. The administration in 1984 increased the number of RBDAs to eighteen (18) but this was reduced to eleven (11) in 1986. Decree 35 of 1986 First Schedule provides a list of the eleven (11) RBDAs, their area of operation and their headquarters. These RBDAs were later increased to twelve (12) with the splitting of the Niger River Basin Development Authority into Upper and Lower Niger in 1994. The twelve (12) current river basin development authorities are:

- Anambra-Imo River Basin Development Authority,
- Benin-Owena River Basin Development Authority,
- Chad River Basin Development Authority,
- Cross River Basin Development Authority,
- Hadejia-Jama'are River Basin Development Authority,
- Lower Benue River Basin Development Authority,
- Lower Niger River Basin Development Authority,
- Niger Delta River Basin Development Authority,
- Ogun-Osun River Basin Development Authority,

- Upper Benue River Basin Development Authority,
- Upper Niger River Basin Development Authority, and
- Sokoto-Rima River Basin Development Authority.

There are however on-going plans to further review the institutional arrangements of the RBDAs to split four (4) of the above into eight (8) namely:

- Anambra River Basin Development Authority,
- Imo River Basin Development Authority,
- Benin River Basin Development Authority,
- Owena River Basin Development Authority,
- Ogun River Basin Development Authority,
- Osun River Basin Development Authority,
- Sokoto River Basin Development Authority, and
- Rima River Basin Development Authority.

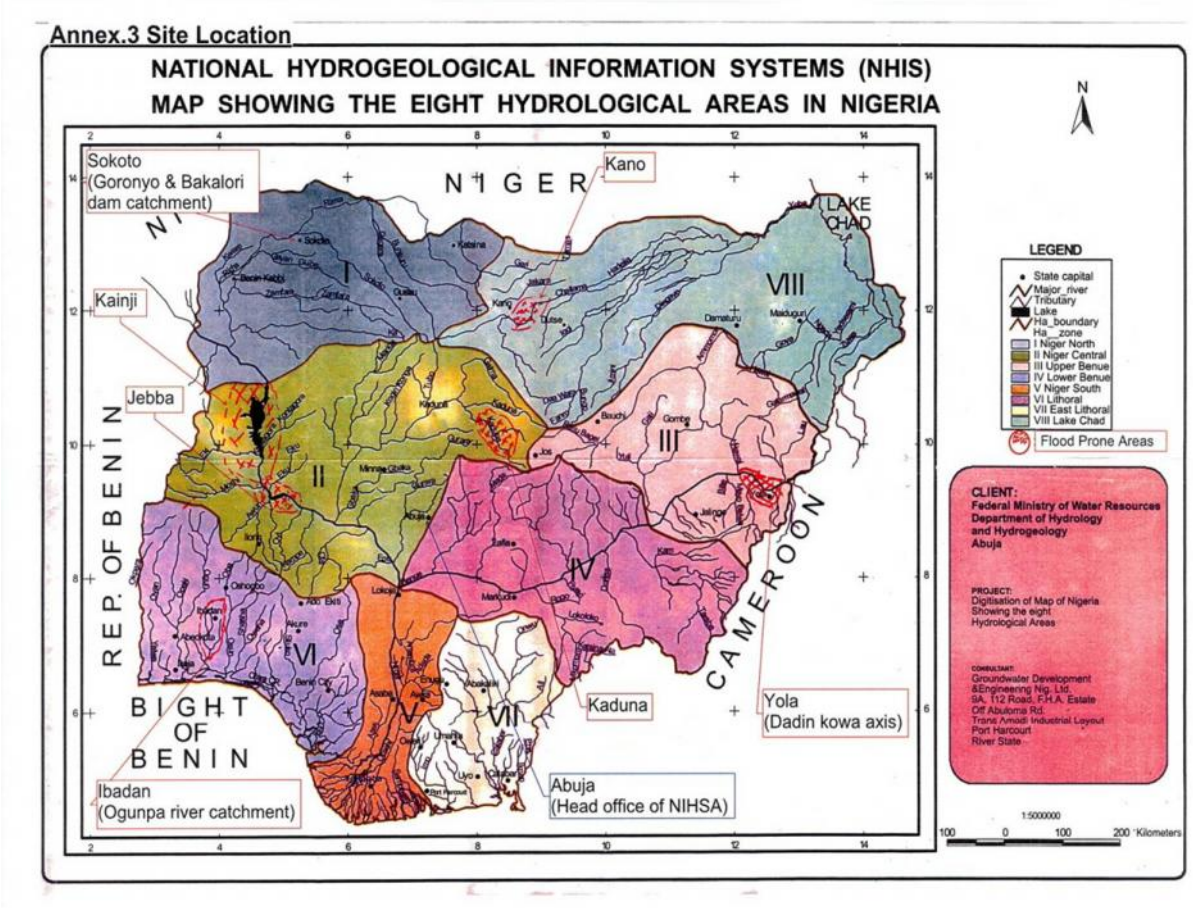
River Basin Development Authorities has identified various on-going projects that will deliver over 150,000 hectares of land for additional irrigation in the short term. It will also upscale water supply in various areas by over 25%. In the long term, the river basin will achieve over 300,000 hectares of land for irrigation and upscale of water supply in various areas by over 30%

Surface and Groundwater Monitoring

The surface and ground water monitoring is important for effective utilization and control of surface and ground water as well as forecasting for the prevention of extreme events such as flooding and drought; and management and operation of reservoirs, hydraulic structures, etc.

The most basic data requirement for the purposes of water resource management is the measurement of river flows and the monitoring of aquifers. If there is to be any effective management of water resources there needs to be measurement, collection and analysis of hydrological and meteorological data. There is need to deploy a robust system and also upgrade existing equipment in order to effectively carry out these measurements. Technical Assistance will be required to design the system and funding required to supply and install equipment and to provide training in its use.

Fig 3: Surface and ground water monitoring



From the 1995 Study Report of the **JICA**-assisted Water Resources Master Plan for Nigeria, the surface and groundwater resource potentials of the country are **267.30 x**

10^9 m^3 and **51.9 x 10^9 m^3** annual yields, respectively. The distribution of the water resources, (both surface and groundwater resources in the eight (8) Hydrological Areas, is submitted below:

	Hydrological Areas								TOTAL
	HA1	**HA-II**	**HA-III**	**HA-IV**	**HA-V**	**HA-VI**	**HA-VII**	**HA-VIII**	
River Basin Dev Auth. (RBDAs)	Sokoto-Rima	Upper Niger & Lower Niger	Upper Benue	Lower Benue	Anambra-Imo & NigerDelta	Ogun-Oshun & Benin-Owena	Cross-River	Hadejia-Ja'mare & Chad	
States in Nigeria	Sokoto Zamfara Katsina Kebbi	Niger Kwara Kaduna Kogi FCT	Adamawa Taraba Bauchi Gombe Kogi	Benue Nassarawa Plateau	Anambra Enugu Imo, Bayelsa Rivers	Oyo Ogun Oshun Lagos Ondo, Edo Delta Bayelsa	Cross-River; Akwa-Ibom Abia Ebonyi	Kano Jigawa Yobe, Borno, Bauchi Gombe	
Area (10^3 sq km)	**131.6**	**158.1**	**158.9**	**73.0**	**53.9**	**100.5**	**59.8**	**188.0**	**923.8**
Surface Water Potential (10^9 cu. m)	22.4	32.6	55.0	28.0	20.0	35.4	65.7	8.2	**267.3**
Groundwater Potential (10^9 cu. m)	4.3	8.18	6.99	4.32	7.15	9.02	6.28	5.58	**51.93**

Bilateral/Multilateral relations

For harmonious management of the trans-boundary water resources which flow across the political boundaries and to minimize conflicts, ensure equitable distribution and use of the natural resources and ecosystem balance, the

Governments of the riparian States bound themselves in organizations to manage these water resources. These bodies are Niger Basin Authority (NBA) located in Niamey (established in 1964 as River Niger Commission and renamed in 1980 as Niger Basin Authority); Lake Chad Basin Commission (LCBC) located in N'Djamena (established in 1964) and Nigeria-Niger Joint Commission Cooperation located in Niamey (established in 1971).

Nigeria plays active role in these organizations and all the Executive Secretaries of these commissions are Nigerians. Nigeria also plays significant role at the African Ministers Council on Water Resources (AMCOW).

Projects Commissioned and Ready for Commissioning

In view of the current administration's drive and commitment to the achievement of the above objectives, there has been focused implementation of targeted intervention projects over the past few months since the Federal Ministry of Water Resources came back into existence. Of these, the Owiwi Dam in Ogun State with capacity of **30 million** cubic metre for water supply has been commissioned while the Northern Ishan Regional Water Supply Project in Edo State with capacity of 9,000m^3/day has been completed and ready for commissioning.

Fig 4: President Goodluck Jonathan commissioning the Owiwi dam

Fig 5: Northern Ishan Regional Water Supply Scheme (completed and ready for commissioning)

CHAPTER TWO: EMERGING CHALLENGES

Other than the overall challenge of meeting existing requirements for water resource management in Nigeria, there are significant ongoing changes to Nigeria's demographics particularly the steady rapid growth in our population and the rate of urbanization. These two trends require adequate forecasting and preparation within this roadmap. These challenges and their implications to water resource management in Nigeria are considered below.

Growth In Population

The world population is expected to double in the next **50 years** and Nigeria being one of the fastest growing nations is projected to reach **289 million** by **2050**. In the same vein, the projected population growth by years 2020 and 2025 would be **210** million and **225** million respectively. [1]

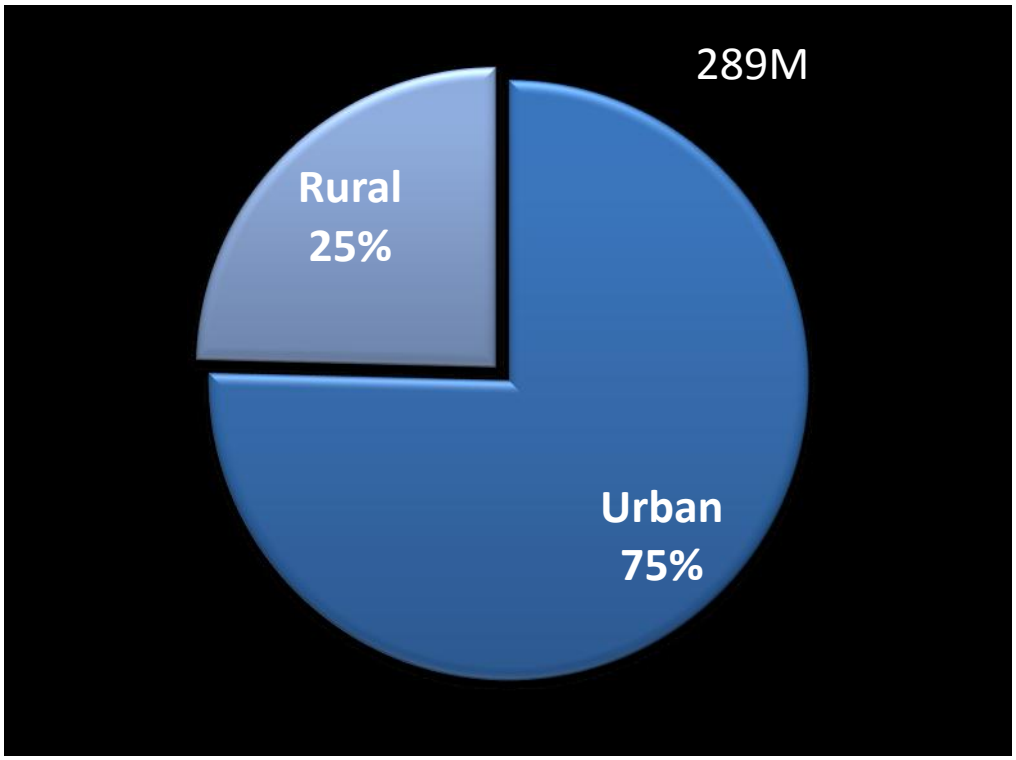
Urbanization

Another highlight of Nigeria's changing demographic is the rapid rate of urbanization at about 4% per annum. The implication of this trend is a meteoric rise in the number and percentage of the population dwelling in urban centers which increases the demand for water and the pressure on the water supply system.

Accordingly, for the estimated population size by year 2050 of 289 million, it has been forecasted that the percentages of the Nigerian population in urban and rural areas will be 75% and 25% respectively.[2]

[1] NPC/unpopulation.org
[2] ibid

Fig 5: Urban/ rural population growth by year 2050



The implication of this projected population explosion is the limitation in the water consumption requirement by 2050. Thus, Nigeria needs **56billion litres of water per day of potable water supply** for domestic use only as well as enough water for industrial and agricultural use. Projected Urban Population of **75%** will place additional pressure on government as it pertains to water supply. There is need for urgent action in terms of planning and capital deployment for provision of the supporting infrastructure and the required human capacity needed to achieve this envisaged target.

Funding Gaps

There exist a huge funding gap towards the execution of the sector key programmes and initiatives. The government is currently saddled with the challenge of coping with

financial constraint of the sector with an annual estimate of $2.5 billion to meet the water and sanitation target between 2011 and 2015.

The Federal Government is making frantic effort towards the deployment of right funding strategy for the recovery of its investment in order to ensure the sustainability of the water sector

Operations and Maintenance Inefficiencies

Operations and maintenance has poised a great challenge for the water resource sector. This problem could range from the limited fund available within the sector, limited capacity and poor maintenance c culture of Nigeria

Capacity Building Constraint

With the growth of population and the attendant massive requirement in water resources infrastructure, there would be a need to build commensurate capacity to cope with the level of demand in water and its infrastructure, adequate human capital would be required. The National Water Resources Institute in Kaduna would be strengthened and equipped to enhance capacity building. Other relevant institutions would be established to manage and regulate the anticipated private sector participation in the development of the sector.

Policy Inconsistency

Policy inconsistency in the sector at both the Federal and State Government levels has overtime hampered the development of the water resources sector in the country. The attendant consequences have been the abandonment laudable programmes initiated half way due to policy somersault.

The water sector is critical to areas such as: Water Supply and Sanitation: for human consumption and basic survival

Water Poverty

Agriculture and Food Security: The water sector provides facilities for irrigation, livestock and fisheries

Hydropower: For electricity generation

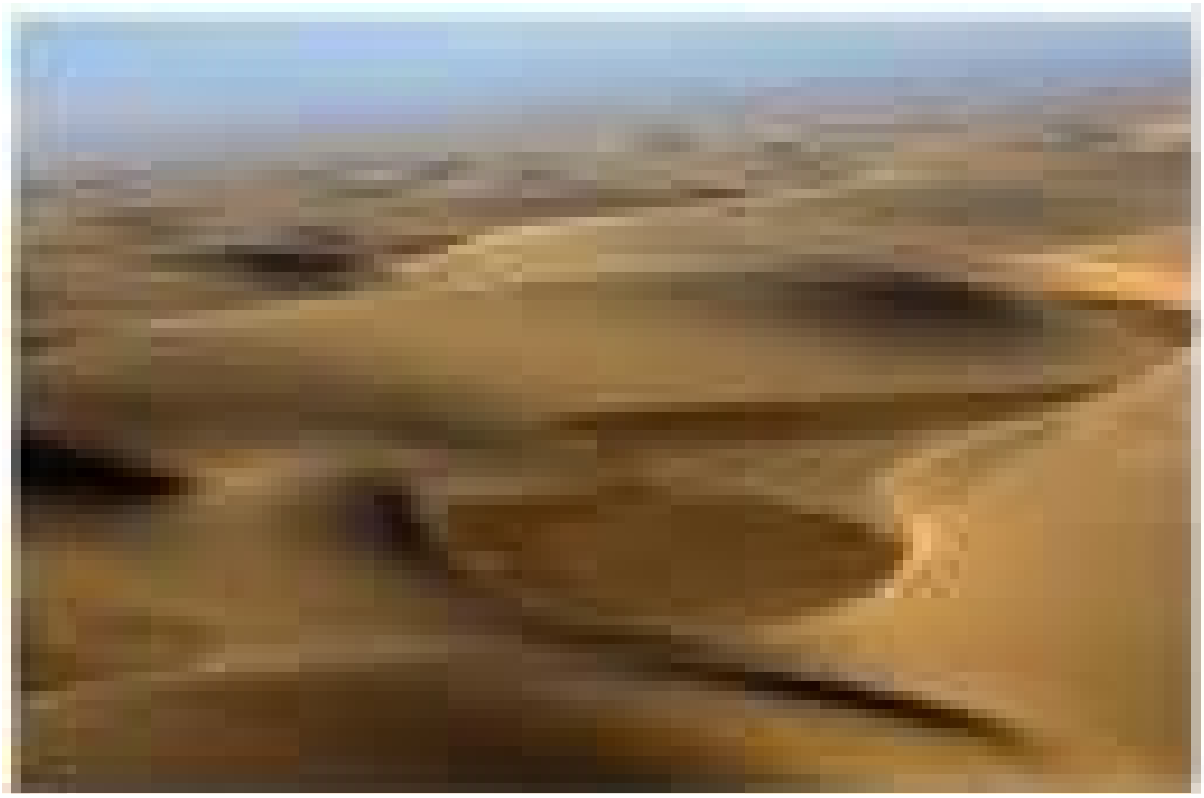
Industrial Production: *for industrial production especially in Food and beverages, textile, pharmaceuticals*

Sub-urban Development*: for new communities which are developed around Dams and Irrigation schemes*

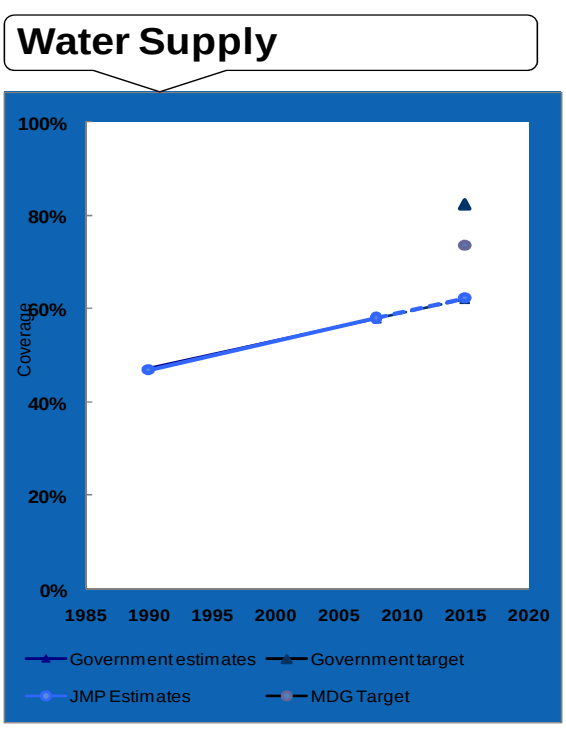
50% of health challenges in developing countries are water related

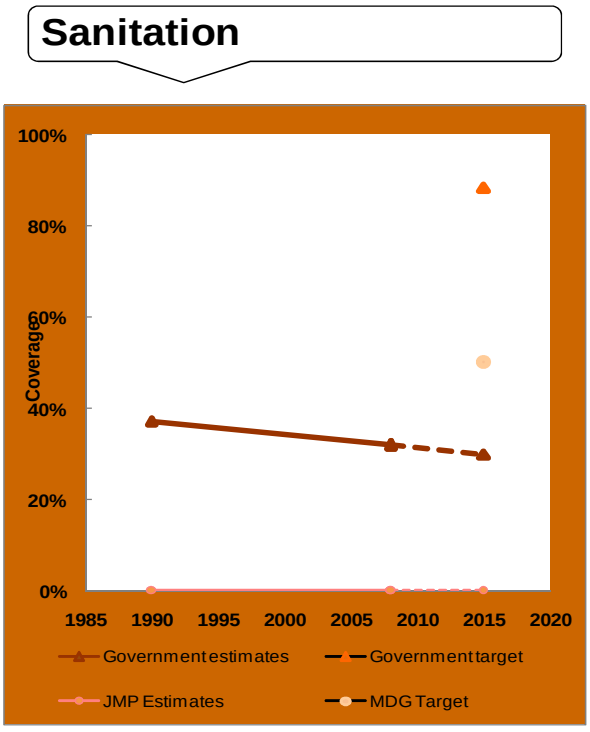
Climate Change: *Proper management of the water sector to mitigate the impact of climate change on the environment. Flooding in Hadejia Jama'are River Basin*

Flooding in Sokoto-Rima Basin



Desertification





Coverage trends (JMP

Water Shop

CHAPTER THREE: STRATEGY AND FUTURE PLAN

The Federal Government of Nigeria (FGN) is committed in taking some bold steps towards the commencement of the reform targeted at accelerating the socio-economic development of the country, particularly in the water resources management sector. In order to ensure a holistic approach and systemic overhauling of the sector, the water sector reforms will be conducted over short term, medium term and long term periods. In view of this, we have developed strategies for each time frame dovetailed into specific projects and programmes which we believe will facilitate the achievement of our overall objective for the sector and the time-bound strategies developed hereunder.

Short Term Goals and Strategy

The short term strategy contains immediate plans with the overarching objective of accelerating water supply coverage in Nigeria towards the attainment of the Millennium Development Goals (MDGs).The short term is defined as a period within the next 12 months commencing in January 2011. The key intervention projects for this period include the construction and supply of water projects, Dams and other Irrigation Systems. Some of the targets of the short term strategy include:

- To bring the Sector back to the mainstream after three (3) years of setback,
- To articulate the intervention government in the provision of water for domestic, agricultural and industrial uses,
- To refocus the Sector for employment generation and poverty alleviation,
- To commence the development and implementation of Public-Private Participation (PPP) as a major means of intervention in the sector.

These short term targets are critical for the achievement of the MDG targets and the Federal Government has identified highly important intervention projects required to bridge the gap in water supply in the immediate term across the country spanning the six (6) geopolitical zones at every level. Furthermore, the current administration has made special intervention funds available for immediate implementation of the following projects in Year 2011 as a measure to rapidly accelerate water supply coverage towards the attainment of the MDG targets and build the necessary momentum for reforms in the water resources management sector. These special intervention projects and programmes are presented in the table below.

SN	Description
Water Supply Projects	
1.	• Construction of one (1) Motorized Borehole (Solar or Generator Set Powered) in each of the 109 Senatorial Districts
2.	• Rehabilitation of 1,000 dysfunctional hand pump boreholes in 18 States – three (3) boreholes for each of the geopolitical zones
3.	• Supply and installation of Special Water Treatment Plants capable of treating fresh water, brackish water and salt water targeted at communities with minimum population size of 2,000 people and maximum population size of 5,000 people. A total of ten (10) of such plants will be installed across the States of the Federation and the FCT, Abuja
4.	• A total of ten (10) Special Intervention Water Supply schemes in selected areas

SN	Description
5.	• Completion of all abandoned urban/semi-urban water supply projects.
6.	• Creation of private sector-driven Water Shops to convert small scale to medium scale producers via improved access to resources.
Construction of Dam Projects	
1.	• Continuation of small Earth Dams in 6 selected States of the Federation..
2.	• Completion of on-going Dams in Bauchi, Katsina and Kaduna states
3.	• Completion of MDG's and abandoned Dam projects
Construction of Irrigation Projects	
4.	• Completion of Shagari irrigation project in Sokoto State
5.	• Commencement of Centre pivot irrigation in nine (9) States of the Federation This is expected to provide about 3,000 hectares of irrigation • Construction of Drainage and Farmland Reclamation in eight (8) States of the Federation. This is expected to provide about 2,000 hectares of farmland
6.	• Construction of the World Bank intervention project for the sum of $450million to develop 35,000 hectares of irrigation in Kano, Gombe, Borno and Adamawa States (These will provide about 5,000 hectares of irrigation for about 10,000 farming families)

SN	Description
7.	Collecting data and information to produce flood plain maps and hydrological maps for the entire country.
8. `	Execute the award of the remaining Seven (7) Hydrological areas for the country

Medium Term Goals and Strategy

The Medium strategy involves the achievement of major tactical plans aimed at promoting the sector stability and creating enabling platform for full realisation of the MDGs targets. The underlying objective of the medium strategy include the improvement and completion of all projects slated for the short term phase.

Key strategic targets to be achieved include:

- Increase the National Water Supply Access from the existing 58% to 75%;
- Increase the National Sanitation Access from the existing 32% to 65%;
- Increase the available reservoir capacity from the existing 34bm3 to 35.5bm3 ;
- Increase total irrigable land from the existing 150,000ha to 225,000ha, an increase of about 50%
- Provide drainage for about 10,000 to 15,000 hectares of farmland
- Create an estimate of about 50,974 new Jobs;
- Enhance rural development programmes - sufficient funds will be made available for rural economy in agriculture for each of the 12 RBDA annually
- Improve overall operational efficiency and maintenance management

The medium term projects and programmes are presented in the table below:

SN	Description	Quantity	Job Potential
Local Government Area			
	• To partner with States, Local Government Area (LGAs) and NGOs for rehabilitation of two (2) dysfunctional Hand pumps in each LGA. Emphasis will be on mobilization, community ownership, training and transfer of operations and maintenance to the beneficiaries	***7,740***	***750***
	• Improve water supply services through rehabilitation, expansion and upgrading in each LGA Headquarters in each state	***37***	***2,610***
	• Rehabilitate five (5) dysfunctional Motorised Boreholes nationwide per LGA.	***3,870***	***12,384***
Small Towns			
	• Joint implementation of on-going small towns' water supply projects with equity contribution between the States and the Federal Government. The completed schemes will be operated and maintained by the community leaderships	***37***	***2,610***
	• Work with ICRC to give concession to the private sector for establishing the new schemes or rehabilitation of the existing one in small towns to be	***148***	***10,440***

SN	Description	Quantity	Job Potential
	operated and managed by private sector		
	• Completion of the abandoned Federal water supply schemes in the States and Federal Institutions	**18**	**2,610**
	• Federal Government to provide funds for completion, expansion, and upgrading of water schemes to all state capitals or other alternative major cities	***37***	***9,780***
	• Provide reticulation in all state capitals and FCT or alternative cities	**37**	**1,850**
	• Collaboration under the PPP arrangement to create water shops around the country	**37**	**1,850**
	• Construction of18No. New Water Quality Laboratories for efficient monitoring of water quality	**18**	**2,610**
• **Dams**			
	• Rehabilitation of existing medium-size dams to enhance safety and efficiency of operation	**15**	**500**
	• Construction of small earth dams and Dykes in partnership with states (5 dams per state, 2 of which will be done by FG while the other 3 dams will be undertaken by the State and the Federal Government with PPP arrangement Construction of five (5) small earth dams per state, two (2) of which will be done by the FG while the other three (3) shall be undertaken	**185**	**3,800**

SN	Description	Quantity	Job Potential
	by the State/FG with PPP arrangement • Undertaking of further geological, geotechnical and financial studies for the construction of new Dams under PPP arrangement		
• **Irrigation**			
	• Provision of downstream facilities on existing centre pivot irrigation facilities	**100**	**3,000**
	• Drainage and farmland reclamation in selected nine (9) Coastal States	**9**	**225**
	• "EDEN Project"- use of highly efficient sprinkler system for twenty-seven (27) states not covered by the Centre pivot projects under the short term targets	**27**	**800**
	• Undertaking of hydrological studies for new irrigation projects		
Hydrology and Flood Control			
	• Upgrading of the existing 237 hydrometric stations and rehabilitation of dysfunctional stations		
	• Establishment of additional twenty-four (24) new hydrometric stations nationwide at three (3) per Hydrological Area		
	• Publication and dissemination of Hydrological data		

SN	Description	Quantity	Job Potential
	and information		
	• Upgrading of one Telemetric Data Collection Platform (DCP) station in all existing Dams and maintenance of existing eighteen (18) DCP stations		
	• Detailed Hydrological mapping of the country		
	• Finalise discussion and execute an MOU with Trunz Water System, a Swiss water treatment company to assist in the development of water treatment plant and building capacity and training in the local companies		

Long Term Goals

This is the post MDGs era which guarantees the sustainable service delivery and quality of the reform. This takes the roadmap to the targets agreed by African Heads of State under the framework of the "African Shared Vision". The long term strategy would have been achieved when the following targets are met:

- The achievement of 100% coverage in the provision of potable water supply per day for domestic, industrial and agricultural uses. This is planned to be achieved by the Year 2025
- The achievement of 95% coverage in the provision of improved sanitation, good health and hygiene practices nationwide. This is planned to be achieved by the Year 2025

- The achievement of 95% development of hydropower potential capable of producing up to **10,000MW** of electricity;
- The development of new mini hydro projects;
- The extension of irrigation facilities to realize the nation irrigation potential of about 3.14million hectares
- Guaranteed sustainable service delivery

The conceptualization of projects beyond 2015 will depend on the threshold of achievements recorded in the implementation of the Water Roadmap.

The States will play significant roles during the implementation of the identified targets and strategies which include:

- Upscale priority in Water Resource Development
- Increase funding for the water resource sector in respective states
- Establish the force and emphasis required for the operations and maintenance of water resource infrastructure
- Increase surveillance and security for water resource maintenance
- Improve capacity for the ware resource development
- Strengthen partnerships and collaboration with all stakeholders

CHAPTER FOUR: FUNDING THE REFORM

The need to create a sustainable funding for the reform is birthed on the backdrop of infrastructure deficits experienced in the sector and the benefits of promoting private sector participation and collaboration. With the massive investments required for infrastructure development across various areas of the economy – transport, power, water and other sectors, the limitation of Government resources has necessitated the use of a broader-based funding approach for this critical initiative. In line with the above, beyond the available resources of Government via budgetary provisions, it is envisaged that the reforms in the water resources management sector will also attract funding from Development Partners and substantive investment by the private sector within the framework of an enabling environment created by the Government.

Based on MDG office costing model, an annual sum of US$2.5 billion (N375 billion) is estimated to meet the water and sanitation targets between the years 2011-2015. Furthermore, additional development in Irrigation, Dams with hydropower components and drainage systems will require a further budget of about N200 billion.

In order to provide adequate funding for the implementation of the Reform therefore, the following funding strategies have been identified:

Direct Public Funding

Sources of funds are proposed as follows:-

- Special Intervention Fund (SIFA) from the Federal Government.
- Direct public funding through budgetary appropriations.

- Cost sharing arrangements with States, LGAs and Communities based on agreed cost sharing arrangements

Private Sector Funding

- Proposed private sector funding of the infrastructure as well as PPP's in the concessioning of water sector facilities such as dams and irrigation across the States of the Federation. The PPP arrangements will consider:
    - The effective creation of clear regulation and enabling laws for the construction and maintenance of boreholes and other capital projects
    - The development of policy for the supply of quality and safe water good for drinking and utilisation
- Policy is already being developed by the FMWR, ICRC and BPE to formulate the best standards for consideration of the Government

Access to Multilateral Credits and Loans

Sources of funds are proposed as follows

- The World Bank's total portfolio on water worldwide at present stands at **US$54.3 billion**.
    - Nigeria World Bank support for Nigeria Urban Water Sector Reform Project - **US$325 million**.
    - Additional **US$180 million**
- African Development Bank (AfDB) support - **US$200** million.
- The **French Development Agency (AFD)** has just pledged **US$150 million** support to the Urban Water Sector Reform Programme.

- A window of opportunity is also available from the **Islamic Development Bank, Emerging Africa Infrastructure Fund (EAIF)** targeted at helping Sub-Saharan African countries

Overseas Development Assistance (ODA)

- From 2000 – 2010, Nigeria received such grants and grants-in-aid from water funding support **totaling N34.279 billion** from the **World Bank, the EU, JICA, China, DFID, UNICEF etc**
- The inflow of the ODA could be improved upon with the new drive of the Ministry.

In packaging the multilateral credit and loan requests, the Ministry will demonstrate its readiness to deploy better processes and enabling structures that will enhance efficient deployment of resources and the use of funds in the achievement of its mandate

Internally-Generated Revenue (IGR)

The Ministry will put in place sustainable framework that can better generate more revenue and aid the collection of revenue like exploring the prepayment metering system of revenue collection

- Presently, water is considered as a free service and the level of default in payment for water related services remains very high across board with debt outstanding to the tune of N1billion.
- Internally-Generated Revenue (IGR) would now play a greater role in the water sector and government will ensure it efficient utilization

- The FMWR has commenced the process of designing appropriate strategies to ensure that this situation is reversed both as it pertains to bulk water releases for potable water and irrigation.

CHAPTER FIVE: CONCLUSION

The Nigeria Water Sector has significant potentials to contribute to the development of the economy. The provision of potable water for cooking and drinking; and the construction of dams for hydro-electricity are all relevant for economic development while irrigation facilities across the country have helped the nation to support its growing population without solely depending on rain-fed agriculture.

Additionally, the existence of dams and irrigation schemes has contributed to sub-urban development of several communities and induced socio-economic improvement of the residents. Clearly, the Water Sector has a major role to play in the sustenance and further development of the nation's industrial sector especially in food and beverages, textile, pharmaceutical among others. The supply of potable water holds the key to the elimination of water-related diseases such as cholera, typhoid, dysentery, river blindness and malnutrition.

Fortunately, Nigeria as a nation is endowed with huge water resources with the capacity to meet our burgeoning requirements across all facets of life given the requisite resources and a focused plan of action managed by competent and committed professionals within a well orchestrated institutional framework. This will require significant capital to transform the stated objectives and requirements into available water resources for domestic and industrial consumption. The amount of resources required to maintain the dams and irrigation facilities as well as keep the taps running would require the private sector participation.

In view of these considerations, Government has taken this first step of articulating a holistic roadmap for the development and management of the nation's water resources towards the actualization of the sector's potentials. We believe that with the support of private sector investors and other key stakeholders, focused implementation of the roadmap will facilitate the achievement of our objectives and create the enabling environment to attract private investments in this sector.