



No. **01**  
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# Quarterly Newsletter

The Federal Capital Territory Reduction of Non-Revenue Water Project

## Project Name

The Federal Capital Territory  
Reduction of Non-Revenue Water  
Project

## Project Period

Phase-1: Oct. 2014 to Dec. 2016  
Phase-2: Jan. 2017 to Mar. 2018

## Project Area

Federal Capital Territory (FCT)  
Pilot Areas: Garki I, Gudu and Jabi

## Implementation by

FCT Administration (FCTA)  
FCT Water Board (FCTWB)

## Support by

Japan International Cooperation  
Agency (JICA)



## What is NRW?

According to International Water Association (IWA), "Non-revenue water (NRW)" is water that has been produced and is "lost" before it reaches the customer. Such losses may be caused through leaking and burst pipes, illegal connections and metering inaccuracies, for example.

Reduction of NRW is a key issue to increase revenue and availability of water sources. It is now recommended that "Unaccounted-for Water (UfW)" be no longer used, which is equivalent to "Water Losses" as part of NRW in the Water Balance (or Audit) shown below in Q&A, P.3.



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## Hon. Minister of FCT flags off Reduction of NRW Project in FCT, supported by JICA.

### INTRODUCTION

In Abuja, Federal Capital City (FCC), located in the north-east of the Federal Capital Territory (FCT), Federal Republic of Nigeria, water supply facilities have been developed based on water supply master plan prepared in 1980. Although new water treatment plants were recently constructed to meet increasing water demand occasioned by mass-migration and urbanization, distribution facilities such as service reservoir and network have lagged behind in development. On the subject of non-revenue water (NRW) in FCC, the Detail Planning Survey by Japan International Cooperation Agency (JICA) estimated it at **38%** in 2014, and the strategic plan for 2011-2015 of the Federal Capital Territory Administration (FCTA) sets its target level at 25%. However, the Federal Capital Territory Water Board (FCTWB) in charge of operation and maintenance has not taken effective actions against NRW because of its shortage of experience, knowledge and qualified personnel on planning and execution of NRW reduction. Improvement in NRW is a key issue in water supply services.

Under the circumstance, the Government of the Federal Republic of Nigeria (FRN) requested technical cooperation from the Government of Japan in order to strengthen NRW reduction capacity of

the FCTWB, and then JICA conducted preliminary survey in August 2013 and the Detail Planning Survey in May 2014. Both Governments finally concluded the Record of Discussions (R/D) on 14th July 2014 to implement the **Federal Capital Territory Reduction of Non-Revenue Water Project** (the Project).

#### The Project launched.

In early November 2014, the launch of the Project was announced officially by JICA and FCTA with FCTWB. Our project office is located inside the headquarters of FCTWB, Area 3, Garki, Abuja.



**Senator Bala Abdulkadir Muhammed**  
FCT Minister

# CONGRATULATORY MESSAGES



**Mr. Ari, Isa Muhammad**

Project Director  
Director Economic Planning,  
Research and  
Statistics (EPRS),  
FCTA



The Hon. Minister FCT Senator Bala Abdulkadir Muhammed has officially pronounced the kick-off of the Project.

Making the pronouncement in a tripartite meeting between officials of FCTA-EPRS, FCTWB and JICA, Mr. Ari Isa Mohammed, Director, EPRS, who represented the Hon. Minister explained that the Project is aimed at reducing all forms of water losses in the process of water distribution in order to improve services and increase revenue. Mr. Ari expatiated that the Project will also improve productivity, efficiency, and capacity amongst staff, while the FCTWB in return would be adhering to the principle of global best practices

In his own remarks, Director FCTWB, Malam Hudu Bello reassured that the Hon. Minister is fully committed to the success of the Project and has demonstrated this by promptly approving and releasing the counterpart funding of the Project in order to ensure a hitch free kick-off.

He further reiterated the unalloyed cooperation of management and staff of FCTWB with JICA officials towards the success of the Project.

**Mr. Tetsuo Seki**  
Chief Representative  
JICA Nigeria Office



Japan International Cooperation Agency (JICA) is the official arm of the Government of Japan that extends Official Development Assistance (ODA) to developing countries. We have been working in the water sector of Nigeria since 1987 with our first lower Anambra Irrigation Loan Project. Thereafter we supported the Government of Nigeria to prepare the first Water Resources Master Plan in 1995. Supported ten States for the provision of rural water supply; Assisted the strengthening capacity of Rural Water Supply and Sanitation Center at NWRI; Reviewed and Updated Nigeria National Water Resources Master Plan in 2013. With a view to contribute to achievement of Vision 20:2020, we also work in various sectors like Power, Transportation, Agriculture, and Health. The project for FCT reduction of Non-Revenue Water is the first JICA urban water project in Nigeria. It will enhance the capacity of FCTWB to reduce NRW, improve its revenue generation and expand service to other areas. Our principle is based on **“Working Together” - Inclusive and Dynamic Development**. Kindly make maximum use of our proven technology and rich human resources by working together with our Japanese experts. It's our hope that the project will be a “good model” for replication in other states through active participation and collaboration of all stakeholders. Thank you very much.



**Mr. Hudu Bello**  
Project Manager  
Director of FCTWB

On behalf of the Management and the entire staff of the FCTWB, we rejoice with our Amiable Hon. Minister of the FCT, the Government of Japan and JICA on the commencement of the Project. We are delighted that the Project will not only boost the capacity of the staff of the FCTWB, but reduce water losses, increase revenue and afford us the extension of our services to wider areas.

It is indeed a thing of joy for us. We welcome the JICA Experts and assure them of our cooperation and synergy.



**Mr. Akinori Miyoshi**  
Chief Advisor  
JICA Expert Team

On behalf of the team, I am pleased to offer our congratulations to all of counterparts.

The team consists of members from two Japanese consulting firms: namely, “Yachiyo Engineering Co., Ltd.” having a great deal of experience in Nigeria and “Yokohama Water Co., Ltd.” affiliated with Yokohama Waterworks Bureau for a megacity in Japan.

I promise the team will fully assist the Nigerian counterparts for a successful project implementation.

# OUTLINE OF THE PROJECT

## Solutions to NRW with Patient Efforts

In the FCT, leakage control including detection of invisible leakage and measures against commercial losses including illegal connections and meter inaccuracy are currently not implemented in systematic way. Just visible leakages are usually repaired on report of consumers, but they are only a small part of the entire leakage.

Through the Project, leakage control and measures against commercial losses will be converted from passive to active manner.



## Hydraulic Analysis / GIS

FCTWB has supplied water without adequate hydraulic analysis of distribution networks. But, in response to expansion of the networks and increase in water consumption, hydraulic analysis is necessary in identification of defective pipeline, and then through the pipe replacement, FCTWB can ensure appropriate water supply and pressure. Water pressure is a factor related to leakage.

Information of water supply facilities located in the Phase-1 development area of the FCC has been managed by GIS, but not been utilized adequately. Through update of information of all existing facilities and improvement in skills and knowledge, information-intensive management by GIS and appropriate utilization can contribute to a variety of services.

## Overall Goal

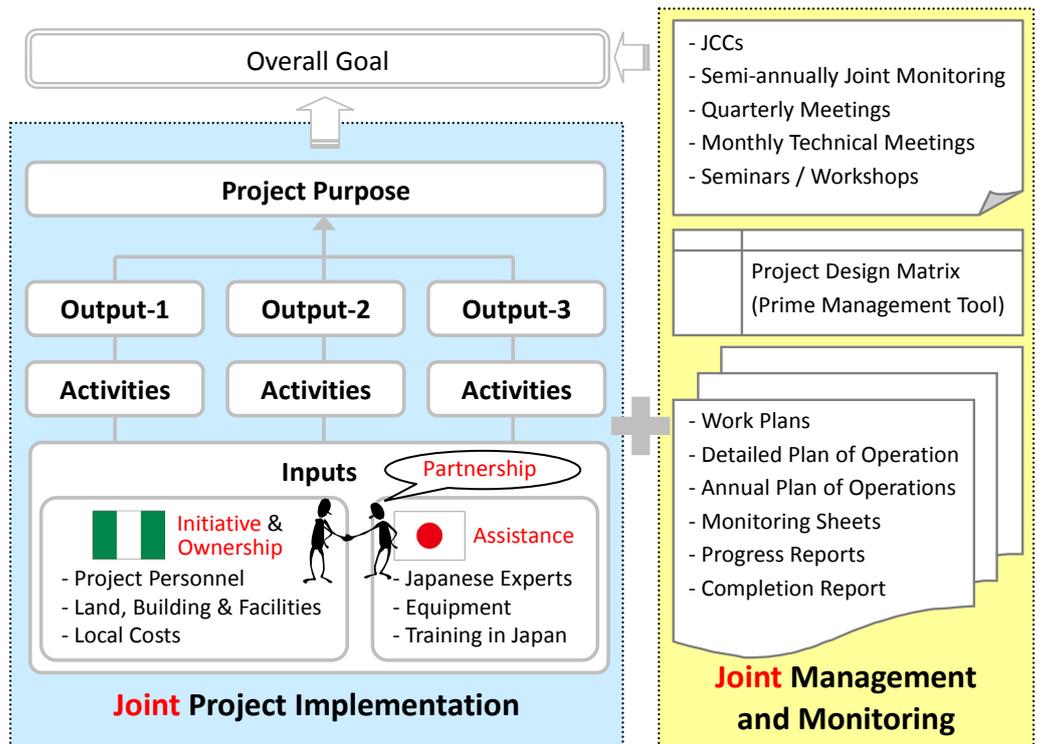
Level of Non-Revenue Water (NRW) is reduced at the service area of FCTWB.

## Project Purpose

Capacity of FCTWB for NRW reduction is strengthened.

## Outputs

1. Level of NRW of the service area of FCTWB is monitored regularly.
2. Methods/operational procedures for effective NRW reduction are established though pilot projects at Pilot Metering Areas (PMAs) under pilot Area Offices
3. A medium-term strategic plan of FCTWB for NRW reduction is developed, utilizing Output-1 and -2



## Q&A What is Water Balance (or Audit)?

Water balance (or audit) has been developed to understand the big picture of the water system as the first step in reducing NRW.

### IWA's Standard Water Balance (or Audit) and Components

	Authorized Consumption	Billed Authorized Consumption	Billed Metered Consumption	Revenue Water
		Unbilled Authorized Consumption	Billed Unmetered Consumption	
System Input Volume	Water Losses	Commercial (Apparent) Losses	Unauthorized Consumption	<b>Non-Revenue Water (NRW)</b> 
		Physical (Real) Losses	Customer Metering Inaccuracies and Data Handling Errors	
			Leakage on Transmission and/or Distribution Mains	
			Leakage and Overflows at Utility's Storage Tanks	
		Leakage on Service Connections up to Point of Customer Use		

# PROJECT MEMBERS

## Project Director

Mr. Ari, Isa Muhammad, Director of Economic Planning, Research and Statistics Dep't, FCTA

## Project Manager

Mr. Hudu Bello, Director of FCTWB

## Deputy Project Manager

Mr. S.T. Bello, Head of Administration and Supply Department, FCTWB

## Technical Manager (Team Leader of NRW Management Team)

Engr. A. A. Nahuche, Head of Distribution Department, FCTWB  
Mr. Adis S. Muhammad, Head of Commerce Department, FCTWB

## Head of other relevant Departments and Unit (FCTWB)

Mrs. Hafsat Ahmed Lawi, Head of Finance and Accounts Department  
Engr. Aliyu Usman, Head of Reservoir and Production Department  
Ms. Bunmi Olowookere, Head of Planning, Research and Statistics Unit  
Mr. Abbas A. Ahmed, Head of Public Relations Unit  
Mr. Vincent Obeh, Head of Management Information System Unit

## NRW Management Team (FCTWB)

Engr. Abolade. R. Lawal, Head of Special Projects Unit, Coordinator  
Engr. Moh. Kabir Rabi, Head of Logistics Unit  
Mr. Musa Dikko, Head of Pipeline Unit  
Mr. Shehu Suleiman, Head of GIS Unit  
Engr. Douglas E. Oloton, Head of Metering General  
Engr. A.O. Akande, Head of Metering Unit (AMR Meter)  
Engr. Yetunde Olaniyan, Head of Water Monitoring Unit  
Engr. Abdullahi Masaud, Head of Metering Unit (Pre-paid Meter)  
Mr. Abubakar Ubale Abubakar, Civil Engr. II, Logistics Unit  
Mr. Mohammed Dauda, Technical Officer, Pipeline Unit  
Mr. Ezech Hilary, Surveyor, GIS Unit  
Mr. Isaac O. Owolabi, Head of Customer Care Unit  
Mr. Danjuma Isah, Head of Monitoring and Detection Unit  
Mr. Taiwo Adeyemi, Monitoring Staff, Monitoring and Detection Unit  
Mr. Aliyu Maradun, Head of Major Consumers Unit  
Mrs. Rose Akpan, Head of Billing Unit  
Mr. Suleman Agbawn, Billing Officer, Billing Unit  
Mrs. Francisca Samuel, Head of Training/ Welfare Unit  
Mr. Akudike Ike D., Head, Facility Management Unit

## NRW Action Team (Three Area Offices of FCTWB)

### Jabi Area Office

Mr. Muhammed A. S. Ramat, Area Manager (Distribution), Team Leader  
Mr. Sadiq Salihu, Assistant Area Manager (Distribution)  
Mrs. Abawonse J. K., Assistant Area Manager (Commerce)  
Mrs. Jummai Ugbodaga, Senior Commercial Officer (Commerce)  
Mr. Mohammed Moh'd, Planning Officer (Commerce)  
Mr. Aliyu Ibrahim, Senior Works Superintendent (Distribution)  
Mr. Abubakar Danladi, Foreman (Distribution)  
Ms. Raliat Zubairu, Higher Trade Officer (Commerce)  
Mr. Mahmud Muhammed, Forman (Distribution)  
Mr. Hassan Yelwa, STA (Commerce)

### Gudu Area Office

Mr. Abdurrahman U. Sanda, Area Manager (Distribution), Team Leader  
Mr. Ogbu O. Williams, Assistant Area Manager (Commerce)  
Mr. Abdul Ozumi, Assistant Area Manager (Distribution)  
Mr. Adamu Ismaila, Unit Head (Commerce)  
Mr. Umar I. Adamu, Assistant Tech. Officer (Commerce)  
Mr. Kontagora Mohammed, Assistant Unit Head (Distribution)  
Mr. Salisu Mohammed, Plumber (Distribution)

### Garki I Area Office

Mr. Adesoji Adenuga, Area Manager (Commerce), Team Leader  
Mr. Umar Ibrahim, Assistant Area Manager (Commerce)  
Mr. Mohammed Gana, Assistant Area Manager (Distribution)  
Mrs. Olusegun Rose, Senior Trade Office (Commerce)  
Mr. Abdulahi Ibrahim, Assistant Tech. Officer (Commerce)  
Mr. Iliya Galadima, Higher Works Super intendant (Distribution)  
Mr. Raymond Olowookere, Forman (Distribution)  
Mr. Ibrahim Yelwa, Forman (Distribution)  
Mr. Hassan Abubakar, Commerce Officer (Commerce)  
Mr. Shehu Isa, Craftsman (Distribution)

## Committee/Group/ Teams in the Project

**Joint Coordinating Committee** is chaired by Project Director, which consists of Project Managers, representatives from National Planning Commission, Executive Secretary of Federal Capital Development Authority and Federal Ministry of Water Resources, and also JICA Expert Team, representatives from JICA Nigeria Office and Embassy of Japan.

### **Working Group for NRW**

**Reduction Planning** is a group for the Output-3, development of medium-term strategic plan of NRW reduction, which is composed of Project Managers, NRW Management Team members, and representatives from Federal Capital Development Authority.

**NRW Management Team** is a team responsible for all activities of the Project with theoretical and practical understandings.

**NRW Action Team** is a working-level team in three pilot areas, responsible for NRW reduction operations with use of equipment.

## JICA Expert Team

### Mr. Akinori Miyoshi

Chief Advisor /  
NRW Reduction Planning

### Mr. Taketoshi Fujiyama

Deputy Chief Advisor /  
NRW Reduction Planning

### Mr. Toru Toyoda

NRW Reduction Operations  
Management

### Mr. Kiyoshi Kiyama

Leakage Detection Technology

### Mr. Takuji Okubo

Commercial Loss

### Mr. Shinta Segawa

Hydraulic Analysis / GIS

### Mr. Kazuhiro Ishiura

Procurement Management /  
Coordinator

## Contact

Mr. Hudu Bello, Project Manager  
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