

SOKOTO STATE GOVERNMENT
Ministry of Water Resources and Rural Development
Public-Private Partnership Unit

PPP PROJECT DOCUMENTATION

**SOKOTO STATE REGIONAL WATER SUPPLY
& SANITATION PPP**
(SRWSS-PPP)

Design–Build–Operate–Maintain (DBOM) | 20-Year Concession

Project Reference: SSG/PPP/WATER/2024/002
Date: November 2024

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SECTION A: PROJECT IDENTIFICATION BRIEF

A.1 Background and Context

Access to clean water and improved sanitation remains one of the most acute humanitarian and development challenges in Sokoto State. According to the 2023 Nigeria Water Supply, Sanitation and Hygiene (WASH) Sector Status Report, Sokoto State has one of the lowest rates of improved water access in the country, with only 38% of the rural population having access to safe drinking water sources and a mere 22% using improved sanitation facilities. These figures are substantially below the national averages and even further behind Sustainable Development Goal (SDG) 6 targets.

The existing water supply infrastructure in the state — predominantly comprising boreholes, motorised pumps, and small piped systems installed between 1990 and 2010 — has deteriorated significantly due to inadequate maintenance, power supply constraints, and rapid population growth. The Sokoto State Rural Water Supply and Sanitation Agency (RUWASSA) has a maintenance backlog estimated at over ₦7.2 billion for existing infrastructure alone, and lacks the institutional capacity to extend services to unserved communities.

Three Local Government Areas — Tambuwal, Gwadabawa, and Bodinga — represent a contiguous geographic corridor in southern and central Sokoto State with a combined population of approximately 860,000 people, less than 31% of whom have access to any form of piped water supply. The corridor sits above a productive aquifer system and has proximity to the Sokoto River, presenting favourable conditions for the development of a regional water supply system. The State Government has resolved to leverage private sector capacity, technology, and financing to develop, operate, and maintain a modern regional water supply and sanitation system through a structured PPP arrangement.

A.2 Project Description

Project Title

Sokoto State Regional Water Supply and Sanitation PPP (SRWSS-PPP)

Project Location

Tambuwal, Gwadabawa, and Bodinga Local Government Areas, Sokoto State

Project Reference Number

SSG/PPP/WATER/2024/002

Proposed PPP Structure

Design–Build–Operate–Maintain (DBOM) — 20-Year Concession

Lead Ministry

Ministry of Water Resources and Rural Development, Sokoto State

Co-Sponsoring Ministry

Ministry of Finance, Budget and Economic Planning — PPP Unit

Estimated Project Value

₦18,500,000,000 (Eighteen Billion, Five Hundred Million Naira)

Project Scope

The SRWSS-PPP encompasses the following infrastructure and service components:

- Development of two (2) water treatment plants with a combined daily production capacity of 48,000 m³/day using surface water abstraction from the Sokoto River and groundwater from the Rima aquifer system
- Construction of a transmission pipeline network of approximately 230 kilometres connecting the treatment plants to service reservoirs in the three LGAs
- Development of 18 elevated service reservoirs with a combined storage capacity of 36,000 m³
- Laying of approximately 850 kilometres of distribution mains and service connections to 125,000 household connection points across 340 communities
- Installation of 18,000 household sanitation facilities (ventilated improved pit latrines and pour-flush toilets) in targeted low-income communities, with a hygiene promotion component
- Development of five (5) community water management kiosks in underserved areas with prepaid metering systems
- Establishment of a digitally-enabled customer service and billing management system
- Operation, maintenance, and service delivery for the full 20-year concession period

A.3 Strategic Rationale and Development Objectives

The SRWSS-PPP is anchored in four mutually reinforcing development imperatives:

Public Health and Disease Prevention: Diarrhoeal diseases — primarily waterborne — account for 23% of under-5 mortality in the three target LGAs. Access to clean, piped water and improved sanitation is projected to reduce diarrhoeal disease incidence by 60–80%, with significant attendant reductions in healthcare expenditure at household and government level.

Women and Girls' Time Poverty: In unserved communities, women and girls spend an average of 3.4 hours per day collecting water from distant sources — time that is entirely lost to productive activities, education, and rest. The project directly addresses this gender equity dimension of water insecurity.

Education and Economic Productivity: School WASH facilities will be provided at 64 primary and junior secondary schools in the project area, reducing school absenteeism (particularly among girls) and improving learning environments. Improved community health translates directly into enhanced workforce productivity.

SABER Compliance and Investment Climate: The development and disclosure of this PPP supports Sokoto State's compliance with the SABER Water and Sanitation infrastructure indicator, demonstrating the state's capacity to structure and deliver complex service infrastructure through bankable PPP arrangements attractive to private investors.

A.4 Preliminary Project Data

Service Population	860,000 (2024); projected 1.1 million by 2033
Target Communities	340 communities across 3 LGAs
Household Connections	125,000 (phased over 4 years)
School WASH Facilities	64 primary and junior secondary schools
Estimated Capital Cost	₦18.5 billion

Annual Service Fee (Yr 1)	₦1.05 billion (SSSG to PPP operator)
Household Tariff	₦150/m ³ (lifeline); ₦280/m ³ (above threshold)
Concession Period	20 years (DBOM)
Design & Construction Period	30 months
First Water Delivery	Q2 2028 (Phase 1 communities)
Government Land Contribution	Water intake sites, treatment plant land (in-kind)
Govt Output-Based Service Fee	₦8.5 billion NPV over 10 years (targeted subsidy)

A.5 Proposed PPP Structure

The project adopts a Design–Build–Operate–Maintain (DBOM) structure under a 20-year concession. This structure is preferred over the alternative BOT model because:

- The water tariffs in the project area must be set at socially affordable levels, making full cost recovery from tariffs alone financially insufficient to attract private investment on a fully commercial basis.
- A DBOM structure with output-based government service payments allows the State to leverage private sector design and operational innovation while retaining ownership of all infrastructure assets throughout the concession period.
- The Output-Based Service Payment (OBSP) mechanism — under which the private operator receives payment per verified household connection and m³ of water delivered to quality standards — incentivises service quality and outreach to underserved communities.

Under this arrangement, the SPV will design, finance, construct, commission, operate, and maintain all infrastructure, while the State Government provides an annual Output-Based Service Payment for verified service delivery, supplemented by household tariff revenues collected by the SPV.

A.6 Preliminary Risk Allocation

Risk Type	Government	Private Partner
Water resource availability risk	Primary (licensing)	Shared
Design and construction risk		Primary
Technology and performance risk		Primary
Tariff setting and political risk	Primary	
Revenue collection risk		Primary
Demand shortfall risk	OBSP backstop	Partial
Maintenance and asset risk		Primary
Environmental compliance	Shared	Shared

A.7 Recommended Next Steps

1. Formal approval of this Project Identification Brief by the Commissioner for Water Resources and the Governor's Office

2. Commission detailed feasibility study, including hydrogeological surveys, demand assessment, and infrastructure mapping (12–16 weeks)
3. Environmental and Social Impact Assessment including stakeholder engagement in the 340 target communities
4. Gender and social inclusion assessment to ensure women and marginalized groups are centred in project design
5. Engagement with UNICEF Nigeria and the World Bank Water Practice for technical assistance on output-based water sector PPP design
6. Transaction Adviser procurement to support concession agreement design and competitive bidding process
7. ICRC registration and regulatory approval process

A.8 Identification Brief Certification

This Project Identification Brief has been prepared by the Sokoto State PPP Unit in accordance with the ICRC PPP Policy Framework (2021) and the Sokoto State PPP Guidelines (2023). The brief is hereby certified as a basis for proceeding to full feasibility assessment.

Alhaji Sani Umar Zarewa

Director, PPP Unit

Date: 8 July 2024

Hon. Aminu Abdullahi

*Commissioner for Water Resources & Rural
Development*

Date: 15 July 2024

SECTION B: FEASIBILITY & VALUE FOR MONEY ASSESSMENT

B.1 Executive Summary

This Feasibility and Value for Money (VfM) Assessment was prepared by the Sokoto State PPP Unit with technical support from Switch Advisory Limited. It evaluates the technical, economic, financial, environmental, and social feasibility of the Sokoto State Regional Water Supply and Sanitation PPP (SRWSS-PPP) and presents a comparative VfM analysis against the conventional Public Sector Comparator (PSC).

The assessment concludes that the SRWSS-PPP is technically sound, economically justified, and financially viable under the proposed DBOM structure with Output-Based Service Payments. The PPP route demonstrates a risk-adjusted cost saving of ₦21.4 billion over the 20-year concession period relative to the government procurement alternative. The project presents no insurmountable environmental or social risks.

B.2 Technical Feasibility

Hydrogeological Assessment

A preliminary hydrogeological review, drawing on existing RUWASSA borehole data and the 2021 UNICEF-RUWASSA WASH mapping exercise, confirms the presence of a productive aquifer system underlying the three target LGAs at depths of 40–120 metres. Safe yield estimates suggest groundwater availability of 22,000–28,000 m³/day from the aquifer system alone, supplemented by the available surface water abstraction potential of 35,000 m³/day from the Sokoto River at Tambuwal crossing.

Infrastructure Feasibility

The proposed treatment plant sites at Tambuwal (surface water) and Gwadabawa (groundwater) have been confirmed as accessible, legally unencumbered, and geotechnically suitable based on desk review of available sub-surface data. The pipeline routing has been assessed as technically feasible, with no major river crossings, escarpments, or protected land reservations identified as obstacles.

Technology Selection

Conventional surface water treatment (coagulation, flocculation, sedimentation, rapid sand filtration, and chlorination) is recommended for the Tambuwal plant as the most robust and appropriate technology for the source water quality conditions. Reverse osmosis treatment is not required. The groundwater system requires only aeration, filtration, and disinfection, significantly reducing capital and operational costs for the Gwadabawa component.

B.3 Economic Viability Analysis

Economic NPV (30-year horizon, 12% discount rate)	₦24.7 billion
Economic IRR	21.3%
Benefit-Cost Ratio	2.6:1
Reduction in diarrhoeal disease (projected)	65% (under-5 mortality)

Annual household time savings (water collection)	3.4 hrs/day x 172,000 women = 213 million person-hours p.a.
Value of time savings (₦500/hr productivity equivalent)	₦106 billion per year (cumulative)
Healthcare cost savings per household per year	₦38,000 average (Year 5)
School attendance improvement (girls)	Est. 18% reduction in water-related absenteeism

B.4 Financial Analysis and Public Sector Comparator

Revenue Structure

The SRWSS-PPP revenue model combines: (i) household water tariffs (₦150/m³ lifeline; ₦280/m³ above threshold); (ii) Output-Based Service Payments (OBSP) from the State Government of ₦1.05 billion in Year 1 rising to ₦1.8 billion by Year 8; and (iii) school and public institution connections. The blended financial model generates an investor IRR of 19.7% — within the target range for DBOM water infrastructure in Nigeria.

PSC vs. PPP Comparison

Parameter	PSC (Government Direct)	PPP Option
Total Capital Cost (NPV)	₦18.5 billion	₦15.8 billion (private)
Government Capital Outlay	₦18.5 billion	₦8.5 billion OBSP (NPV)
Contingency (risk-adjusted)	+₦4.6 billion (25%)	+₦1.2 billion (transferred)
O&M Cost (20-yr NPV)	₦12.2 billion	₦9.4 billion (transferred)
Total Fiscal Risk-Adjusted Cost	₦35.3 billion	₦19.4 billion
VfM Saving (PPP vs. PSC)	—	₦15.9 billion (45% saving)
Construction Timeline	Est. 48–60 months	Est. 28–32 months
Service Quality Incentive	None	Performance-linked OBSP

The DBOM PPP structure offers a ₦15.9 billion risk-adjusted VfM advantage over government direct procurement — principally driven by the transfer of construction, technology, and operational performance risk to the private operator, combined with the performance-linked Output-Based Service Payment mechanism that incentivises service delivery quality in a way that conventional government contracts cannot replicate.

B.5 Risk Register

Risk Category	Probability	Impact	Rating	Mitigation
Groundwater depletion over time	Low	High	Medium	Aquifer monitoring system; adaptive abstraction protocol
Surface water quality deterioration	Medium	Medium	Medium	Water quality contingency protocol; multi-source design

Construction cost overrun	Medium	High	High	Fixed-price EPC with performance bond
Tariff affordability / political risk	Medium	High	High	OBSP backstop; tariff review clause in agreement
Revenue collection shortfall	Low	Medium	Low	Prepaid metering; mobile payment integration
Community resistance / land disputes	Low	Medium	Low	Pre-construction community engagement plan
Power supply interruptions	Medium	Medium	Medium	Solar-hybrid backup at all treatment plants
Staff capacity / O&M quality	Low	Medium	Low	PPP Agreement performance standards; penalties clause

B.6 Gender and Social Inclusion Assessment

The SRWSS-PPP has been screened for gender and social inclusion impacts. Key findings include:

- Women represent the primary water collectors in all three target LGAs, standing to benefit most directly from time-saving impacts of household water connections.
- A Women's Water Committee structure will be integrated into the community management model, ensuring women's participation in tariff-setting, grievance resolution, and service monitoring.
- The hygiene promotion component will specifically target menstrual hygiene management (MHM) facilities in schools, addressing a key barrier to girls' school retention.
- The sanitation component includes a cross-subsidy mechanism to ensure the lowest-income quintile receives basic sanitation facility upgrades at subsidised cost.

B.7 Feasibility Conclusion

The SRWSS-PPP is assessed as:

- **Technically feasible** — adequate water resources, suitable infrastructure corridor, proven technology
- **Economically justified** — BCR of 2.6 and eIRR of 21.3%, substantially exceeding thresholds
- **Financially viable** — investor IRR of 19.7% under the DBOM/OBSP structure
- **VfM superior** — ₦15.9 billion (45%) risk-adjusted saving over public procurement
- **Socially and gender-responsive** — strong positive impacts for women, children, and low-income communities

The PPP Unit recommends the SRWSS-PPP be approved to proceed to procurement and concession development.

Alhaji Sani Umar Zarewa

Director, PPP Unit

Date: 5 August 2024

Hon. Aminu Abdullahi

Commissioner for Water Resources

Date: 12 August 2024

SECTION C: PPP UNIT RECOMMENDATION MEMORANDUM

TO	H.E. Alh. (Dr) Ahmed Aliyu Sokoto, PhD, FCNA, Governor, Sokoto State
THROUGH	Hon. Aminu Abdullahi, Commissioner for Water Resources & Rural Development
FROM	Alhaji Sani Umar Zarewa, Director, PPP Unit
REF	PPP/MEMO/2024/WATER/004
DATE	2 September 2024
SUBJECT	Recommendation for Executive Approval: Sokoto State Regional Water Supply and Sanitation PPP (SRWSS-PPP) — DBOM Concession
CLASSIFICATION	CONFIDENTIAL

C.1 Purpose

This Memorandum presents the PPP Unit's formal recommendation to His Excellency the Governor and the State Executive Council for the approval and advancement of the Sokoto State Regional Water Supply and Sanitation PPP (SRWSS-PPP) to the procurement phase. The recommendation follows successful completion of the Project Identification Brief (July 2024) and the Feasibility and Value for Money Assessment (August 2024).

C.2 Project Summary

The SRWSS-PPP proposes a 20-year DBOM concession to design, build, operate, and maintain a regional water supply and sanitation system serving 860,000 people across Tambuwal, Gwadabawa, and Bodinga LGAs. The system will deliver 125,000 household connections, two water treatment plants with 48,000 m³/day combined capacity, and sanitation facilities in 64 schools. Total project value is ₦18.5 billion. Government's direct fiscal commitment is an Output-Based Service Payment of ₦8.5 billion NPV over 10 years — conditioned on verified service delivery.

C.3 PPP Unit Assessment Summary

- The project satisfies ICRC PPP suitability criteria and qualifies for registration as a structured state-level PPP.
- The VfM analysis confirms a ₦15.9 billion advantage (45% saving) for the DBOM PPP route over the PSC.
- The Output-Based Service Payment mechanism ensures fiscal discipline: government payment is conditioned on verified service delivery, eliminating the risk of paying for non-performance.
- The project is consistent with the SDG 6 targets Nigeria has committed to and directly supports the SABER Water/Infrastructure indicator compliance requirements for Sokoto State.
- The estimated OBSP of ₦8.5 billion NPV represents 5.8% of the state's projected 10-year capital budget — a fiscally sustainable commitment given the public health and economic returns generated.

C.4 Regulatory Framework

- Infrastructure Concession Regulatory Commission (ICRC) Act, 2005 (as amended)
- Sokoto State PPP Policy and Guidelines (2023)
- National Water Resources Act (2023)
- World Bank Environmental and Social Framework (Category B)
- UNICEF WASH Sector Standards (Nigeria, 2022)
- Sokoto State WASH Policy (2021–2030)

C.5 Procurement Timeline

8. Expression of Interest publication — Q1 2025
9. Request for Qualifications (RFQ) and shortlisting — Q2 2025
10. Request for Proposals (RFP) issuance — Q3 2025
11. Bid evaluation and preferred bidder selection — Q4 2025
12. Concession Agreement negotiation and financial close — Q1–Q2 2026
13. Construction commencement — Q3 2026
14. First communities served (Phase 1) — Q2 2028

C.6 Formal Recommendation

- **The Sokoto State Executive Council approve the SRWSS-PPP in principle for advancement to the procurement phase.**
- **An Output-Based Service Payment commitment of up to ₦8.5 billion NPV over 10 years be approved in principle, subject to Sokoto State House of Assembly appropriation.**
- **A provision of ₦650 million be included in the 2025 Appropriation for project preparation activities.**
- **The SRWSS-PPP be registered on the Sokoto State PPP Disclosure Portal within 14 days of Executive Council approval.**
- **A Project Implementation Unit be established within RUWASSA with dedicated technical, legal, and financial expertise to manage the procurement and concession development process.**

Alhaji Sani Umar Zarewa

Director, PPP Unit

Date: 2 September 2024

Hon. Aminu Abdullahi

Commissioner for Water Resources

Date: 5 September 2024

SECTION D: EXECUTIVE COUNCIL APPROVAL RESOLUTION

SOKOTO STATE GOVERNMENT
OFFICE OF THE GOVERNOR
STATE EXECUTIVE COUNCIL RESOLUTION

Resolution Number	SSG/SEC/RES/2024/PPP/005
Meeting Date	14 October 2024
Venue	Executive Council Chambers, Government House, Sokoto
Presiding	H.E. Alh. (Dr) Ahmed Aliyu Sokoto, PhD, FCNA, Governor of Sokoto State
Subject Matter	Approval of Sokoto State Regional Water Supply and Sanitation PPP (SRWSS-PPP)

D.1 Preamble

THE STATE EXECUTIVE COUNCIL of Sokoto State, having duly deliberated upon the PPP Unit's Recommendation Memorandum (Ref: PPP/MEMO/2024/WATER/004) at its Regular Session of 14 October 2024;

HAVING CONSIDERED the Project Identification Brief (SSG/PPP/WATER/2024/002) and the Feasibility and Value for Money Assessment confirming the technical, economic, and financial viability of the SRWSS-PPP project;

NOTING the severe water access deficit across Tambuwal, Gwadabawa, and Bodinga LGAs and the critical public health imperative for urgent intervention;

RECOGNIZING the project's alignment with SDG 6, the Sokoto State WASH Policy (2021–2030), and the state's obligations under the World Bank SABER programme;

D.2 Resolutions

THE STATE EXECUTIVE COUNCIL HEREBY RESOLVES AS FOLLOWS:

15. APPROVAL OF PROJECT: The Sokoto State Regional Water Supply and Sanitation PPP (SRWSS-PPP) is hereby approved in principle for advancement to the procurement and concession development phase, subject to satisfactory completion of the Environmental and Social Impact Assessment.
16. OUTPUT-BASED SERVICE PAYMENT: The State Executive Council approves in principle an Output-Based Service Payment commitment of up to ₦8,500,000,000 (Eight Billion, Five Hundred Million Naira) in NPV terms over the first 10 years of the concession, subject to verified service delivery milestones and appropriation by the Sokoto State House of Assembly.

17. PROJECT PREPARATION BUDGET: The Commissioner for Finance, Budget and Economic Planning is authorized to include a provision of ₦650,000,000 (Six Hundred and Fifty Million Naira) in the 2025 Appropriation Bill for project preparation activities.
18. TRANSACTION ADVISER: The Commissioner for Water Resources and Rural Development is authorized to procure a Transaction Adviser for the SRWSS-PPP through competitive selection.
19. PROJECT IMPLEMENTATION UNIT: A Project Implementation Unit is hereby constituted within RUWASSA under the supervision of the Commissioner for Water Resources, with membership drawn from Finance, PPP Unit, Environment, and Gender Affairs.
20. DISCLOSURE: The PPP Unit is directed to register the SRWSS-PPP on the Sokoto State PPP Disclosure Portal and notify the Infrastructure Concession Regulatory Commission (ICRC) within fourteen (14) days of this Resolution.

D.3 Attestation

This Resolution was duly passed by the Sokoto State Executive Council at its regular session on 14 October 2024 and is certified as a true and accurate record.

Alh. (Dr) Ahmed Aliyu Sokoto,
PhD, FCNA

Governor, Sokoto State
Date: 14 October 2024

Alh. Idris M. Gobir

Deputy Governor, Sokoto State
Date: 14 October 2024

Mohammed Bello Sifawa

Secretary to the State Government
Date: 14 October 2024

OFFICIAL SEAL OF SOKOTO STATE GOVERNMENT

[SEAL]