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## **Provision of water supply and sanitation facilities in South Sudan: a case study of the Multi Donor Trust Fund financed project**

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DELIVERING WATER, SANITATION AND HYGIENE SERVICES  
IN AN UNCERTAIN ENVIRONMENT

**Provision of water supply and sanitation facilities  
in South Sudan: a case study of the  
Multi Donor Trust Fund Financed Project**

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**BRIEFING PAPER 1716**

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*The Multi Donor Trust Fund of South Sudan (MDTF SS) awarded a USD 30 million grant to the Ministry of Water Resources and Irrigation (MWRI) to implement the Water Supply and Sanitation Project (WSSP). The World Bank having been appointed as the administrator of the fund; worked closely with MWRI and the Technical Assistant Support Team (TAST) in the implementation of the project. A variety of WASH facilities were constructed at specific locations within the 10 States of South Sudan. These included boreholes, small water distribution systems (SWDS), public latrines etc. This Briefing Paper sets out to share the achievements of WSSP as well as constraints encountered and lessons learnt during project implementation in the Republic of South Sudan.*

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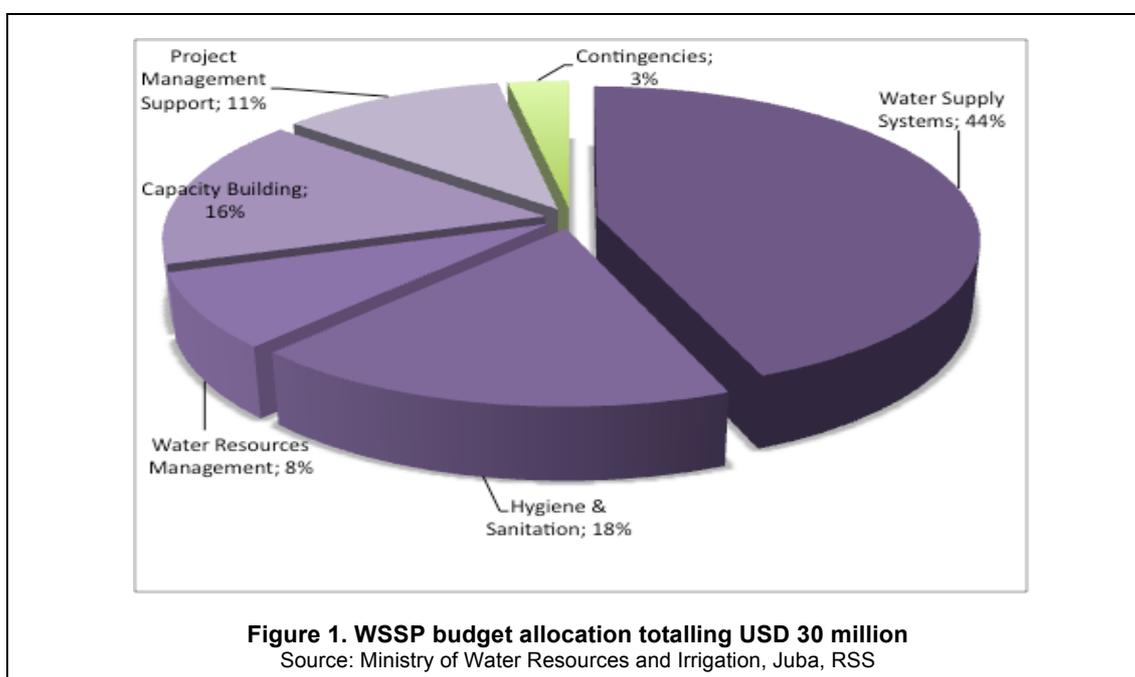
**Introduction**

The 2005 Comprehensive Peace Agreement (CPA) of the Sudan made it possible for the international donor community to pool its financial resources and establish the Multi Donor Trust Fund, with two windows, one for Southern Sudan (MDTF-SS) and the other one for the North (present Sudan). Subsequently, the World Bank/IDA was assigned as the administrator and fund manager. Soon after the CPA, the USD 30 million Rural Water Supply and Sanitation Project (RWSSP) commenced in October 2006 and completed in June 2011. The main objective of RWSSP was to support the then Government of Southern Sudan (GOSS) in its efforts of reconstruction and development in the water, sanitation and hygiene (WASH) sector. Ministry of Cooperatives and Rural Development (MCRD) was the first implementing agency of RWSSP before it was officially transferred to the Ministry of Water Resources and Irrigation (MWRI) in July 2008.

To complement and expand the activities implemented under RWSSP, a subsequent grant of USD 56 million was pledged for a follow up project namely, the Water Supply and Sanitation Project (WSSP) in parallel to another grant of USD 97.65 million self-standing Urban Water Supply and Sanitation project (Wood & Mahal, 2009). However, due to serious funding constraints, largely triggered by the global economic crisis in 2009/2010, only USD 30 million was financed by MDTF and allocated to implement the WSSP only, which encompassed both rural and urban activities. This led to a reduced scope of work with urban activities being limited to feasibility studies. The Water Supply and Sanitation Project (WSSP) became effective on 7th May 2010, and was completed on 31<sup>st</sup> December 2012. The main implementing agency was the Ministry of Water Resources and Irrigation (MWRI) together with the State Directorates of Water and Sanitation. Various communities identified throughout the 10 States of the Republic of South Sudan made up the beneficiaries base of the project.

A Project Management Team (PMT), made up of government staff (mostly from MWRI and a few from other relevant institutions) and a Technical Assistant Support Team (TAST) provided implementation support in procurement, contracts management, fiduciary management, supervision monitoring and reporting. The overall development objective of WSSP was to increase access to safe water supply and sanitation (WSS) in all the states of South Sudan and building the capacity for sustainable water supply and sanitation management systems. To achieve this, the WSSP was been divided into five major component;

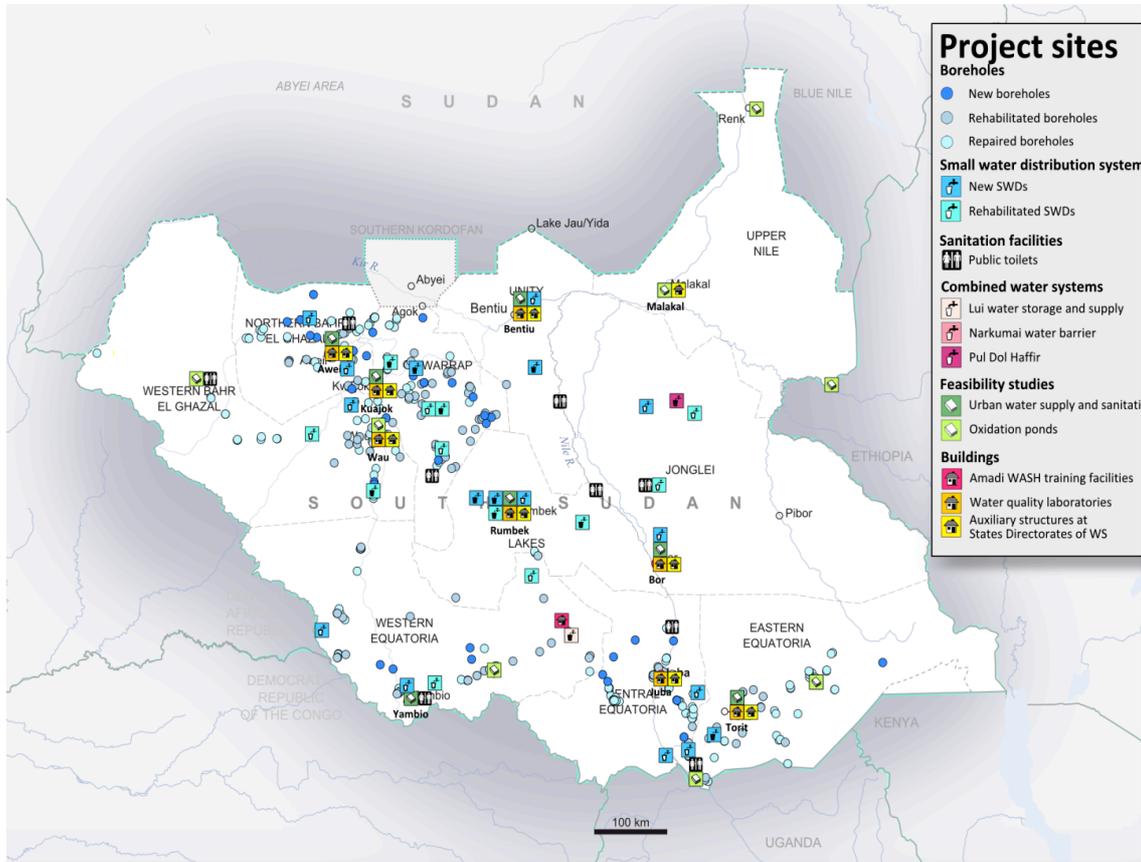
water supply, sanitation and hygiene promotion, water resources technical support, capacity building and Project Management support. Figure 1 illustrates the budget allocations for each of these components.



<b>Project Outcome Indicators</b>	<b>No. Of facilities</b>	<b>Target beneficiaries</b>
New boreholes;	45	22,500
Boreholes rehabilitated;	235	117,500
Boreholes repaired and functioning;	300	150,000
New small water distribution systems	17	42,500
Rehabilitated small water distribution systems	12	30,000
Haffirs-Barriers systems;	1	(Primarily for livestock)
Water Distribution System with Treatment	1	21,761
Gender aggregated public ablution blocks	9	22,500
Water quality laboratories in each state capitals	9	(State)
Staff trained (number)	-	333
<b>Total WSSP Beneficiaries</b>	<b>629</b>	<b>407,094</b>
<b>Total RWSSP Beneficiaries</b>		<b>639,250 (World Bank, 2011)</b>
<b>Total MDTF WSS Facilities Beneficiaries</b>		<b>1,046,344</b>

**Main achievements**

A total of 629 WASH related facilities were implemented under WSSP across all the ten (10) states of the Republic of South Sudan (refer Table 1). These included boreholes, small water distribution systems (SWDS), a water storage, treatment and distribution system, water quality testing laboratories, generator houses, public latrines, a haffir (a sub surface open reservoir). There were also WASH training facilities (buildings) constructed at Amadi Rural Development Institute. In addition to implementation of WASH hardware, water supply and sanitation feasibility studies for a number of State capitals and feasibility studies for wastewater treatment in a number of towns were also conducted. Map 1 depicts the project sites across South Sudan. A robust capacity building plan was also put in place, which included a training component. A total of 333 individuals benefitted from various trainings, conferences and regional exchange visits related to the WASH sector.



**Map 1 Distribution of the WASH facilities implemented under WSSP**  
 Source: Ministry of Water Resources and Irrigation, Juba, RSS

**General issues and constraints**

1. **Office Environment:** Limited office space, thus inadequate storage space for the growing project related correspondence. Frequent city power outages due to shortage or lack of fuel for the generator.
2. **Winding up the predecessor project (RWSSP):** Substantial time and effort was required from the TAST to catch up with the huge backlog of activities under the previous project - RWSSP.
3. **Rate of disbursement:** There was a generally slow rate of disbursement due to various reasons.
4. **Seasonal Calendar and Site Inaccessibility:** The seasonal calendar of South Sudan typically allows 6-7 months in a year when project activities can be implemented in the field due to a prolonged wet season.
5. **Availability of Construction Material At Building Sites:** Availability of construction materials was a big hurdle during project execution due to import logistics from the regional markets.

6. **Coordination between the National Ministry and State Directorates of Water & Sanitation (DWS):** Follow up and support remained a challenge due to the geographical distances between most states and Juba. Lack of reliable Internet services and limited mobile phone networks also posed a problem.
7. **Supervision, Monitoring & Evaluation Activities:** Contract implementation vis a vis inadequate supervision capacity was a major challenge.
8. **Transport for State level supervision staff:** Inadequate means of transport to the numerous supervision and monitoring project sites posed a challenge.
9. **Capacity Building:** Notwithstanding the capacity building initiatives, the fast pace of the project did not allow sufficient time to practice the acquired skills nor for the TAST team to engage with the national counterparts substantively.
10. **Finance:** Slow liquidation of project funds advanced towards capacity building activities or for supervision missions was a challenge for accountability.

### **Constraints affecting project implementation**

1. The project design and regulations were too ambitious for a post-conflict recovery phase. The projected implementation period was too short to realistically allow completion of the planned activities;
2. World Bank procurement conditions and eligibility criteria seriously constrained potential regional bidders;
3. There continues to be a weak private sector in South Sudan;
4. Involvement of civil society and local authorities in decision-making was time-consuming;
5. Unreliable supply chain affected availability of construction material leading to delays with contractors;
6. Lack of availability of spare-parts e.g. for repair of boreholes;
7. Poor infrastructure (roads, telecommunication);
8. Uncertainty caused by major events, such as elections, referendum, and independence declaration;
9. Frequently taking decisions in an ad-hoc manner;
10. There was no regular feedback from fiduciary agent that was based at the Ministry of Finance and Economic Planning;
11. Inconsistent and incomplete administrative government rules and guidelines (e.g. on tax exemption).

### **Opportunities derived from project implementation**

1. Increased capacity at all levels; taking into account lessons learnt from RWSSP (Wood & Mahal, 2009);
2. The advantage of a gradual increase of institution building and strengthening;
3. Strengthened Government and Development Partners interaction;
4. Emerging MWRI policy documents (Water Policy, WASH Strategic Framework), allocation procedures, technical guidelines, strategic frameworks, standards and regulations.

### **Lessons learned**

1. **Project Implementation Period:** The allocated project time period was grossly underestimation leading to unrealistic high expectations in delivery of outputs in time;
2. **Community Sensitisation:** There was no time allocated to prepare communities to receive the project;
3. **Stringent tender qualification and evaluation criteria:** Compliance to the World Bank's bid conditions and requirements were a challenge to regional contractors operating in South Sudan. As such, responses to bids were poor, and at times translating to non-award of contracts;
4. **Capacity for stringent Finances and Administration:** Disbursement associated with workshops, training, travels took relatively long to be liquidated. The discipline of collecting, keeping and submitting receipts for accommodation, travel, purchases is below average in South Sudan;
5. **Inadequate geophysical surveys:** Groundwater investigations before drilling have not been exhaustive enough to gather sufficient information for decision making. Currently, contractors mobilize both the geophysical investigating and drilling teams simultaneously, giving little room for detailed data analysis. This created problems with beneficiaries when a Hydro-geologist indicates that chances of getting water are slim. An adequate budget and greater emphasis for geophysical surveys is therefore important.
6. **Borehole lot contracts:** Preparation of borehole contracts should be based on Hydro-geological/Geophysical Surveys. Payment should be made for a completed borehole. In the case of a successful borehole, the completed borehole shall have gone through a process that includes drilling; logging; installation of plain casings, screens & gravel packs; test pumping and recovery measurements; & water quality analysis. Thus, for a dry borehole, only the depth drilled should be paid for.

7. **Lack of Pre-tender site visits:** Pre-tender site visits should be made compulsory to allow prospective bidders (contractors) to view the physical conditions of the work. The client should only accept bids as 'competent' if the contractor has attended. This allows the client to explain to everyone exactly what is required and answer any questions raised. The lack of pre tender site visits meant contractors often found unexpected problems after mobilization leading to delays and claims for unforeseen works.
8. **Supervision:** The assumption that state staff had the capacity to undertake the immense supervision responsibilities was proven not to be the case under this project. While the project put a lot of emphasis on "on the job training", involving joint supervision visits with both MWRI /TAST and state supervisors, basic technical background was lacking in most states. Hence the impact of such trainings was less than expected, which affected the quality of supervision.
9. **Land acquisition issues:** The issue of land acquisition was not emphasized adequately in the initial stages of project implementation. In fact, due to the fast-tracked nature of the project, tendering processes went on without having names of the exact sites where works would take place. The issue of land allocations and sites therefore came afterwards when tenders had been awarded, causing problems and delays, especially where issues of compensations arose. Thus, in the future, sites identification and land acquisition issues should be completed before works contracts are tendered.
10. **Omission of soft components and non-fulfilment of some development objectives:** Given that Capacity building encompasses two components; a) the software (improvement of competence – knowledge, attitude and skill) and b) the hardware (Improvement of the physical infrastructure and the institutions) an omission of any one component is likely to weaken the other. Various sanitation and hygiene activities such as awareness campaigns were cancelled. The likely effect of this is the possibility of not relating hygienic practices to the services provided under WSSP.
11. **Gender imbalances:** Inevitably there were less female participants than males in most project activities. One of the basic reasons was due to the disparities in the education system whereby more males attend school than females. This resulted in few qualified females making it into the WASH sector. Notwithstanding, at times family responsibilities on females outweighed those requiring them to participate in field missions and/or training activities especially if they had to travel to another state.

## Recommendations

MWRI has been through several transformations since its formative years during the CPA era. A significant achievement of the time was the enactment of the *Water Policy*; which paved the way for other policy documents to be aspired for. Since then, the water sector has seen the publication of the *WASH Strategic Framework*, which is the basis for the finalised *Rural & Urban WASH Action and Investment Plans* publication. Currently a Water Bill is being drafted, which will serve as the guiding document for all regulations that will govern the WASH sector of the Republic of South Sudan.

The WASH facilities implemented under WSSP have well positioned MWRI to take forward the agenda of developing the WASH sector of South Sudan. The lessons learnt in WSSP will continue to be invaluable in assuring quality outputs in future projects of a similar nature. Below are some recommendations worth noting as MWRI looks forward to a future of WASH projects:

### Project design

As South Sudan is now an independent state, future projects should be based on national priorities as opposed to donor priorities, and designed in the context of a long-term development perspective

### Strengthening the private sector

It is recommended that the private sector should be strengthened in regard to public procurement participation and through more projects of this nature. The sheer magnitude of the investment required in the WASH sector necessitates active participation of entrepreneurs. For this to happen, motivation and creation of conducive environments are mandatory, as private entrepreneurs will only mobilize financial resources to invest in equipment and technology if they are assured of safe and sound investments.

### Establish a national database of contractors

MWRI in collaboration with other line ministries is well advised to start the process of registration and classification of contractors based on their capacities to deliver. If this process were done transparently and competently, it would be possible to convince future funding agencies to accept direct contracting from the database to save on tendering time.

### **Overall work environment affecting efficiency**

Develop the 'communication function' of MWRI to reinforce decentralisation process (e.g. establish information hubs at State levels, dissemination of key document such as reports, strategy documents).

### **Capacity development**

An updated training needs assessment is needed for staff at national and state levels. A monitoring and evaluation (tracer) study need to be conducted to establish the outcome of the trainings already conducted. This information should help to improve on the future training strategies and approaches.

### **Sustainability issues**

WSSP was the first of its scale in the WASH sector to have a working strategy and a structured plan for capacity building. This initiative needs to be further strengthened to carry on with the initiated plans and activities to achieve sustainable Operations and Management (O&M) of the WASH facilities through continuous knowledge transfer.

### **Groundwater mapping**

Groundwater assessment is a necessary step in understanding groundwater potential to support development plans. Application of appropriate technology will facilitate identification of the groundwater potential areas leading to drilling (production, exploratory or both) to ascertain borehole yields and water quality. Generation of groundwater data will culminate in the development of groundwater maps with accurate and quality data, which are essential for health, economy and the ecosystem.

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