
40th WEDC International Conference, Loughborough, UK, 2017**LOCAL ACTION WITH INTERNATIONAL COOPERATION TO IMPROVE AND
SUSTAIN WATER, SANITATION AND HYGIENE SERVICES****Institutionalising WASH capacity development in South
Sudan: moving from emergency response to development***M. Keega (Kenya)***PAPER 2584**

South Sudan has experienced decades of civil war and gained independence in July 2011 and more recent outbreak of conflicts has been experienced in December, 2013 and July, 2016. The Water Policy (2007) has stipulated human resource development and capacity building as key issues of priority. The policy indicates the government's intention to reverse the effects of decades of conflict and long term political and economic marginalisation in the south, where water sector strategies would be established for human resource development and training through technical collaboration with relevant institutions in other countries. WASH strategic framework (2011) was developed by Ministry of Water Resources and Irrigation (MWRI) with a rationale to attract investment, formulate priority action plans and create capacity in the WASH sector at all levels. The framework has been the basis of the transformation from ad-hoc emergency relief interventions to a holistic, government-led planning and implementation of well-targeted interventions¹.

Background

According to the 2010 Knowledge, Attitudes and Practices (KAP) Survey on water, sanitation, hygiene and nutrition in seven states² of South Sudan, 'access to improved drinking water sources' was at 67.7%, 'access to sanitation' was at 14.6% of the population and hygiene awareness' was amongst the lowest worldwide. Only 5.5% of the respondents felt that it was important to wash their hands with soap before eating and only 50% of respondents stated that they would wash their hands if a hand washing facility were placed near the toilets. Open defecation in urban areas is estimated at 50%, in rural areas at 78% and for both urban and rural areas at 74% (JMP, 2015). These are some of the worst WASH indicators globally. As highlighted in the WASH strategic Framework (2011), one major challenge is sector capacity development where the country is short of qualified people in and thus low human resource capacity to undertake the requisite planning and implementation of policies.

The Kingdom of the Netherlands through EP-Nuffic³ has funded WASH capacity building project in South Sudan that is being implemented by Ministry of Water Resources and Irrigation (MWRI). A consortium made of CINOP Global⁴, Alterra/WUR and UNESCO-IHE is supporting MWRI to implement the project "Capacity building for skills and knowledge in WASH training courses and research" (2013-2017). The aim of the project is to strengthen the training and research capacity in South Sudan that will contribute to the improvement, extension and sustainability of WASH service delivery and outreach. The project is implemented at Amadi Rural Development Institute (ARDI) of which to host the WASH training and research activities, new infrastructure was constructed and the buildings that had been damaged during the decades of war were rehabilitated under the Multi-donor Trust Fund for South Sudan (MDTF-SS)⁵. The WASH capacity building project at ARDI aimed at development of the Technical and Vocational Education Training (TVET) institute and has two specific objectives;

Specific objective 1: ARDI delivers good quality education and appropriate training and research services in the fields of water, sanitation and hygiene which is business oriented, gender sensitive and responsive to labour market demands and innovations (with specific emphasis on quality enhancement of O&M technicians and inspectors).

Table 1. Curriculum outline - 12 months WASH technician certificate			
Core Modules	Module	Title	Duration
	Module 1:	Remedial teaching (basic Maths, Biology, Chemistry, Geography, Physics, English and ICT)	7 weeks
	Module 2:	Water Resources Management	4 weeks
	Module 3:	Sanitation, Hygiene and Health	3 weeks
	Module 4:	Water Treatment	4 weeks
	Module 5:	Sanitation and Water Services Management	4 weeks
	Module 6:	Community Entry	4 weeks
Specialisations			
Specialisation 1: Community Mobiliser	Module 7:	Hygiene Promotion	4 weeks
	Module 8:	Community WASH group organisation	4 weeks
	Module 9:	Integrated project	4 weeks
Specialisation 2: Water Quality Technician	Module 10:	Water Quality	4 weeks
	Module 11:	Water Quality and Water Safety Plans	4 weeks
	Module 12:	Integrated project	4 weeks
Specialisation 3: Sanitation Technician	Module 13:	Principles of waste water treatment	4 weeks
	Module 14:	Sanitation technology and installations	4 weeks
	Module 15:	Integrated project	4 weeks
Specialisation 4: Safe Water Development Technician	Module 16:	Groundwater development (incl. geophysical surveys, borehole siting, drilling methods, etc.)	4 weeks
	Module 17:	Safe water supply development and operation (boreholes, hand pumps, rural water supply points, urban water supply systems and O&M)	4 weeks
	Module 18:	Integrated project	4 weeks
Specialisation 5: Water Resources and Information Management Technician	Module 19:	Water resources mapping and monitoring (incl. surveys, ICT systems, measurements and analysis)	4 weeks
	Module 20:	Water Resources development (both surface and ground, e.g. water harvesting/storage, groundwater recharge, irrigation and drainage, etc.)	4 weeks
	Module 21:	Integrated project	4 weeks

Specific objective 2: MWRI develops comprehensive policies and strategies for and provides strategic leadership in: the implementation of training programmes and carrying out of research services in the WASH sector that are responsive to labour market demands, O&M needs and innovations and take into account gender sensitive issues.

Labour market survey

The primary phase of the curriculum development process involved a baseline survey on the WASH labour market in South Sudan that was conducted in 2014 to ensure that the WASH graduate will be marketable and relevant to the South Sudan economy, and for the sustainability of the WASH training program. The survey involved a desk study and collection of information from WASH sector employers within the city of Juba; of which included INGOs, NGOs, contractors and government representatives. The surveys' objectives were to establish; the organisations that can employ the graduates; the tasks/roles of the employees at certificate and diploma level; and the competencies that are needed to perform these tasks.

The labour market survey outcomes were used to develop job profiles and occupational profiles for professionals in WASH on certificate and diploma level. This was done in the procedure of curriculum (DACUM) workshop. Initially, three occupational profiles were established as community mobiliser, water technician and sanitation technician. These were further broken down into 5 occupational profiles that determined the five specialisations that are included in the curriculum outline as shown in table 1. The table shows distribution of 38 weeks of learning/lessons time which excludes break periods and time for supplementary examinations.

WASH curriculum development: technician certificate level

For a start, a WASH certificate course is to be implemented at ARDI and in near future, diploma level course will be conducted. The curriculum development for the certificate course has been done by a team made of the consortium partners and a core group team based in Juba comprising of MWRI and ARDI staff. The consortium partners in consultation with MWRI Project Management Team developed an outline that includes 6 core modules and 5 specialisations; of which core modules are mandatory and students select a specialisation out of five specialisations. The consortium partners then developed the content of the curriculum in form of module and topic outlines. The core group team which includes MWRI staff, who were selected according to the required expertise in relation to their technical backgrounds and their roles at the ministry, were then engaged in workshops to develop the lesson plans for the course. This process was facilitated and guided by team international experts made of the consortium partners. A pilot group enrolment of students to undertake the training is planned to take place in April 2017.



**Photograph 1. Curriculum development workshop
of International experts, MWRI and ARDI staff**

Quality assurance

Three Quality Assurance (QA) workshops have been conducted for the ARDI and MWRI staff members that have been involved in curriculum development. These workshops have been facilitated by international experts with the objective of ensuring that the national team involved in development of the WASH curriculum and delivery of training have the skills to develop and integrate quality standards in the curriculum content, learning materials and teaching methodologies. Monitoring and evaluation of the quality standards is a key element; the national team has been equipped with the necessary skills to monitor and evaluate and therefore guaranteeing that quality WASH training materials are used and methods are applied.

Benchmarking of the quality standards was initiated with a visit to Kenya Water Institute (KEWI) in Kenya in 2014 to learn about their experiences. A Quality Assurance framework and QA tools for the WASH training are to be developed before end of the capacity building project period since there is a need for an overarching system for quality assurance that is simple, practical and comprehensive.

Gender

Three gender workshops have been conducted for the ARDI and MWRI staff with an objective to ensure that the developed WASH curriculum is gender sensitive in terms of materials and teaching methods; and in addition practising the gender sensitive training. The concept of gender mainstreaming on the use and management of water resources, sanitation and hygiene was also introduced.

Exploration on the existing gender policies at national level, state level and institute level was done and relevance for ARDI and MWRI was established. The ARDI and MWRI team has gone further and drafted a gender policy for ARDI of which yearly WASH gender action plans will be based on. The gender policy specific objectives are to promote awareness in gender issues, to have gender equity and equality in all programmes/projects and to ensure both staff and student of ARDI are gender sensitive. It also stipulates strategy on key issues such as gender representation and participation in enrolment, gender and responsive budgeting. A gender desk is proposed for liaising purposes; facilitation of communication among the students; and from students to the management and vice versa.

Capacity development ARDI tutors and MWRI staff

To ensure that ARDI delivers good quality education and appropriate training and research services, capacity development for the ARDI and MWRI staff has been effected in three categories;

1. Trainings have been conducted that are geared towards development of quality WASH curriculum and teaching methodologies. These include; a series of trainings on Competence Based Education and Training (CBET) which emphasises on didactical skills and approaches for TVET that link tasks and

- responsibilities that professionals encounter in real work situations to the required learning outcomes of that occupation; trainings on QA in curriculum development and teaching methodologies; and trainings on incorporating gender into the curriculum and gender sensitive teaching methods and tools.
2. The ARDI tutors and MWRI staff have attended a number of short tailor-made courses on WASH topics as a group; and at individual level, ARDI tutors have been sent to attend WASH related courses on different topics. This was done by initially conducting a capacity needs assessment for the ARDI tutors. The objective of these trainings is to enhance their knowledge in the WASH content of the curriculum and hence delivery of high quality trainings at ARDI.
 3. Training of MWRI staff at the project management level to enhance project management skills which included a training course on 'financial management for donor funded projects'.

Institutional framework

ARDI is owned by the Ministry of Agriculture and Food Security (MAF) and the 'Capacity building for skills and knowledge in WASH training courses and research' project is implemented the Ministry of Water Resources and Irrigation (MWRI) after coming to a Memorandum of Understanding (MOU) in 2012 with the then Ministry of Agriculture, Forestry, Cooperatives and Rural Development. Stakeholders meetings are held annually and this involves related ministries and institutions of government, the donors of the project and other key development partners in the WASH sector. The project also has been collaborating and sharing experiences with two other capacity building projects funded by the Government of the Netherlands through EP-Nuffic which include Marial Lou Livestock Training Centre (MLLTC) and Crop Training Centre (CTC) Yei.

There is currently no accreditation of TVET providers in South Sudan which may due to the fact that there is absence of standards and norms regarding quality indicators which are necessary to develop implement and enforce credible accreditation systems (UNESCO, 2014). The project management has been making close follow-ups, through the Ministry of Higher Education, on advances made that entail to establishment of accreditation system for TVET. ARDI institutes management and programmes are guided by policies and strategies, regulations that are stipulated in the ARDI draft constitution (2012). To certify that MWRI develops comprehensive policies and strategies for and provides strategic leadership, a number of policies have been developed under the project that include gender and IGA s policies. Other policies that are planned to be completed before end of the project include human resource development policy for MWRI and quality assurance framework.

Sustainability

In addition to enacting policies that aim to enhance institutionalization of TVET courses, Income Generating Activities (IGAs) will be pursued to safeguard ARDI WASH programme sustainability, formulation of IGAs strategy has been proposed in the inception report of the project. This is based on the fact that the government budget allocations are not adequate to cover the costs of operations and running of the courses at ARDI. IGA workshop has been held in Juba with the objectives as follows; to understand the principles of income generation; to analyse the potential challenges related to implementation of income generating activities for ARDI; to analyse existing IGAs; and to draft a minimum of 2 realistic ideas for income generation at ARDI. The ARDI and MWRI team has gone ahead and developed the ideas into business plans.

As a follow up activity, The ARDI and MWRI staff have been engaged in preparation of IGA policy for ARDI and a first draft is in place. The IGA policy has the objectives; to provide a structural outline for planning, management and monitoring of IGA at ARDI; to encourage exploitation of all potential business opportunities applicable at ARDI; to provide modalities to rationalize the use of the funds/profits gained through the IGAs; and to ensure that IGAs are conducted in agreement with ethical standards and best practices.

Installation of infrastructure and equipment

MDTF-SS project previously put up and renovated structures and therefore ARDI has adequate infrastructure to enable running of WASH training. Nevertheless, for the institute to be fully operational, WASH capacity building project set aside an investments budget which is for;

- Landscaping of the compound; installation of a water distribution network to the buildings from a water point constructed by MDTF-SS; and repair works at the administration block. The water distribution network has been installed and landscaping works contracted.
- Procurement and installation of ICT equipment; classroom and library facilities and learning materials; dormitory and dining equipment; generator and solar equipment; and water quality laboratory equipment. All the equipment and facilities have been procured and awaiting installation prior to the enrolment of the pilot group of students in April 2017.

Conclusion

The planned activities of the project have been implemented as specified in the logical framework despite the fact that some of these have been delayed and conducted in a different manner; and this has strongly reinforced the growing paradigm around adaptive programming and emergency preparedness in WASH. This is mainly related to the South Sudan crisis of 2013 and 2016 where some international experts were sometimes restricted to travel to South Sudan and therefore some workshops have been conducted outside South Sudan. Due to security concerns, the project management is considering having the first pilot group enrolment in Juba in April 2017; and relocate at a later date to ARDI. One of the key learning points for all the stakeholders of the project is the need for flexibility while implementing projects in countries prone to conflicts such as South Sudan.

Although in the developed curriculum 'water safety plans' topic covers water quality risk assessments that comprise of hazards and hazardous events that can affect the safety of a water supply, in future it would be worthwhile to include topics on risk-based approach on construction and maintenance of WASH facilities and WASH service delivery. This will enhance the understanding and implementation of sustainability measures put in place and consequently safeguarding sustainability of WASH interventions (both services and facilities).

The commitment of the MWRI and ARDI in the implementation of the project activities has been overwhelming in spite of the mentioned challenges. This has been demonstrated in the manner of mobilisation and outputs delivery in activities such as the WASH curriculum development and policies development for ARDI.

South Sudan WASH sector still needs additional support in area of capacity building in areas such as; scholarships programme for students to undertake the courses offered at ARDI, development and implementation of diploma curriculum, establishment of all-inclusive WASH research centre and support to community outreach programmes.

Acknowledgements

The author would like to extend thanks to EP-Nuffic for the grant funding in support of WASH capacity development in South Sudan; the international technical support consortium partners CINOP Global, Alterra/WUR and UNESCO-IHE; the project implementer Ministry of Water Resources and Irrigation, Republic of South Sudan (RSS); Amadi Rural Development Institute; and the Ministry of Agriculture and Food Security, RSS.

References

- GOSS, 2007 *Government of South Sudan (GOSS) Water Policy*, pp.13.
- TEUBEN J., 2013 RSS, *Ministry of Water Resources and Irrigation, NICHE/SSD/162- Inception Report, Capacity building for skills and knowledge in WASH training courses and research*, pp.30.
- MEDIWR, 2014 *Baseline desk study on labour market research in the Water, Sanitation and Hygiene (WASH) sector of South Sudan* -Ministry of Electricity, Dams, Irrigation and Water Resources (MEDIWR), NICHE/SSD/162: Capacity building for skills and knowledge in WASH training courses and research, the Netherlands NUFFIC project. A report by Global Works Ltd, pp.22-23
- MWRI-GOSS 2011 Water, Sanitation & Hygiene (WASH) Strategic Framework, pp. viii and 2.
- WHO/UNICEF, 2015 Joint Monitoring Programme (JMP) data for South Sudan.
https://www.wssinfo.org/documents/?tx_displaycontroller%5Btype%5D=country_files&tx_displaycontroller%5Bsearch_word%5D=South%20Sudan
- UNESCO, 2014 *TVET Policy Review South Sudan*, Published by United Nations Educational, Scientific and Cultural Organisation, Paris, France, pp.40.

Notes

1. The WASH sector interventions are founded on the Rural and Urban WASH Sub-sector Action and Investment Plans developed by MWRI.
2. The seven states in South Sudan that the KAP survey was conducted were Jonglei, Upper Nile, Warrap, North Bahr El Ghazal, Unity, Eastern Equatoria and Central Equatoria.
3. EP-Nuffic is an independent, non-profit organisation based in The Hague, the Netherlands, which supports internationalisation in higher education, research and professional education; and supports Dutch institutions and the Dutch government in international cooperation.
4. CINOP Global is an international consultancy firm based in 's-Hertogenbosch, the Netherlands; the company specialises in lifelong learning and development of capacity and strengthening TVET worldwide. CINOP is the lead member of the international consortium.
5. MDTF-SS was created by the government and 14 international partners to support reconstruction, poverty reduction, governance and human development (2005-2013)

Contact details

Martha Keega is an independent WASH Consultant and currently is the NICHE-SSD-162- Project Support Officer based in Juba. Has 15 years of experience in development and humanitarian projects at various capacities; and has interests in capacity building, research, environmental assessments, gender, organizational development, policy and institutional framework for effective WASH services delivery.

Martha Keega
NICHE-SSD-162- Project Support Officer
Ministry of Water Resources and Irrigation
Hai Cinema, Juba, South Sudan
Tel: +211955151053, +254722802172
Email: marthawkk@gmail.com
