

Water for Eastern Equatoria (W4EE)



Kingdom of the Netherlands



NIRAS



Witteveen + Bos

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The role of integrated water resource management in fostering resilience, delivering economic development, improving health, and promoting peace in a long-term process.



Marc Mazairac, First Secretary for Development Cooperation, Embassy of the Kingdom of the Netherlands, tests out a new water point with members of the W4EE team.

Project information

Donor: Embassy of the Kingdom of the Netherlands (EKN), Juba, South Sudan

Location: Torit and Kapoeta States, Eastern Equatoria, South Sudan

Duration: November 2013–October 2019

Overall contract value: EUR 28.4 million

Implementation consortium members: NIRAS (Denmark), WE Consult (Uganda), and Witteveen+Bos (Netherlands)

The first integrated water resource management (IWRM) project of its kind in South Sudan, Water for Eastern Equatoria (W4EE) was launched in 2013 as part of the broader bilateral water programme funded through the Dutch Multiannual Strategic Plan for South Sudan (2012–2015).

From the very beginning, W4EE was planned as a pilot IWRM programme in the Torit and Kapoeta States of Eastern Equatoria focusing on holistic management of the Kenneti catchment, conflict-sensitive oversight of water for productive use such as livestock and farming, and improved access to safe drinking water as well as sanitation and hygiene. The goal has always been to replicate key learnings and best practice in other parts of South Sudan.

The Kenneti catchment is very important to the Eastern Equatoria region for economic, social, and biodiversity reasons. The river has hydropower potential, supports the livelihoods of thousands of households, and the surrounding area hosts a national park with forests and wetlands as well as wild animals and migratory birds.

“The project shows that resilience programming can work. For a long time, the people of South Sudan have only received relief aid, which does not allow them to develop new skills to improve their living environment. Despite difficult circumstances in the past, project beneficiaries have shown a yearning to shape their own future. And understandably so, as restoring self-reliance gives people a sense of dignity and control over their lives.”

Marc Mazairac, First Secretary, Development Cooperation, Embassy of the Kingdom of the Netherlands, South Sudan

Although a new civil war broke out within weeks of W4EE's launch, the project has adapted to maximise its impact in response to conditions on the ground. Its results have proven that development projects can be successful in conflict settings if certain principles are applied. One of the most important of these is a participatory process where all social actors are engaged and ownership is accepted from the highest level of government down to the individual. Institutionalising the process has also been key



as this ensures local capacity is strengthened and successes can be sustained once the project comes to an end.

As the humanitarian crisis caused by the war in South Sudan deepened, the programme adapted its plan and developed quick-impact interventions to address the problems of insufficient food production and lack of income generation. These have proven successful as they support a market-driven approach whereby people build their own prosperity through small trade and services. A general cross-cutting strategy of W4EE has been to strengthen the nascent private sector, such as water and farm service centres, to support economic growth.

When most of the foreign organisations in South Sudan, including the project's international implementing partners, evacuated in response to the conflict, W4EE responded by building partnerships with local government and supporting local organisations to continue delivering its services. This approach – in conjunction with the secondment of South Sudanese government officials to the project and the employment of national professionals – has been highly effective, with results becoming more sustainable and cost-efficient.

Components

W4EE focuses on three interrelated components:

Component 1: Integrated water resource management of the Kenneti catchment and surrounds

Component 2: Conflict-sensitive management of water for productive use contributes to increased, sustained productivity, value addition in agriculture, horticulture, and livestock

Component 3: Safely managed and climate-resilient drinking water services and improved sanitation and hygiene are available, operated and maintained in a sustainable manner.

226,187 Number of people who received access to safe drinking water

122,701 Number of people reached with hygiene education

57,891 Number of people who received access to improved sanitation

Critical success factors

- Ownership at all levels from the national ministry which enables success down to the individual, who takes responsibility;
- Subsidiarity or strengthening the decision-making capacity and management of players: from household upwards to community, local institutions, county, and state;
- Participatory process, engaging all social actors;
- Institution- and capacity-building;
- Management of resources at the local level, bringing the decision-making and actions as close to those affected as possible;
- Injection of private sector management approaches and inclusive development of social and commercial entrepreneurs;
- Cross-cutting quick-impact interventions to improve food security and livelihoods.

Integrated water resource management of Kenneti catchment and surrounds



W4EE has improved government and local communities' technical knowledge and capacity in the field of integrated water resource management

Implementing integrated basin management of the Kenneti Watershed is a significant achievement – not least because it is the first of its kind in South Sudan with potential for replication nationwide – but more so for its role in facilitating inclusive social and economic development for different communities. Before the establishment of the Kenneti Watershed Management Board and the supporting institutional processes and structures, decisions around access to and use of resources were taken separately by the three administrative areas through which the Kenneti River flows. This inevitably led to conflict as an action taken in one part of the catchment would have a knock-on effect elsewhere.

Utilising a landscape approach, the upper, middle, and lower Kenneti watershed has been GIS mapped for different potentials such as agro-ecological, hydrological, and production zones. Moreover, erosion and other 'environmental hotspots' have been identified to support sustainable planning of water resources. Today these hydrological boundaries are clear and no one can dispute the transparency of the process. Ongoing monitoring in nine stations manned by local communities and overseen by trained government staff, and supplemented by climate and water quality data, ensures the latest information is being imputed to the Mike Hydro Water Model, a decision-support tool that enables public institutions to make evidence-based, transparent decisions.

In addition to the board, other structures have been established and training provided to support decision-making. These include water resource user associations based on distinct sub-catchments as well as common interest groups such as fisheries, pastoralists, farmers, and other water users, taking biodiversity and environmental resources into consideration. The board also has to address the issues of forest logging and protection of wildlife and wildlife migration routes.

See W4EE Success Stories: [Building Institutions](#) for more details.

"We cannot say who are the targets within the catchment area, but it looks like everyone. Even those who thought this project would never touch them; it's already touching them. You just need to open their eyes. This food you are eating, it is because of Kenneti, this town that is growing, it is because of Kenneti ... water is life and belongs to everyone."

Luka Orasio Loya, Chairman of the Kenneti Catchment Management Board



Local water gauge readers have been trained and their community leadership is responsible for oversight of gauging stations. Where readers have not been reliable, the leadership has taken remedial measures to safeguard the equipment and reported the ineffective readers to the Water Resource Department, which has replaced them.

The Mike Basin team from the South Sudanese Ministry of Physical Infrastructure visits the Nile Basin Initiative in Entebbe, Uganda, as part of their technical training.



Livestock drinking from a newly constructed charco dam in Lomeyen, Kapoeta State. During the project, three charco dams have been constructed. Water management committees, with about 12 members each, have been established and trained to maintain the infrastructure with contributions from water users.



W4EE constructed sustainable water infrastructures such as haffir, charco, and sub-surface dams as well as small water distribution systems. In addition, farmers were supported with tools and equipment to facilitate dry-season vegetable farming in Torit such as treadle and motorised pumps. Pictured here, the Torit town mayor hands over treadle water pumps to farmers. Today, water and farm service centres sell this equipment.

Water for productive use

Conflict-sensitive management of water for productive use contributes to improved food security and economic development through sustained productivity, water storage, and value addition in agriculture, horticulture, and livestock. This aspect of W4EE focuses on increasing the knowledge and capacity of local communities and individuals to use water in a more efficient way to strengthen their own livelihoods. Local authorities and the private sector are key players in this process. The former focuses on raising awareness of the value of water resources while introducing simple technologies that can improve access for livestock and agriculture within the basin. People need easy solutions they can implement and already start to see results. Small businesses are key because they create an enabling environment for growth by supplying sustained inputs (e.g., seeds, equipment) and ongoing advice and training. Both are crucial to building a sense of ownership among the local community about the role they play in protecting water resources and enhancing their own prosperity rather than expecting others to do it for them.

See W4EE Success Stories: [Water for Productive Use](#) and [Private Sector Engagement](#) for more details.

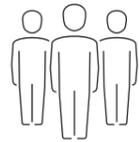


Together with members of the W4EE team, Dr Margaret Itto, Deputy Governor for Torit State (4th from left) visits the farm of Erwa Joseph, a model farmer who has received training and mentorship from Premium Agro Consult, a local business development, agro-tech consultancy. Following the training – from land prep and bed layout, to nursery establishment, and crop management – Erwa and others have regularly been supplying the Torit market with produce, replacing imports from Uganda and offering better prices for customers.

"Providing technical support is key because hands-on practice is the best way to ensure they have understood the process and know how to resolve problems. You can bring someone tomato seeds and equipment, but if he doesn't know what to do with them, it's useless. That's the difference here."

Ramson Duku, one of eight South Sudanese Partners at Premium Agro Consult Ltd.

Safe drinking water and improved sanitation



In the last two years of W4EE, there have been no reported outbreaks of cholera in the project areas.



Villagers in Lotiyan, Kapoeta, peer inside a new shallow well with a holding capacity of 7600 m³.



Members of a school health club package sanitary pads they have produced with the help of material and training.

Award of open-defecation-free (ODF) certificate of appreciation in Habironge Village in the Imatong Mountains.



Almost 20 years of civil war has destroyed much of South Sudan's water delivery infrastructure, leaving more than 30% of the population with no access to safe water and only 13% with adequate sanitation facilities. This lack of water, sanitation, and hygiene poses a serious threat to public health, particularly among children. In an effort to address this, W4EE has delivered 91 new and 106 rehabilitated water points and 6 new and 4 rehabilitated solar-powered small water distribution systems, providing more than 220,000 people with access to safe water. This means communities no longer have to take water from possibly contaminated sources, resulting in reduced rates of cholera and other disease. Local supply also frees up time for more productive activities and reduces the risk of violence against women who go out in search of water for the household.

In every community where water points have been constructed or rehabilitated, water management committees have been supported with training in management, operation, and maintenance of the infrastructure. Each household contributes to the pool of funds set up to pay for repairs and other services. The same communities are also targeted with hygiene promotion interventions such as community-led total sanitation, which 'triggers' households to build latrines and implement hygienic practices such as hand-washing, proper waste disposal, and personal hygiene.

In schools, 30 girl-friendly latrine blocks have been constructed and – working with its implementation partners – W4EE has focused on education and awareness raising of the link between sanitation and health while addressing menstrual hygiene through health clubs and women's groups.

See W4EE Success Stories: [Safe Water and Sanitation & Hygiene](#) for more details.



W4EE supported the establishment of youth-run commercial car washing bay in Torit enhancing, the relationship between young people and the municipality while reducing the release of pollutants into the Keneti River.



Young Toposa pastoralist, Elias (centre) explains to fellow herders how the feedlot fattening initiative in Kapoeta can increase animal fodder production and help fatten livestock and improve milk production while reducing pressure on the rangeland and the stocking rate.

"Because of the conflict, the priority was peace. But peace comes with dividends. Peace dividends are services. If we continue to think free, free, free, our community will never stand on its feet. Thus, we like this approach. Particularly how the project is working with other partners who have been giving services for free to get them to understand the importance of supporting the private sector and allowing it to provide these services, whether they be in food security, water and sanitation, health education, and so on."

Dr Margaret Itto, Deputy Governor Torit State, farmer and businesswoman



Injecting private sector drive

As part of its mandate to manage water for productive use to sustain output and create value addition in agriculture, horticulture, livestock, and fisheries, W4EE initiated a private sector drive towards long-term sustainability and resilience. The project worked in tandem with the nascent private sector and supported water and farm service centres, model farmers, village savings and loan associations, and a feedlot fattening initiative, providing extensive mentorship and training especially in business development, some material inputs (e.g., chickens, seeds, equipment etc.), and linkages to financial institutions to access credit. W4EE also built the capacity of government to enable private sector development. This in turn optimises the use of natural resources to create to national food security and economic growth in a market-driven process.

With the outbreak of civil war in 2013 and again in 2016, W4EE adapted to the reality of the situation and implemented quick-impact interventions – such as the establishment of

poultry groups, vegetable farming, and honey, liquid soap, and peanut butter production – to improve livelihoods for those who had fled the war. These are important because returnees to the area see they can earn something relatively quickly, which also increases stability as formerly displaced individuals become active and productive members of the community. Young people (75% of the population are under the age of 30) and women's groups organised around village savings and loan associations were particularly a target of such initiatives, which – although quick-impact – usually sustain success in the longer-term thanks to hands-on skills-building and linkages to other opportunities.

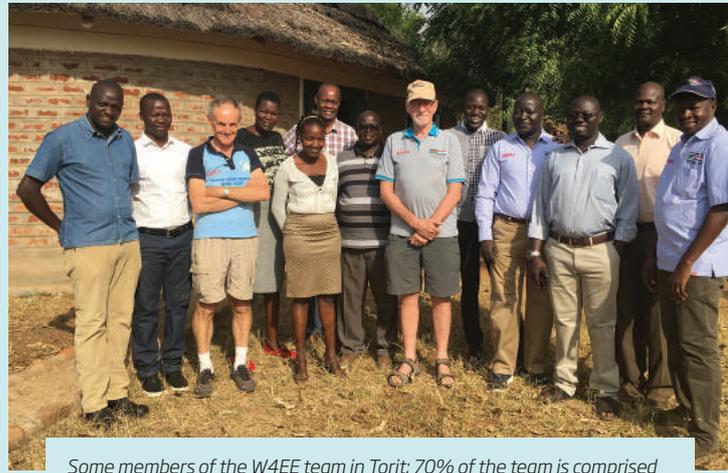


See W4EE Success Stories: [Water for Productive Use, Private Sector Engagement](#), and [Youth Activation](#) for more details.

Sustaining success

“Our partners have not given up. It gives us hope this success will be sustained. There have been so many problems and hurdles, but we have managed to prevail. We are thinking big and now others are coming to see how we can upscale what has been achieved.”

**Alier B. Ngong Oka, Undersecretary,
National Ministry of Water Resources & Irrigation**

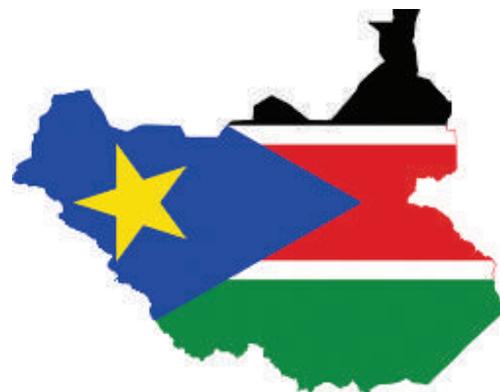


Some members of the W4EE team in Torit: 70% of the team is comprised of South Sudanese nationals, two are from the region, and two from Europe. In addition, the project employed a large number of national consultants.

Despite the war and other challenges, W4EE has managed to meet and even exceed the expected targets in some areas, but the real test of its success is in the exit strategy. Thanks to rigorous training and the establishment of official institutions like the Kenneti Catchment Management Board and more informal bodies, such as water user associations, common interest groups, and water management committees, the project has successfully increased the capacity and knowledge of integrated water resource management among government authorities and other social actors. All stakeholders have bought into the concept that water has a price and must be managed holistically as part of the broader ecosystem. More importantly, all share responsibility for and ownership of the resource and the infrastructure that delivers it to communities. The project also leaves behind a strengthened country water and health department staff, an operational GIS Centre, a water quality testing lab, and technical know-how in hydrological monitoring as well as construction and maintenance of water harvesting facilities and other support services contributing to water service planning, regulation and delivery.

In addition to securing secondment of South Sudanese government staff and hiring national professionals on the W4EE team, national non-governmental and community-based organisations, private individuals, consultancies, and infrastructure construction companies were contracted to fulfil services, ensuring that a legacy of knowledge and expertise remains in South Sudan. The W4EE team also connected these service delivery providers as well as project beneficiaries – particularly model farmers, villages savings and loan associations, water and farm service centres, and active youth groups – with forthcoming funding and development opportunities to sustain their success and avoid the duplication of efforts.

Thanks to W4EE’s localised, participatory, and results-based approach – with an emphasis on learning through doing and ownership at all levels – the close of the project in 2019 signals not the end but rather the beginning of managing water resources holistically in order to build resilience and secure livelihoods across South Sudan.



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