

South Sudan

Positioning Survey for the Dutch water sector

Aidenvironment

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Glossary

ADBG	African Development Bank Group
AfDB	African Development Bank
BTI	Bertelsmann Stiftung's Transformation Index
CLTS	Community Led Total Sanitation
EKN	Embassy of the Kingdom of the Netherlands
FSC	Food Security Council
FSTS	Food Security Technical Secretariat
GoSS	Government of South Sudan
IFI	International Finance Institute
INGO	International Non Governmental Organisation
IWRM	Integrated Water Resources Management
MASP	Multi Annual Strategic Plan
MDG	Millenium Development Goald
MEDIWR	Ministry of Electricity, Dams, Irrigation and Water Resources
NGO	Non Governmental Organisation
ODA	Overseas Development Assistance
PO	Provisional Order
PSI	Population Service International
PSO	Public Service Organisation
PUM	
RoSS	Republic of South Sudan
RWSS	Rural Water Supply and Sanitation
SIFSIA	Sudan Institutional Capacity Program: Food Security Information for Action
SME	Small and Medium size Enterprises
SSDP	South Sudan Development Plan
SSUWC	South Sudan Urban Water Corporation
SWIS	Safe Water and Improved Sanitation
UNU	Upper Nile University
UWSS	Urban Water Supply and Sanitation
WASH	Water Sanitation and Hygiene
WIMS	Water Information Management System
WRM	Water Resource Management
WUA's	Water Users Association

Executive Summary

Introduction:

The aim of the water positioning survey is to identify opportunities, product market combinations (PMCs), strategies, and approaches for the Dutch water sector in South Sudan. Chapter 1 provides an overview of the current water situation and the water sector, chapter 2 provides insight in the current activities, opportunities, and potential PMCs that are present for the Dutch water sector, and chapter 3 elaborates on the (positioning) strategies to enter and operate on the market.

Demand:

The short-term demand in South Sudan is access to improved WASH facilities. The country ranks low in access to improved drinking water sources (57%) and (together with Niger) South Sudan ranks lowest in the indicator 'access to improved WASH facilities', with only 9% access. The need for peace and stability overshadows all other short term needs including the need for water services, but water related problems and the need for stability overlaps where competition over water resources fuel ethnically motivated strife. In food security, closely, challenges are also many with droughts and flooding contributing to food scarcity. Twenty years ago South Sudan was a food exporting area, should a transition take place and the country will achieve more stability there is an enormous agricultural potential.

Current interest and activities of Dutch organizations:

Amongst the fragile nations in the water OS survey, South Sudan still has a substantial share of the Dutch interest, particularly amongst NGOs. WASH stands out as the main area of interest because of the lack of basic services. At present this interest will have diminished due to the political turmoil but this is likely to be picked up once the situation improves and funding for reconstruction and development will become available again.

Potential product market combinations:

Current product market combinations mainly focus on the provision of basic WASH infrastructure. Additionally, the country has an enormous agricultural potential compared to some of the dryer surrounding countries like Kenya and Ethiopia, particularly for irrigated agriculture. While South Sudan now depends on food import and relief food, it used to be a food-exporting nation. Other opportunities exist around development and maintenance of the navigable waterways .

Suggestions on positioning strategies for future activities:

Organizations interested to work in South Sudan are suggested to work on the development of knowledge on the lay out of the social as well as infrastructural problem around WASH. In the urban areas this could entail a mapping of wastewater flows and possibilities to work with municipal councils and with state level governmental bodies. In rural areas this should include a risk mapping and a sociological/anthropological base line study to get a grip on the local tensions and possibilities. In all cases this will be through the engagement and capacity development of local expertise. Dutch water sector engagement in South Sudan would greatly benefit from the regional expertise and networks in for instance Kenya and Ethiopia.

This positioning survey is not a fully-fledged marketing survey or report. This survey elaborates on the (current/base line) activities of the Dutch water sector and flags potential opportunities and product market combinations. The survey makes suggestions on possible positioning strategies for Dutch sector players. To make a well-balanced decision on entering or operating on these markets we recommend organizations to perform an in-depth due diligence themselves.

1. Country profile

This chapter provides an overview of all relevant basic information on the country in general and the water sector specifically. The chapter has three parts: 1) facts and figures on the country, 2) the (physical) water situation, and 3) the water sector, describing the institutional setting and framework. Part 3 ends mentioning the Dutch Government strategy on cooperation.

1.1 Facts



Government type:	Presidential republic
Political situation:	Formerly an autonomous region of Sudan, in 2011 South Sudan hived off to become independent from the country with which it had longstanding conflicts. Independence rekindled an internal struggle over political representation whereby opposing factions of the two largest ethnic groups in the country, the Nuer and the Dinka fought over political representation. At the time of writing the report the two factions signed an agreement on distribution of political and administrative representation. South Sudan's President Salva Kiir, and former president Riek Machar. Machar would become vice president and his group would also receive a share of the government functions.
Stability:	A complete breakdown of government services as well as the much-needed foreign currency through the oil export left the country close to famine in 2014. The country is home to more than 60 cultural and linguistic groups, each of which has a strong sense of their separate identity as tribes (Maduk Jok, 2011 Tearfund 2012). Animosity between these tribes often takes the form of violent raiding. For instance, a cattle-raiding feud between rival ethnic groups in Jonglei state has left hundreds of people dead and some 100,000 displaced since independence. ¹
Language:	English (official), Arabic, local languages
Population:	11,562,695
Population growth:	4.12%

¹ <http://www.bbc.com/news/world-africa-14069082>

Economic growth (GDP growth in %):	-42.1% (2012), 27% (2013), 8% (2014), 8.5% (2015), 9% (2016)
GDP (PPP):	USD 14.71 billion (2013)
GDP (PPP) per capita:	USD 1,400
Unemployment rate (in%):	12%
Inflation rate + forecast 2020 (in %):	5.1% (2014), 3.97% (2015), 1.79% (2020)
Foreign direct investments (in % of GDP):	3.02 as of 2011.
ODA in % of GNI:	15.9%
Imports:	Unknown
Import partners:	Unknown
BTI index on banking system:	Unknown
Doing business index:	187 out of 189
WEF Global competitive index:	Unknown

Source: CIA Intelligence 2012-2014/BTI/World Bank Indicators/World Economic Forum/Index Mundi

1.2 The water situation

This section describes the physical water situation (including flooding of river systems, coastal zones and maritime areas), the influence of climate change, the effect of irrigation and the water pressure.

1.2.1 Physical description of the water situation

Rainwater

Country average precipitation is 900 mm per year totaling 579 .9 cubic kilometer of rainwater. Its magnitude varies over a wide range across the country from south to north from approximately 1800 mm to 500 mm, and varies considerably from year to year (World Bank 2013). South Sudan experiences unimodal and bimodal rainfall regimes, the bimodal areas covering much of Greater Equatoria (Western, Central and Eastern Equatoria) while the unimodal areas characterize the rest of the country.

Surface water

Southern Sudan is where three major tributaries meet and flow into the White Nile, namely: Bahr el-Ghazal, Bahr el-Jebel and River Sobat. Also, there are seasonal rivers and streams that originate and flow inside Southern Sudan, namely the Drainage of Eastern Equatoria Plateau (Kurun, Hoss and Keneti), system of rivers flowing out of Western Equatoria (Tonj, Naam and Gel). Finally, the main stem of the White Nile (from Lake No to Wun-Thou, north of Renk) receives large volumes of water from systems of Khors and Wadis (Fulus, Atar, Lolle and Yabus). When high river discharges occur, water spills over the banks of rivers and floods large areas of land (which is flat and lower-lying than the river banks) creating swamps with an area of approximately 0.03106 km² (3 million ha), 1.4 million ha are seasonal and the remaining 1.6 million ha are permanent wetland. Not all the water discharged into the swamp areas flows out, creating this permanent swamp and giving the region its name: Sudd (meaning barrier/blockage in Arabic). The swamps and marshlands of Sudd Region are characterized by high levels of vegetation cover. Altogether wetlands account for around 7% of the total land area of Southern Sudan. (GoSS 2007 2). On these wetlands Aqua stat reports: “The Chazal, Sudd and Sobat swamps in the south of the country represent major wetlands, from which evaporation is exceptionally high. According to an estimate from 1980, the extent of the Sudd is over 16 200 km², but the surface area fluctuates with rainfall.” South Sudan large rivers are also characterized by strong seasonal fluctuations: “Bahr el Ghazal, Nile and Sobat River catchments

which join at their confluents near Malakal to form the White Nile. The Sobat River and even more so the Bahr el Ghazal river catchments have a strong seasonal character in contrast with the Nile”.²

Ground water (quantity and quality)

No qualitative data on groundwater exists, only that the total renewable groundwater resources are 4 cubic kilometers.³ In the rural areas the main source of drinking water is shallow groundwater. South Sudan is thought to possess large areas of land underlain by rich aquifers, including the Umm Ruwaba formation and some of the fractured and weathered zones of the Basement Complex formation. These water-bearing formations are recharged by seasonal rainfall and river flooding and in some cases extend across international boundaries. However, there is scanty information on the distribution, characteristics, annual extraction and recharge, depths, associated risks (sources of pollution and possibility of over-abstraction) and flow direction of these underground waters. The distribution and potential of groundwater and springs has not yet been fully determined and very little is known about the trans-boundary aquifers.⁴

1.2.2 Climate and climate change

The northern parts of South Sudan fall under the Sudano- Sahelian zone, which is predominantly dry, sub-humid and semi-, arid with extensive grazing. This zone is characterized by dry spells especially in the first months of the rainy season while the second half of the rainy season is marked by heavy and stormy rains of short duration. The southeast and eastern parts fall under dry sub-humid and semi-arid mountainous East Africa zone with potential for rain-fed crops. The southwest and western areas with good drainage conditions fall under the humid Central Africa zone, predominantly moist sub-humid and humid with a wide range of perennial tropical crops and extensive areas under forest. There is evidence to suggest that climate variability has increased in recent years.⁵

The landscapes of South Sudan are quite susceptible to the effects of climate change. In a relatively flat land the changing of seasonality leads to more or less flooding. Increasing temperatures lead to more evapotranspiration (evaporation of surface water and through plants). In 2011 UNEP published a report on the environmental degradation and the effects of climate change in South Sudan. Featuring high on the list were water related environmental and climatic changes, such as the drying up of permanent rivers resulting in seasonal rivers, the retreat of water tables in boreholes, and the delay and shortening of rainy seasons. Such changes then start to effect agriculture and livelihoods. Expected impacts are increased water scarcity, accelerated desertification and soil erosion processes, decreased productivity (a 20 percent drop in crop yields is predicted), damages caused by more extreme climate events such as droughts or floods, increased heat related illnesses, and higher risk of pest and disease outbreaks. Similar conclusions are drawn in other studies.⁶

² (GOSS UNEP 2011)

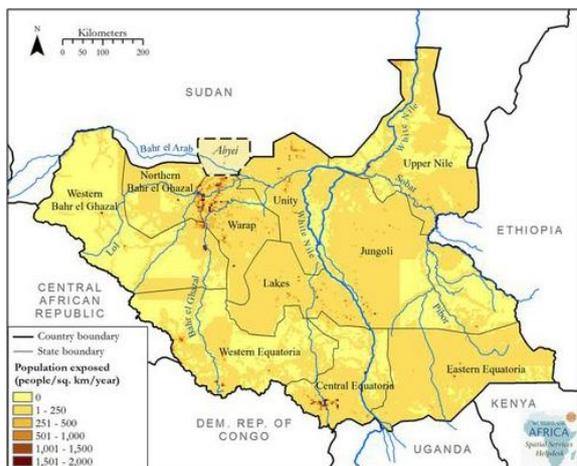
³ <http://www.fao.org/nr/water/aquastat/main/index.stm>

⁴ GOSS UNEP 2011

⁵ GoSS 2007: 1-2

⁶ GOSS UNEP 2011

Figure 1 The population's exposure to droughts



Source: GoSS Rapid water sector needs assessment May 2012

1.2.3 Pressures on water sources

From Aqua stat (2014) it can be learned that the total renewable water resources amount to 76 cubic kilometer and fresh water withdrawal is estimated 0,658 cubic kilometer. This is extremely low, possibly due to the fact that the country does not have a large industrial or agricultural sector. It does not mean that water is in abundance; conflicts over water resources are many, particularly amongst pastoralist communities. A report by on Tearfund activities in South Sudan aptly captures the situation: “South Sudan has substantial water resources but these are unevenly distributed across the territory and vary substantially between years, with periodic major flood and drought events. It remains a difficult place to develop water projects, in particular in more remote rural areas where the hydrogeology is complex and access limited, even during the dry season. The majority of the rural population relies on self-supply from shallow/hand-dug wells, or surface water, and for those with improved access, around 95% of both rural and urban populations do so from boreholes.”⁷

In the MASP an interesting analysis of water use was described with reference to the Nile treaty with Egypt: “Water is a political issue at international and local level in South Sudan, since any change in usage of water from the Nile River System is political. At the local level though, water is an important source of tribal conflict, especially in the dry seasons when livestock rangelands become exhausted and pastoral farmers concentrate on too few lands and water storage facilities, resulting in seasonal migration of large number of cattle in search of water and grazing lands.

1.2.4 Irrigation and rain fed agriculture

The World Food Program reported in 2013 that South Sudan had witnessed a significant increase in population to about 10 million in 2012 - largely due to the influx of returnees and refugees, and at the same time the growth in cereal production stagnated. The cereal deficit hit a record deficit of 475,000MT in 2012. In addition, lack of water in the areas where the returnees are being settled is also proving to be a major problem and given the limited resources available to the states it is becoming difficult for them to provide the water for the returnees.”⁸

The African Development Bank in its presentation of the plans to develop the infrastructure of South Sudan concluded that in 2013 the irrigated area encompassed about 321 square kilometers. In 1983 planning started to develop irrigation to about 2700 square kilometers, but the conflicts prevented

⁷ Kooy and Wild 2012

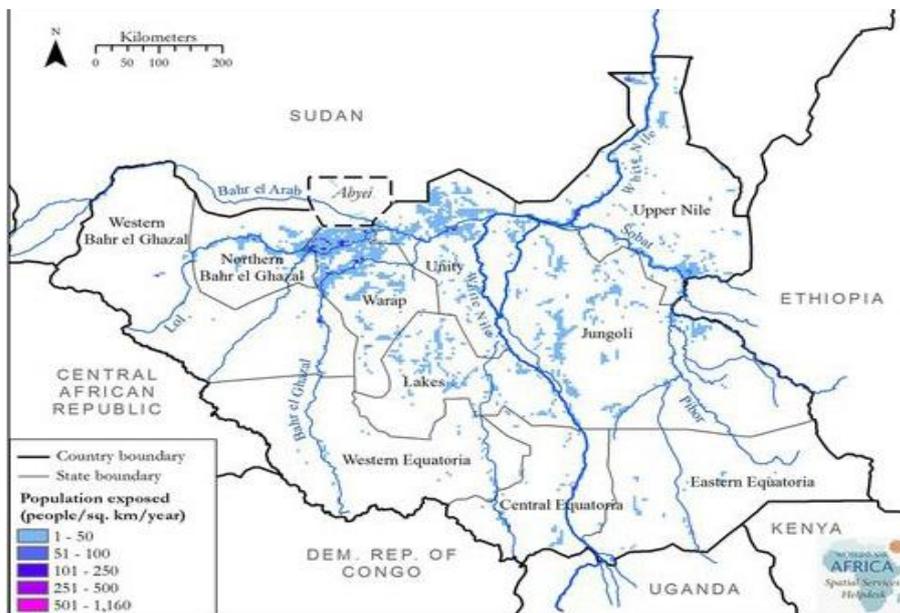
⁸ VIA water 2014

this from happening. At present about 12,700 ha sq km of the irrigated cropland in South Sudan is in Upper Nile state; irrigated areas in Jonglei and Western Equatoria states are 300 and 500 ha respectively, with the remaining 18,600 ha in small parcels of land across the country. In addition, about 6,000 ha of flood land, confined primarily to Northern Bahr el Ghazal, is used for rice production. By livelihood zones, Eastern Flood Plains has most of the national irrigated cropland, followed by the Green Belt and Nile Sobat River Basin.⁹

1.2.5 Flooding of river systems

South Sudan is primarily affected by two types of natural disasters: floods and droughts. The picture below shows the exposure to flooding.

Figure 2 the population's exposure to flooding



Source: GoSS 2013

Flooding is a normal phenomenon in South Sudan, the seasonality of the discharge of rivers causes wetlands to flood temporarily. The problems that might arise with flooding occur mostly in combination with other problems such as insecurity, meaning that due to conflicts some migrating herds might not reach water.

1.2.6 Navigable waterways

In Southern Sudan, waterways play a vital role within the transport network. The White Nile and its major tributaries of Bahr el-Jebel and Bahr el-Ghazal are navigable throughout the year. Minor tributaries such as the River Sobat, among others, are seasonally navigable. As traffic increases, regulation and maintenance will become increasingly important in order to minimize obstruction of waterways, maintain required minimum water levels for transport and mitigate potential negative impacts on water quality that include invasion of aquatic vegetation. River training works, provision of navigation locks, rehabilitation of water courses (dredging) and construction of suitable ports and beaches will form an important component of future transport strategy to facilitate navigation of waterways in Southern Sudan.¹⁰

⁹ AfDB 2013

¹⁰ GoSS 2007: 5

1.3 The water sector

1.3.1 Public sector

- Central level:

The report of VIA water summarizes the institutional setup of the water sector in South Sudan comprehensively: The lead ministry in the water sector is the Ministry of Electricity, Dams, Irrigation and Water Resources (MEDIWR). The Ministry is mandated to

- a) develop policies, guidelines and master plans;
- b) oversee the operation of the South Sudan Urban Water Corporation (SSUWC);
- c) set tariffs for the sale of water;
- d) implement ground-water supplies of drinking water for the rural population until States and local governments assume such responsibilities; and
- e) advise, support and build the capacity of State and Local governments in charge of water services. A Provisional Order (PO) passed in 2008 created the Southern Sudan Urban Water Corporation as a semi-autonomous institution and made it responsible for operating urban water facilities. The provision of schemes for sewage disposal and treatment in urban areas is entrusted to the Ministry of Lands, Housing and Physical Planning.”¹¹

- State level:

South Sudan is a federal state and State Governments are in many respects fairly independent in policy. Financially the offices depend on the central government and most have very little resources or capacity. Still, for actual implementation of the activities, the County Level Government is of crucial importance and it is also at this level that needs and ambitions are best recorded. There is a great difference in capacity and capability between the different counties.”¹²

- Level of decentralization

Information on the extent of the decentralization is scattered in different reports and dates back several years. The situation described is likely to have been overtaken by recent events. In 2011 it was reported that: “while decentralization has been championed, it has not yet happened in practice, with most attention focused around Juba”.¹³ For rural water supply there has been a push for decentralization: “There is broad consensus that the future role of government in the RWSS sub-sector should shift from direct implementation to regulation, facilitation and coordination. GoSS level authorities have an important role to play in development of policies, strategies and guidelines to ensure coordinated development and management of the RWSS sub-sector, but responsibility for planning and managing service provision shall be handed to lower levels of government. State and County or state level water authorities are better placed to respond to the needs and priorities of their constituents and are expected to take a lead in coordinating and regulating RWSS development activities at a local level. Private sector and NGOs will continue to play an important role in supporting communities to develop and manage their own RWSS facilities.”¹⁴ Payam, the second lowest administrative division, is normally responsible for O&M. State level (regional) government bodies do not share the configuration of departments as at national level, e.g. there may be no MEDIWR but the water related responsibilities are covered by the Ministry of Agriculture or Housing. This creates a big communication constraint.

¹¹ VIA Water 2014

¹² Heun and Lettire 2011

¹³ Kooy and Wild, 2012

¹⁴ GoSS 2007

1.3.1.1 Legislation

The Water Policy of 2007 addresses specific issues in relation to three main sub-areas of water policy, i.e. Water Resources Management (WRM), Rural Water Supply and Sanitation (RWSS), and Urban Water Supply and Sanitation (UWSS) and establishes guiding principles, specific objectives and key issues and priorities in relation to each.

The water policy has the following goal: “the Government of Southern Sudan (GoSS) Water Policy is to support social development and economic growth by promoting efficient, equitable and sustainable development and use of available water resources, and effective delivery of water and sanitation services in Southern Sudan.”¹⁵

The policy lists the following principles:

- 1 Water is an important natural resource which is commonly owned by all riparian people.
- 2 The Government of South Sudan has a duty to ensure effective development and use of water resources for the benefit of all, including poor and vulnerable groups.
- 3 Access to sufficient water of acceptable quality to satisfy basic needs is considered a human right and shall be given highest priority in development of water resources.
- 4 Water is both an economic and social good. Optimal allocation of available resources shall be determined on the basis of social equity, economic efficiency, system reliability and environmental sustainability.
- 5 Effective water resources management requires an integrated approach which takes account of hydrological processes and boundaries and recognizes linkages with other sectors.
- 6 Water resources planning and development affects everyone and shall be undertaken at the lowest appropriate administrative level with active participation of water users and stakeholders from different sectors in all relevant aspects
- 7 Water sector institutional arrangements shall be streamlined with clear separation of functions relating to resource management and services delivery, and efficient allocation of roles and responsibilities between government and non-government agencies.¹⁶

1.3.1.2 Public sector current spending and investment plans

The GoSS, in collaboration with UNICEF, published a national water WASH subsector action and investment plan in 2012 with planning up to 2015. The following investments were planned at the time:

Table 1 government action in the water sector

#	Category of Actions	Total	Ongoing Actions	Actions which can be initiated by an administrative or executive order.	Cost, USD, Millions
1	Coordination and Lobbying	8		6	1.226
2	Institutional and Legal Framework	8	1	4	1.100
3	Development and dissemination of Guidelines, Regulations, Toolkits, etc	28	2	9	4.496
4	Information & Communication	11	9		9.636

¹⁵ GoSS 2007:7

¹⁶ GoSS 2007 8-9

5	Encouraging Private Sector	6		2	6.320
6	Technical Studies	8	2		33.12
7	Conflict Mitigation	1			0.100
8	Capacity building	13	5	4	26.52
	TOTAL	83	19	25	82.52

Source: GoSS and Unicef 2012

1.3.2 Private sector

The presence of the private sector changes concurrently with the political situation and the stability of the country. GoSS reported in 2007 that: “The private sector has played an important role in the development of rural water supplies to-date. Regulation is mostly through contracts but the mechanisms for independent monitoring and enforcement by local authorities is very weak, resulting in significant variation in the quality of services currently provided. Despite growing demand, the number of private operators equipped and capable of providing quality services in South Sudan remains small. The majority is based in neighboring countries and employs a small number of local staff on the ground. The number of South Sudanese private sector operators is expected to increase in future.” Then more recently the Dutch Water Sector report described a less optimistic picture: “The private sector is not developed in the country, because all activities of the private sector were focused on the North of Sudan”.⁷ As said, it can be expected that when the country stabilizes and financial resources become available the companies from neighboring countries such as Kenya and Uganda will start to enter the country again.

1.3.3 NGOs and knowledge institutes

NGOs provide most of the services in the rural areas, particularly emergency aid: “donors mobilizing to deliver food and emergency relief on a large scale; at present, INGOs provide 85% of basic services. While there was evidence of high citizen expectations for what the new country/government would deliver post-independence, there are reportedly low expectations specifically for service provision” (Kooy and Wild 2012). Unicef Coordinates the WASH sector through the WASH country coordinator and cluster director.

One can debate if the provision of services by NGO’s should continue despite the instability of the central government. It is suggested by Kooy and Wild (2012) for instance that processes of improving access to WASH make an explicit contribution to peace- and state-building however, the same report describes a deep rooted animosity and distrust amongst people that the WASH service provision is only a small piece of a larger puzzle towards stability. Insecurity and animosity pertains particularly to livestock: Without a secure and sustainable dry season water supply, livestock management is a critical source of social and economic conflict (World Bank 2013). There are universities providing competence in subjects related to the water sector, such as in Malakal Upper Nile University, (UNU) but mostly international knowledge institutes and consultancies provide information on the water situation. UNU was recently attacked and destroyed.

1.3.4 Dutch cooperation and priorities

The Netherlands contributed a considerable amount of development funds to South Sudan, mainly through pooled funds. In the last two years, steps have been taken to also look at the development of a bilateral cooperation program. The current spearheads for international cooperation by the Netherlands (food security, water resources management, small and medium sized enterprises and security plus rule of law SME).

⁷ <http://www.dutchwatersector.com/solutions/countries/89.html>

On the water sector specifically the following agenda was taken from the MASP, all the disclaimers elaborated above apply, the instability of the country continues to impede the delivery of the water agenda.

Water resources management is a priority for the GoSS and will be the ‘umbrella’ for Dutch interventions in the water sector. The following elements will be included:

- a. South Sudan will be financially and technically assisted in having a more stable supply of water, in other words having less floods and droughts and better access to water for livelihoods. This will result in less vulnerability of the population, higher crop production and healthier livestock. The wet season will be used better by developing storage facilities, by diverting water to the right places in the dry season, and by increasing soil moisture. In drier areas, rainwater-harvesting techniques will provide opportunities to reduce risks. The increased access to water for cattle will reduce tribal tensions with pastoralists and will facilitate more peaceful migration, including in the border areas between Sudan and South Sudan that are prone to conflicts. Support to the integrated water management agenda of the government will be designed in a way that protects the environment, in particular wetland eco systems (the Sudd), and to decrease infiltration resulting from forest clearing and soil degradation.
- b. The river systems will be upgraded and improved for easier transport, especially tributaries flowing into the White Nile River.
- c. Rural areas will have a higher coverage of safe drinking water and sanitation. These two last parts of the program need to be further elaborated.

2. Opportunities relevant to the Dutch Water Sector

Amongst the fragile nations in the water OS survey, South Sudan still has a substantial share of the Dutch interest, particularly amongst NGOs. WASH stands out as the main area of interest because of the deplorable state of basic services. In food security, closely related to water provision, challenges are also many with droughts and famine.

By now it is almost impossible to imagine how 25 years ago South Sudan exported cereals and cattle and other agricultural produce.¹⁸ Should stability return South Sudan offers many opportunities for the Dutch sector, primarily NGOs and consultancy companies, but also infrastructural development companies. Ways to approach these opportunities were aptly captured in one of the strategic interviews with a Dutch NGO that initiated an identification mission in the West Equatoria State:

“The southwest has a lot of potential for economic growth, this area can become the food basket for middle Africa. During the 30 years civil war, most of the land wasn’t used. You need political stability, and de-mining also needs to take place, but the potential is large. Large reserves of potential financing exist once stability returns, the strategy of the IFIs is to park a lot of money to lure the South Sudan government into stability. During our South Sudan project preparations and development most of the support came from our office in Kenya. In case something would go wrong the program staff would be facilitated in crossing the border with Kenya, something that gave a reasonable level of operational space for the organizations. Regarding the local governance structures, it has improved, but the military is omnipresent, so you need to take care, in one week everything can be destroyed. For private companies, that is a real threat, investment remains low, business opportunities exist only for small scale crops such as gum and honey. Logistics for enterprises can be organized through Uganda.”

Anonymous # 21

2.1 Current situation

2.1.1 Progress on MDGs

Measurements have only been taken in 2011 and 2012 and during these years the percentage of people with access to improved drinking water was measured at 57%. Together with Niger, South Sudan ranks lowest in the indicator access to improved WASH facilities, with only 9% access.¹⁹

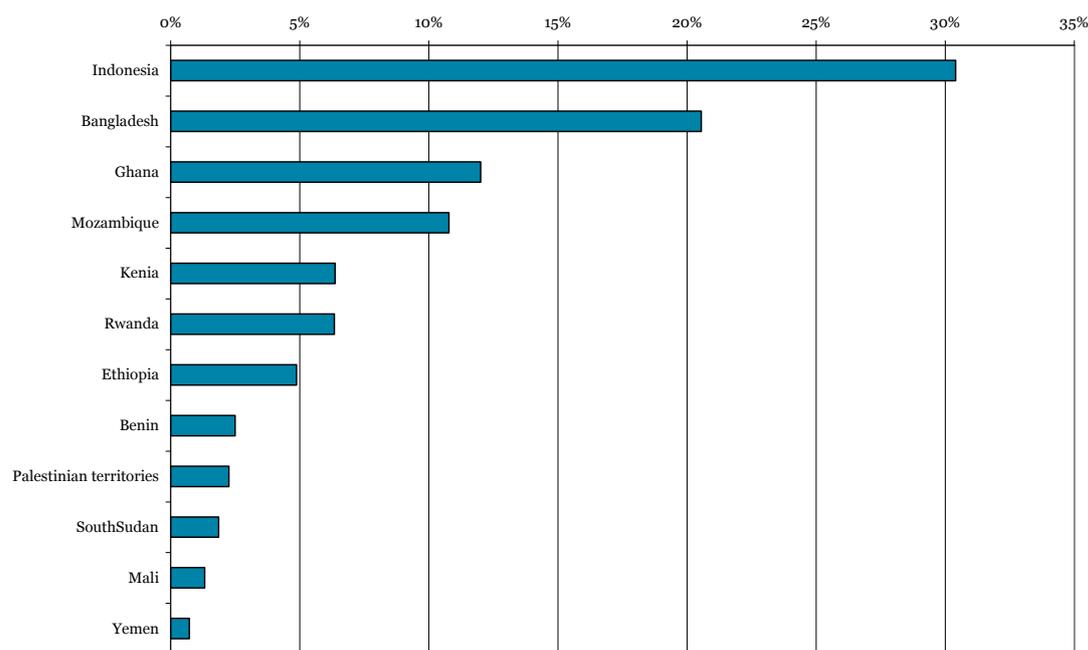
¹⁸ AfDB 2013

¹⁹ <http://mdgs.un.org/unsd/mdg/Data.aspx>

2.1.2 Dutch sector involvement

The share of total Dutch exports in the water sector to the 12 OS-countries is estimated at 25% of total Dutch exports in this sector, equaling about € 60 million.²⁰ Figure 1 shows the breakdown of these exports over the various OS-countries. The share of South Sudan is only 2% of this total. In these statistics it should be taken into consideration that the countries with large infrastructural programs involving Dutch companies will be higher on the list than countries with many small projects involving for instance knowledge institutes of NGOs.

Figure 3 Breakdown of Dutch exports in the water sector to the 12 OS-countries, in % of turnover(N = 60)



Source: Web survey Panteia, 2014/2015

From the web survey it was also calculated that 9% of the Dutch companies²¹ are active in South Sudan and 13% is not active yet, but interested in doing business in the water sector of this country. For NGOs the respective percentages are 43% and 30%, a rather large number for a fragile state but also likely to be reflecting on past engagements.

Current activities in various subsectors in South Sudan

Dutch organizations active in South Sudan operate mostly in the sectors water supply and treatment and water management. Since the numbers of organizations active in South Sudan is small the statistical breakdown and visual representation will not give more information. Only 5 organizations

²⁰ This estimation is based on the sample results of the web survey. Starting from this value relative export shares of the various regions and countries have been determined for the sample. Since the sample may not represent the whole water sector in an optimal way, the research cannot draw any hard or general conclusions. The actual value of export will be higher, but this value can only be obtained with sample results once the whole population is known. Getting to know the population is complex and cannot be realized in the context of this study. Another complicating factor lies in the fact that large projects (especially those in water construction) may influence export figures drastically and lead to large fluctuations over time. For the sample of the web survey no such 'disturbing' projects have been found. The method used in this survey is in line with the method used for WEX 2014, which are also based on sample results.

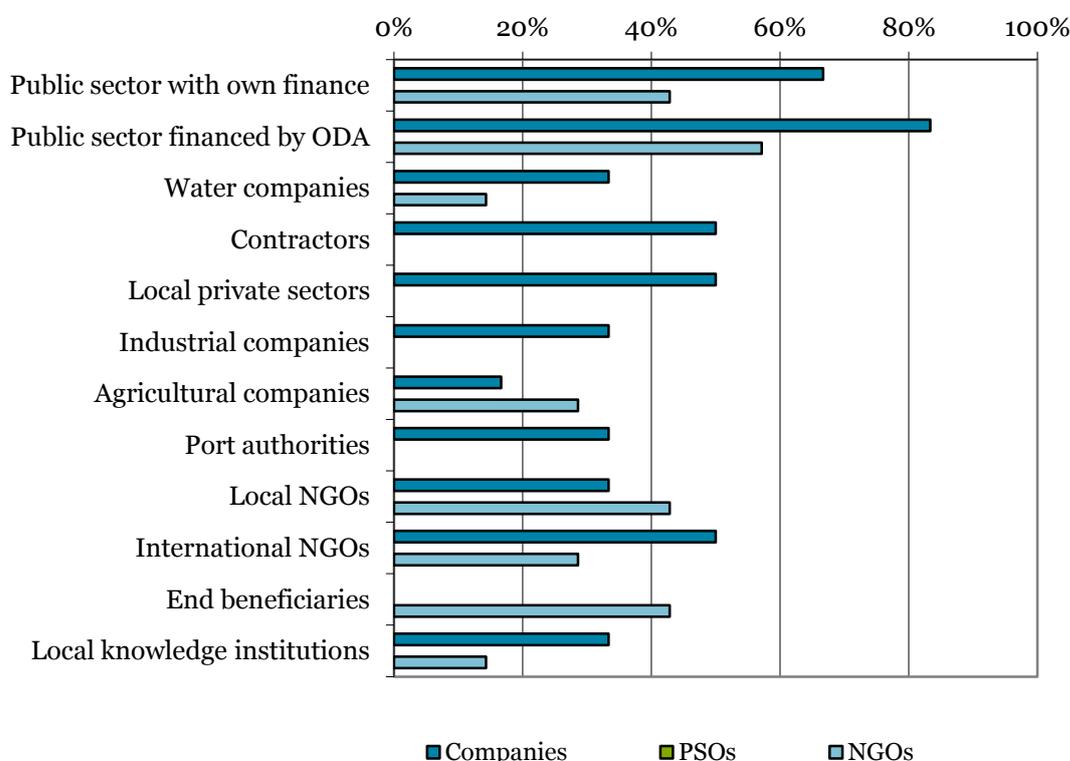
²¹ In this question the term 'companies' applied to companies as well as for knowledge institutes and water boards.

responded to the web survey with concrete information on the subsectors. Below, where the different programs will be described, more insights in the activities can be obtained.

Client groups of Dutch parties in South Sudan

The majority of the companies active in South Sudan receive their financing from the public sector by ODA (83%) or the public sector with their own finance (67%). The same applies for NGOs: ODA 57% and their own finance 43%. Below the other entries are shown in figure 5. No PSOs responded to this entry in the survey.

Figure 4 Current client groups of Dutch companies and NGOs in South Sudan, in % of respondents (more answers possible N=13)



Source: Web survey Panteia, 2014/2015

2.1.3 Dutch public support programs

In 2012 the EKN in Juba formulated three bilateral water programs, which were supposed to be implemented over 2013-2018. Due to the political situation in the country, implementation of the programs has been delayed. The programs started 6 months late (April/May 2014) and include for selected counties in Lakes and Eastern Equatoria State a multi-faceted program on Safe Water and Improved Sanitation (SWIS) with investment and capacity development for sustainable system operations (government, communities and private sector). State level data regarding improved access (as %) are considered indicative for these focus counties. Sustainable access to drinking water will be improved through the provision of 300 new boreholes and the rehabilitation of 300 non-functioning boreholes. Within the concept of Community Led Total Sanitation (CLTS), latrines for 45.000 persons will be constructed.

Figure 5 Sectors of Dutch support programs - Retrieved from EKN 2013

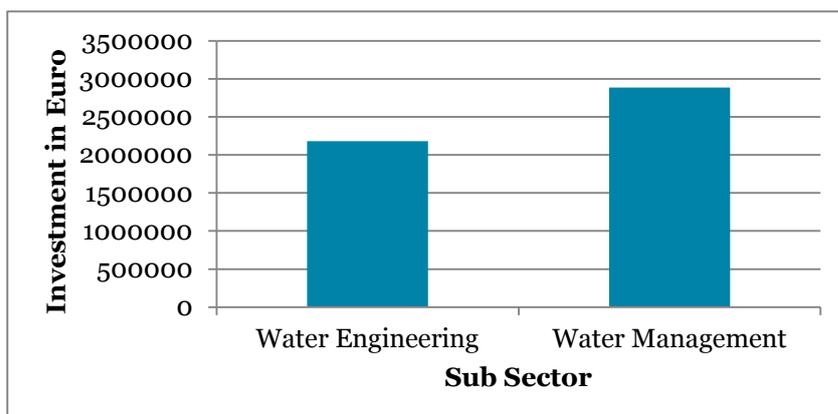


Table 2 Sectors of Dutch support programs - Retrieved from EKN 2013

Name project	Name lead organization	Type	2013
ProwaS/SSN-PSGK (put on hold)	NIRAS A/S	Research Institute and Companies	546000
ProWaS/SSN-Lakes	Mott MacDonald	Research Institute and Companies	2819100
ProWaS/SSN-EES	Niras A/S	Research Institute and Companies	1485700
IWRM Imatong Mountains	African Wildlife Foundation	NGO	706755

And then the Dutch programs supporting South Sudan.

Program	# of current projects	Total budget per program	Program execution date	Most relevant sectors
PSI	6	€ 4.482.527,00	Jan 2010 – Aug 2016	Infrastructure
PUM	5	€ 25.000,00	Jan 2014 – Dec 2014	Agro
Agri Pro focus	?	€ 28.500,00	Jan 2014 – Dec 2014	Agro
BoPInc	1	€ 4.666.666,00	Jan 2011–March 2017	Food
Total	12	€ 9.202.693,00		

In the State of Eastern Equatoria UNICEF implemented sustainable access to safe drink water for 10.000 persons and improved sanitation (CLTS) for 4000 persons and has established and provided capacity building to water users associations (WUA's). The UNICEF program to coordinate WASH interventions nationally is partly financed by the Netherlands.

2.2 Trends

2.2.1 Pressing needs

The need for peace and stability overshadows all other needs including the need for water services. At the same time water related problems and the need for stability overlaps where competition over water resources fuel ethnically motivated strife. A better understanding of these entanglements would help to plan for interventions and engagements.

Service provision

Basic services are missing: Tearfund in 2012 reported that one-third of the existing water points in South Sudan are known to be non-functional due to the weak operation and maintenance capacity, and less than 50% of existing basic primary schools – and even fewer health facilities – have access to safe water and sanitary latrines. Only 20% of the population contributes to operation and maintenance of their water supply the past years and this number will further drop. This goes for rural as well as urban areas. The capital Juba also has significant water related problems, lack of wastewater treatment facilities and improves sources of drinking water for urbanites led to the spread of cholera mid 2014 (1250 victims registered).²²

Data availability

Data collection ceased and most monitoring stations were destroyed. The data gathered is still of great value and can be used, along with data from new monitoring stations, to build a new hydrologic record and knowledge base. The older data is said to be located in the Ministry of Water Resources and Irrigation in Khartoum; only a portion is available within the MEDIWR in Juba at the Water Information Management System. (May 2012 GoSS Rapid water sector needs assessment) The MEDIWR and EKN have research documents on water data.

Capacity

Besides the Amadi Rural Development centre several other training institutes in South Sudan existed which offered practical vocational training courses for technicians and the cadre of the Ministry in the area of rural drinking water and sanitation. Amadi itself receives support from several other organizations. Besides this centre, there used to exist the Crop Training Centre and the Norwegian People Agricultural Training Centre in Yei. A directorate exists, composed by ILO and in the hands of the Ministry of Labor and Human Resource Development detailing the different vocational training centers but at present it is not know which ones are functional and provide training on water.

2.2.2 Government plans and agenda

The RoSS formulated its agenda and strategy in the World Bank document entitled the Rapid Water Sector Needs Assessment and a Way Forward (World Bank 2013) Besides implementation of infrastructure, the plans revolve around institutes and knowledge to start the administration and arrive at the right knowledge to inform implementation.

1. Implementing the WASH strategic framework – moving towards a sector-wide approach in which projects and funds are prioritized and targets established, and creating a better balance between hardware and “software” (capacity development and governance) aspects of WASH development with a greater focus on sustainability.
2. Irrigation policy and strategy framework – preparing an irrigation development policy and strategy to build on the Irrigation Development Master Plan being developed. JICA supported two separate Master plans: i) long term Irrigation development (MEDIWR) and ii) Agricultural development (MoA).

²² <http://www.usaid.gov/crisis/south-sudan/fy14/fs45>

3. Major hydropower development– conducting critical studies and activities for the development of hydropower, including engaging in trans boundary discussions with South Sudan’s Nile riparian neighbors.
4. Managing social and environmental impacts in water resources management – developing the country’s legal and regulatory framework for governing environmental management, and building capacity as well as data sharing and analysis to address social and environmental problems that are associated with water resources use and development.
5. Generation and adaptation of complementary knowledge – accessing social, economic, and technical knowledge, and adapting best international practice in countries under similar socio-economic and agro-ecological conditions to inform the planning, design, and implementation of development interventions in water resources sub-sectors.
6. Assessment of Water Resources –assessing water availability and variability in the country’s river basins and catchments through: development of the Hydrologic Information System, assessments of water resources availability and strategic social and environmental assessments, groundwater investigation and mapping, and socio-economic surveys and research. The Water Information Management System is currently supported by Austria.
7. Integrated catchment planning and water allocation – establishing a system for water allocation that is consistent with the economic and social development goals of the country and with the need to demonstrate how a system for water resources management (WRM) supports the sustainable success of the priority investment program of the Government, in particular, the South Sudan Development Plan’s (SSDP’s) economic development pillar.

2.2.3 Agenda of donors and funders

Planning reports by larger donors such as World Bank and African Development Bank and several bilateral donors shows that they are ready to invest in the water sector. Such support will have a positive impact on the country as well as create opportunities for the Dutch water sector. At present most development financing is postponed until stability is restored.

The priorities of the EKN in Juba revolved around integrated water resource management with an emphasis on disaster control, river system improvement and WASH.

Food security is another point on the agenda of many donors. The Government of South Sudan (GoSS) is supported by many external support agencies: international organizations such as OCHA, IOM, UNHCR, WFP, UNICEF, UNDP and International Financing Institutions, most often through the Multi Donor Trust Fund and the Capacity Building Trust Fund. So far these efforts have primarily focused on direct basic needs such as food, housing, health and education (Heun and Latitre 2011: 7) An important umbrella program was SIFSIA (Sudan Institutional Capacity Program: Food Security Information for Action). The SIFSIA program phased out in 2012 but initiated under this project was the FSC (Food Security Council) and the FSTS (Food Security Technical Secretariat) both facilitated by the EU to support South Sudan’s institutional capacity.

USAID

From the side of USAID: the Draft Water, Sanitation and Hygiene (WASH) Program 2013-2018 (2013) report lists the following goals and objectives:

The overall goal of USAID’s WASH program is “Improved water, hygiene, and sanitation in South Sudan” and the project purpose is defined as “Essential water, hygiene, and sanitation services developed and sustained.” There are six main outputs:

1. Improved and expanded access to water, hygiene and sanitation services.
2. Local, county, state, and national governments support, provide, and manage WASH for their beneficiaries in adherence with MWRI established policies where available.

3. Small-scale public-private partnerships and private sector investment in WASH developed and strengthened to improve access to WASH related goods and services.
4. Urban water and sanitation services are reformed and operational.
5. Communities are able to manage their water supply and sanitation services and meet their WASH related needs.
6. Appropriate use of WASH and WASH behavior improved.

AfDB

The African development bank developed a full infrastructure action plan in which water supply is mentioned as a major area of investment. The report dates from 2013 and lists the following numbers for water and sanitation: 114.9 million US in 2015 and 209.6 estimation for 2020 (AfDB 2013: 69)

The African Development Bank sees the major potential growth of the country deriving from agricultural activities such as irrigation and also lists the development of waterways for transport In the Water and Sanitation sector it aims to:

(i) rehabilitate very large number of rural water points that are not currently functional, and construction of about 11,000 new water points to provide 65% of rural residents with access to improved water by 2020; (ii) rehabilitate and construct new urban water supply facilities and increase water access from the current 15% to 70% by 2020; and (iii) provide technical support and training that will strengthen capacities to provide water services at the national, state and county levels. The capital cost of the proposed program to improve the water supply is estimated at \$1.1 billion for the period 2011-2020. In addition, \$150 million will be set aside to support capacity building and training in the sector as a whole which will have a direct impact on the quality of water supply services.

World Bank

The World Bank focus is Environmental Policy development, Environmental Assessment and Screening, natural resources management and the Water oriented Multi-donor Trust Fund (MDTF).²³

EU

EuropAid supports projects under the themes of rural development and infrastructure. One of the cross-cutting themes is environment. EU supported projects such as SIFSIA, Aweil Rice Scheme and livestock and fisheries projects in the north.

Bilateral program

- _DFID: DFID Juba supports health, education, water supply and sanitation. Other funds are the Capacity building Fund and the South Sudan Peace building Fund.
- _Germany (BMZ, GIZ/KFW) and France (AFD) recently decided to bundle and harmonize their support to the countries water sector mainly related to Water Supply, Sanitation and Health (WASH). GTZ is supporting the Aweil Rice scheme.
- _Egypt is supporting river basin development, especially with respect to small hydropower development.

2.2.4 Macro developments in agriculture, industry, etc

The economy of South Sudan depends for revenue for a large part on the export of oil and the resource curse that immediately started to haunt the country after independence impeded the development of the agricultural or industrial sector and will continue to do so should stability return. These macro developments led the steady decline of all forms of water related industry and the general dilapidation of water infrastructure due to years of local strife and political instability. On a more positive note, the development of the country's agricultural and livestock potential has been

²³ Teun and Latitre 2011 7

identified in the SSDP as the most feasible way to enable broad-based economic growth and food security in the short- to medium-term.²⁴

The MASP described how: “The greatest potential for initial new growth is likely to come from the small scale private, predominantly family agriculture and livestock activities. This sector can be enhanced through addressing human capacity (economic literacy and numeracy) and modern farming and livestock production methods. Complementary to this, improved access to inputs, tools, technology, equipment and markets will make a difference. Potential areas for external support to farmers and entrepreneurs relate mostly to: increasing agricultural and livestock productivity, in a way that creates employment, generates income and stimulate local entrepreneurship, for example through vocational training. And more particularly to water development:

There is potential for more intensive use of water, either surface water or groundwater, but each area will require its specific solution. The seasonality of rainfall, coupled with droughts and floods, offer ample opportunities through introduction of a range of measures, varying from construction of water facilities for productive use to flood control works. The water management agenda of the government also includes protection of the environment, in particular wetland ecosystems (with the Sudd as the largest), decreased infiltration because of forest clearing and soil degradation due to expanding agriculture. Water quality is a concern in the oil extraction areas. In addition, the rapid growth of the capital and urban centers calls for urban water and sanitation facilities.²⁵

2.2.5 Helicopter views Dutch players, based on web survey

Organization	Activities or project description
Witteveen en Bos	Bilateral program, together with the Danish Organisation NIRAS and Uconsult , Witteveen en Bos started a in 2013 working on access to clean drinking water in Eastern Equatoria.
VNG- I	Capacity development of the local government program in Eastern Equatoria together with Witteveen and Bos, Niras and Mott MacDonald
ZOA	ZOA has worked in South Sudan among those who are most vulnerable since 1998. ZOA continues to work on sufficient and sustainable resources for minimum basic livelihoods within a community, including basic services and information. For instance in Terekeka, ZOA improves basic services in the area of WASH.
SNV	SNV Netherlands Development Organisation started work in the then Southern Sudan in 2005. The focus is on agriculture and WASH
Mott MacDonald	Bilateral program to improve water management in Lakes State, South Sudan.
AWF	African Wildlife Foundation is in the midst of a five-year program to improve the integrated watershed management of the Imatong Mountains in Eastern Equatoria State. Through this program, AWF aims to ensure that the water tower of the Imatong Mountains, and particularly the catchment area of the Upper Kinyeti River are protected and sustainably managed, to ensure long-term water access to communities and ecosystems down river.
CordAid	WASH, Food security and Peace and Reconciliation in several states

²⁴ AfDB 2013

²⁵ EKN 2011

2.3 Opportunities

In this section some of the prominent opportunities as developed by the EKN or other parties are discussed.

The MASP of 2011 also described the following opportunities:

In the design and implementation of the water program, Dutch knowledge institutions such as UNESCO-IHE, Deltares, Nuffic/Niche, IRC and SNV (possibly under the umbrella of the Netherlands Water Partnership) are foreseen to play a role, building on their engagements during the last couple of years. The GRSS welcomes Dutch expertise and advice, as part of capacity building efforts for the Ministry of Water Resources and other actors. Capacity building (in support to investments) is a cross cutting issue in all three elements of the water program. Regarding the funding modality, it is expected that private contractor(s), based on international tender, will be tasked to manage selected programs.

In 2011 Heun en Latire delivered two reports on the bilateral program of the Netherlands with the Government of South Sudan particular to the water sector. To understand the opportunities developed in these reports it deserves recommendation to access the files.²⁶ Below we provide some relevant extracts of the reports.

Three GoN funding mechanisms will probably be most important to establish relations with the South Sudanese water sector:

1. All aspects: a GoN - GoSS bilateral development cooperation program
2. Training and capacity development (NUFFIC managed programs as NICHE, NFP, etc.)
3. Supporting research (WOTRO, etc.),

Next to these there are a number of sources of funds and programs, which could facilitate involvement and collaboration, for example PUM, Aqua4All, Collaborative Funds of Dutch Regional Water Authorities (twinning etc.), Collaborative Funds of Dutch Water Companies (twinning etc.), Partners voor Water, Agri-Profocus, etc. etc. Similarly there are international funds, such as XSML ("Extra Small Medium Large" social investment fund for SME) and there is anecdotal information on the establishment of a multi-donor SME fund for South Sudan (Heun and Latire 2011).

Other opportunities evolved from global challenges and strategic aspects of Climate Proofing, Sustainability, and Peace and Security:

Climate proofing through (i) buffering of water resources, (ii) coping with variability and uncertainty, (iii) Preventing drying up of rivers and wetlands (land use, watershed management, wetland management) and the program follows many of the recommendations of the South Sudan Strategic Climate Fund.

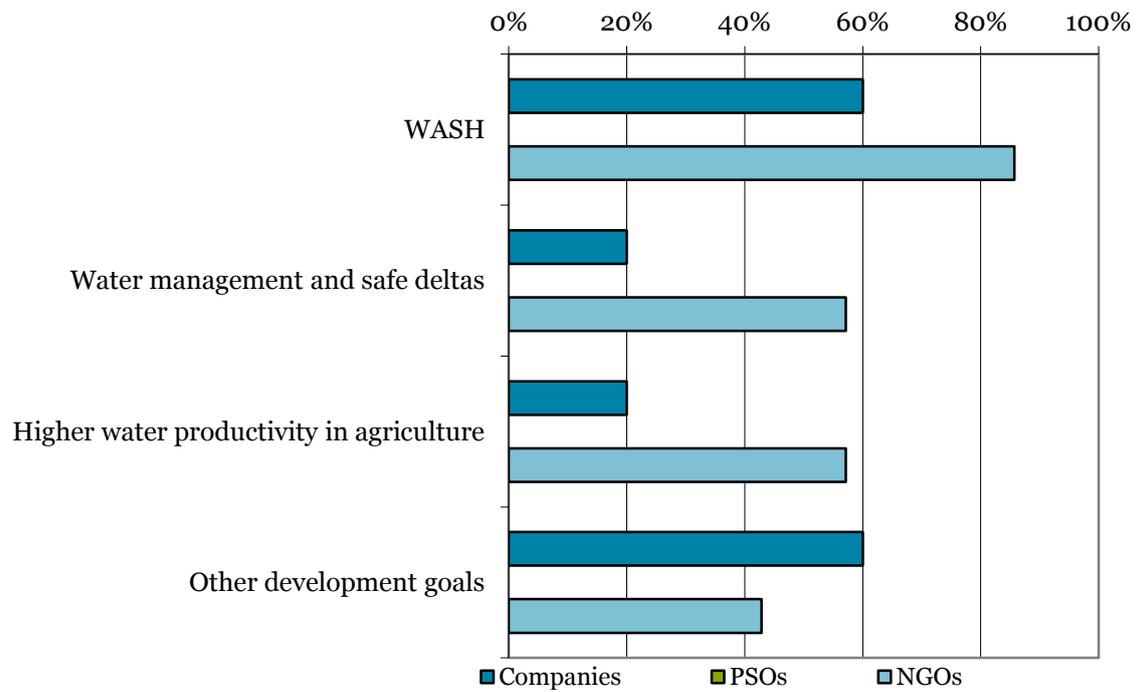
Sustainability through (i) inclusion of (Strategic) Environmental Impact Assessments, (ii) Increased efficient use of water resources, (iii) promotion of water resources management contextual policies and plans promoted (environmental flows, watershed management, a.o.), (iv) strengthening land use policies, sustainable land use, land degradation and (v) preventing degradation of natural resources; (vi) improved capacity at state, district and community level

Peace and security through (i) less competition for natural resources because: better geographical spread of water supply, more equitable availability of water resources, less variability in availability of water resources (ii) specific program to build and guide local capacity on conflict management (Heun and Latire 2011).

²⁶ <http://www.partnersvoorwater.nl/wp-content/uploads/2011/09/SouthSudanDutchBilateralProgrammeDeskStudy29SEP2011.pdf>

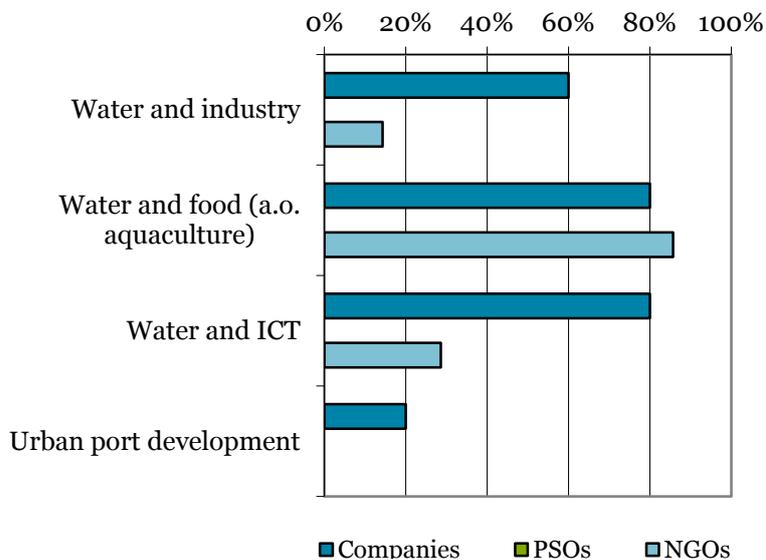
In the web survey we also requested input on the development opportunities as noted by the Dutch organizations active in South Sudan. Below in figure 6 a schematic overview can be found. These observations comply with the above: WASH is seen as the largest opportunity, particularly by NGOs. River management and water for agriculture follow in importance

Figure 6 Development opportunities in South Sudan according to companies and NGOs active in this country, in % respondents (N=13)



In the web survey the respondents were asked to mark what they proposed to be the promising crossovers in South Sudan. Interesting to note is the potential of water an ICT, referring to the possible ways to fill the data gap.

Figure 7 Promising crossovers in South Sudan according to companies and NGOs active in this country, in % of the observations (more answers possible N=13)



Source: Web survey Panteia, 2014/2015

Other development opportunities drawn from interviews with respondents of the web survey, the strategic interviews and the embassy list:

- Capacity (human resources, institutional) development and –local- governance will be big issues the coming years.
- Urban water and wastewater treatment will become a much bigger issue. If Dutch companies would like to have a market share, they should start identifying (foreign) business partners and opportunities.
- Cooperation in water education (professional trainings as well as higher education) and research.

2.4 Product-Market Combinations

All the disclaimers apply, the PMCs described below can be considered if stability exists in the country, if not only the most experienced engineering and development outfits might consider setting up operations.

Sector: WASH infrastructure	
Demand:	
As could be read above, the rural and urban water infrastructure dilapidated over the past years of instability. The demand is enormous and it is not likely that this will be solved quickly. It states in the government strategy in the water policy of 2007: “water must be a lever for peace and not a source of conflict. Organizations or companies interested in the provision of water should take this into account as a warning that water is also always a political issue that needs to be properly understood before choices are made. In a rural development context the preference should always go to robust and durable and cost effective infrastructure rather than sophisticated innovations that require in depth understanding of technology and social stability to operate. This demand complies with the government priorities of implementing the WASH strategic framework (see 2.2.2)	
nr.	Product Market (users)

1.1	Basic infrastructure in WASH, such as shallow wells, boreholes, sanitation facilities and urban water supply	Rural inhabitants, local implementing organizations
1.1.1	Rural WASH as a subsector, basic infrastructure to assist rural households in their daily toil	Rural households, local implementing organizations
1.1.2	Urban water supply and waste water treatment	Urban population, town council, Ministry of Lands, Housing and Physical Planning, Hospitals, clinics and markets
1.2	Research on water related conflicts, sociologic but also hydrologic using GIS and M&E	Implementing organizations (NGO/MEDIWR) Particularly the Water Information Management System (WIMS)
1.3	Capacity development	Extension organizations, universities, training institutes, Government

Sector: Agriculture

Demand:

South Sudan used to be a food-exporting nation and now has to import most of its food. This while the potential for intensified commercial agriculture and irrigated agriculture is large, particularly in the southern parts of the country. This demand complies with the governmental plans for irrigation mentioned in 2.2.2

nr.	Product	Market (users)
2.1	Irrigated agriculture	Farmers in the southern parts of the country
2.2	Agriculture or horticulture for export	Farmers or entrepreneurs ready for more capital intensive agriculture, possibly Dutch investors

Sector: River infrastructure and water management

Demand:

South Sudan has several perennial rivers some of which are navigable for transport but also require attention from an environmental security perspective. Flood prevention and water management are issues of concern

nr.	Product	Market (users)
3.1	Development of Waterways capacity through small mobile dredging units and capacity development	Transport sector, agricultural markets, national and state planning agencies, local governments
3.2	Waterways planning and infrastructure management	Same, also, people who suffer from flooding around larger rivers.

Sector: Climate

Climatic variations could potentially have a high impact on peoples livelihoods in the drought prone areas as well as the floodplains

nr.	Product	Market (users)
4.1	Water harvesting (Retention, Recharge and Re use technologies)	Communities, farmers, water management organizations, local NGOs
4.2	Climate proof agriculture	Farmers

3. Market strategies

Strategic interviews and results from the web survey, completed with desk research on existing market studies provided valuable insight in different market (entry) strategies. The chapter starts by describing how Dutch organizations cooperate with parties, projects and programs. The second section describes how activities within the water sector are being financed. How Dutch organizations operate on the market is part of section three. Section 3 describes lessons learnt and 4 the major bottlenecks and drivers. The chapter ends by suggesting specific positioning strategies per potential product market combination (PMCs).

Compared with other reports on the water sector this chapter is shorter and provides less statistical data or graphs. The significance of the statistical data depends on the number of respondents who work in South Sudan or have experience there.

3.1 Market entry strategies

Establishing a knowledge base

As described above, organizations seeking to work in South Sudan, or already working there lack basic information and data to start with. Besides the generic information that the MDG indicators are lagging far behind, other sources of information are few. For NGOs or other organizations aiming to engage the market of service provision in WASH, the entry strategy could include the development of knowledge on the lay out of the social as well as infrastructural problem around WASH. In the urban areas this could entail a mapping of wastewater flows and possibilities to work with municipal councils. In rural areas this should include a risk mapping and a sociological/anthropological base line study to get a grip on the local tensions and possibilities. In all cases this will be through the engagement and capacity development of local expertise. Additionally, for instance for investors who want to engage in agriculture or horticulture in South Sudan, there is a vast knowledge of the inns and outs of this sector in Kenya and Ethiopia. The EKN will be able to connect people with the appropriate local organizations and networks and provide detailed insight in the security risks.

Local enabling environment

The Ministry of Electricity, Dams, Irrigation and Water Resources (for instance the undersecretary) might provide an entry point for companies who seek engagement in larger programs. The Ministry of Agriculture developed a water and irrigation master plan providing useful entry points. Many of the interviewed organizations suggested that it was possible to establish an office in the country, particularly when the people who work there are well equipped to judge the security risks. Opportunities also exist in agriculture so one of the entry strategies could be through collaboration with local agricultural organizations or experts from international agricultural organizations with a branch office in Juba.

Working from outside the country or with exit options

Security risks might hold back organizations who wish to set up an office in the country. These security risks exist but are not specifically focused on foreigners. The other strategies include working from neighboring countries such as Ethiopia or Uganda, or working close to the border to make it possible that once problems arise, staff can cross the border.

Local representation or working through consultants

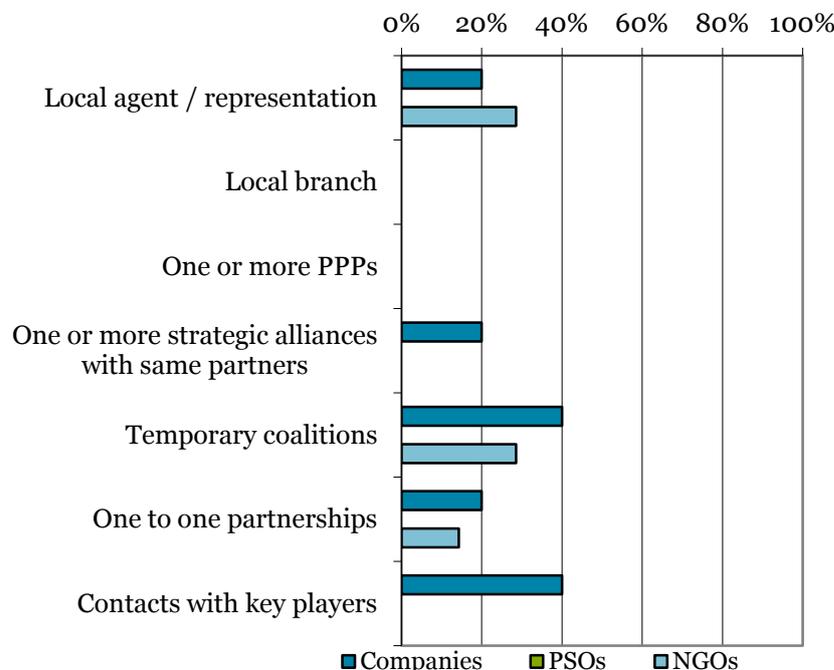
The strategy for larger organizations or companies who want to operate in South Sudan but are held back because of the security risks would be to partner with local organizations or smaller organizations which can work on a contract or consultancy base. It is also possible to employ local staff.

3.2 Cooperation and business development alternatives

Due to the security situation and the absence of operational knowledge centers and capacities in the governmental environment, and the absence of a private sector none of the respondents to the survey said they work through PPPs. The organizations interviewed in the web survey and the strategic interviews work with other Dutch organizations and mostly collaborate with local organizations and governments as end user rather than partner. Some companies have sustained local offices in the country, but on occasion had to close these. Others operated through temporary coalitions or contacts with key players, NGOs engaged more with local representatives.

Representation characteristics of Dutch parties in South Sudan

Figure 8 Current representation characteristics of Dutch companies in South Sudan, in % of respondents (more answers possible N=12)



Source: Web survey Panteia, 2014/2015

3.3 Successes and lessons learned

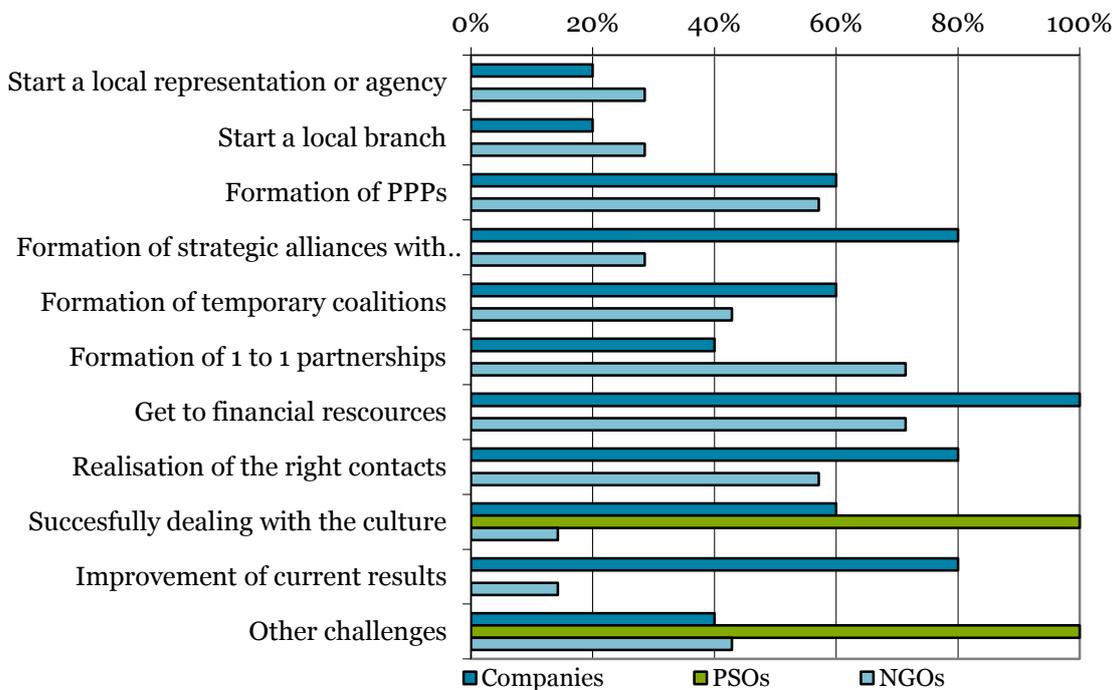
The projects that the respondents recognized as a success were financed through the EKN, but these are few and scattered over the country (see 2.2.5). This also seems to be an issue for many organizations in the country. Besides the obvious setbacks due to absence of rule of law, innovation and business development does not come in the picture. Some organizations described how it was impossible to work from a business approach since the economy is not yet at that level and the private sector virtually absent. Another lesson was that the provision of water facilities should be connected to the security situation. South Sudan is still very much on the agenda of many organizations, since the potential for programs is large, if only there was a good way to approach it. As one of the respondents remarked:

What you can now do in South Sudan: use local contacts, also use the diaspora. The southwest can be the food basket for middle Africa, but for 30 years, nothing has happened.

3.4 Drivers and bottlenecks

Figure 9 provides an overview of challenges for scaling up activities but it needs some interpretation. One being that the representation is in percentages of the observations per sector, so for the PSO there was one respondent but this respondent marked 2 entries. So 100% of the observations of the PSO went to the 2 boxes marked. For companies N=5 and NGOs N=7. With this in mind, the problem of all companies and all but one NGO to access financial resources stands out as a significant challenge. Added to this, the remark that the successful programs in South Sudan are financed through the embassy, the impression is that NGOs and also companies, need ample support before it is possible to work in South Sudan. This can be related to the fact that many organizations have to start from scratch, or have moved out from emergency aid into water development. Dutch companies active in South Sudan also work on assignment base, not through establishing a branch office.

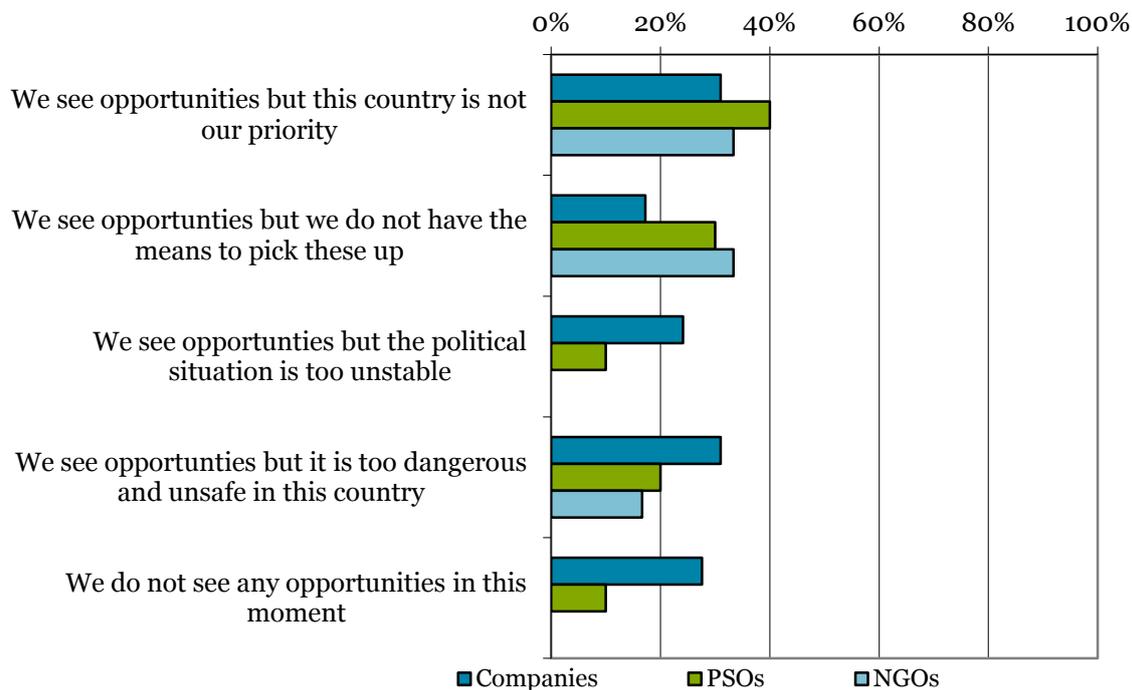
Figure 9 Top 5 challenges for scaling up activities in South Sudan for companies and NGOs, in % of respondents



Source: Web survey Panteia, 2014/2015

Interestingly, the reason why organizations state they are not active in the country is not only due to security reasons but also other reasons such as priorities or organizational resources. This again teaches us that the Dutch water sector continues to have an interest in the country despite its internal problems. A significant number of respondents answered to this question: 29 companies, 10 PSOs and 6 NGOs.

Figure 10 Reasons why companies and NGOs are not active in South Sudan, in % of respondents



Source: Web survey Panteia, 2014/2015

3.5 Strategies for each PMCs

Sector: WASH infrastructure

This ties in with the low ranking of South Sudan in the MDG for access to an improved source of drinking water. Basic service levels are extremely low and many areas need improved water facilities.

Product 1.1.1 Rural WASH basic infrastructure to assist rural households in their daily toil

In this area there is a big need for assistance in rural infrastructure, particularly rural WASH as a subsector, basic infrastructure to assist rural households in their daily toil. At the same time, the urban areas are in need

Market (users)

Rural inhabitants, local NGOs, extension workers of local governments, Ministry of Electricity, Dams, Irrigation and Water Resources. Even if donor funding is readily available, there is need for caution. Access to water for some uses and users can be a source of discontent for other users. Differences in gender, livelihood (pastoralist/agriculture) and ethnicity are likely to be aggravated by a bad planning and not taking all the needs seriously.

Strategy

Regional planning, liaison with local authorities and most of all, liaison or collaboration with NGOs or institutes that have a sound knowledge of the local situation (gender, livelihood and ethnicity). Engagement with the national ministries will be required since finance from for instance the African Development Bank will probably go through the National Government or through Africa based organizations. Partnerships with these organizations will be key in accessing these funds. Alternatives

sources of income could also be through bilateral donors.

Finance

The African Development Bank, different embassies and US organizations, all were ready to invest in the country before it destabilized. These designated finances will most likely be used again to lure the country into stability.

Partners

The EKN, Dutch organizations that have an office or a partnership in the country. Provision of WASH services can be done through NGOs have a network of local employees and have a good risk management strategy.

Product 1.1.2 Urban water supply and wastewater treatment

In this area there is a big need for assistance in rural infrastructure, particularly rural WASH as a subsector, basic infrastructure to assist rural households in their daily toil. At the same time, the urban areas are in need.

Market (users)

Urban dwellers, town council, Ministry of Lands, Housing and Physical Planning. South Sudanese Urban Water and Sanitation Corporation.

Strategy

In 2014 emergency measures included the trucking and chlorination of drinking water and the trucking of cholera infected wastewater. This means that urban infrastructure was completely dysfunctional at some places. Research in urban WASH infrastructure will work be required to find these hotspots and device alternatives. To design such a project it deserves recommendation to seek liaison with the Ministry of Health and the Ministry of Lands, Housing and Physical planning to develop programs for upgrading urban water facilities and wastewater treatment.

Finance

Grants, same as 1.1.1

Partners

Unicef, WHO, USAID, JICA en GIZ and the mentioned line ministries, South Sudanese Urban Water and Sanitation Corporation.

Product 1.2 Research and data

One of the setbacks of being a new country is that the administration and the research took place from Khartoum and after independence the conflicts prevented new research on the water situation. Existing research on conflicts over water took place and described how WASH facilities could resolve but also increase conflicts (Kooy and Wild 2012) the report recommended more detailed local conflict analysis before engaging in service provision. Additionally, projects will be in need of mappings, baseline data and statistical information on the water situation for planning and monitoring and evaluation of programs is lacking.

Market

The information will be vital to governmental and non governmental organizations who seek to implement programs.

Strategy

Partnerships with local knowledge organizations, when available from South Sudan but otherwise from neighboring countries such as Uganda or Ethiopia. At the MEDIWR the Water Information

Management System (WIMS) database on water, sanitation and hygiene will provide useful insights and is currently located in the Directorate of Hydrology and Survey.

Finance

Research grants, Consultancies.

Partners

Dutch Universities with an integrated research agenda, possibly South Sudan knowledge institutes or Ugandan/Ethiopian.

Product 1.3 Capacity development

Nuffic Niche's program on capacity development in water outlined how: South Sudan is facing a number of challenges in the water and sanitation sector. They include a lack of human capacity, a clear strategy on capacity development, and sanitation awareness."

Market (users)

Extension organizations, local governments, implementing organizations national level departments.

Strategy

Extended Water sector training capacity development in expansion of Amadi Training Centre (Rural and Urban water/CINOP/NUFFIC) Data base development at national level can start at the Water Information Management System.

Finance

Nuffic or other knowledge support organizations.

Partners

Amadi Training centre, EKN, possibly Norwegian People Agricultural Training Centre in Yei MEDIWR.

Sector: Agriculture

The African Development Bank described South Sudan as a country with vast potential for agricultural development. The bulk of the agricultural expansion will start if and when stability returns.

Product 2.1 Irrigated Agriculture/horticulture

This pertains to the knowledge of water saving agriculture and smart irrigation systems, more crops per drop etc. The need for agricultural intensification stems from the high potential of agricultural lands and the lack of productivity at present.

Market

Farmers and agricultural entrepreneurs in the southern parts of the country where most of the areas with high potential for agricultural development are. But also local line ministries. A number of large scale old dilapidated irrigation schemes exist which might be revived.

Strategy

Dutch Agricultural entrepreneurs active in Ethiopia, Kenya should apply lessons learned regarding agriculture and environmental care, relating to local traditional leadership and state governance. They should seek partnership with local farmers who are interested in or developing programs for more capital-intensive agriculture. Practical researches, pilot schemes or consultancies can be formulated to interest organizations that deal with water in Agriculture such as IFAD or FAO. The Ministry of Agriculture will be good resource and developed policy on irrigation.

Finance

Private finance, but for more research oriented programs research grants, pilot scheme grants and consultancy assignments from agricultural organizations, Nuffic Niche had a program on agriculture which could be explored further.

Partners

Local farmer organizations. Crop Training Centre Yei, local representatives of the Ministry of Agriculture and Forestry. Jica financed a masterplan study on irrigated agriculture which was not published.

Product 2.2 horticulture

The development of horticultural industry has been explored by the EKN in Juba and investors have shown an interest in horticulture as has been established in Ethiopia and Kenya. Should stability return to the country these opportunities will emerge. Questions on the environmental and social sustainability of these industries should receive attention.

Market

Agricultural entrepreneurs.

Strategy

Dutch Agricultural entrepreneurs should seep partnership with local farmers or expand their branches in Kenya or Ethiopia

Finance

Private finance

Partners

EKN, Horticultural industry of Dutch Entrepreneurs in Kenya and Ethiopia

Sector: River infrastructure and water management

In the African Development Bank report on the infrastructural improvement of South Sudan a section on transport over water ways stated the following: “The navigable part of White Nile and its tributaries crosses six of the ten states of South Sudan. Given the poor road infrastructure, presence of land mines in some areas and huge swampy areas makes river transport a practical and cost effective option to reach communities along the White Nile and its tributaries. It specifically links Malakal the capital of the Upper Nile State to Juba. Commercial river transport services are fairly regular on the route known as the “Southern reach” of the White Nile, which stretches from Kosti to Juba (1,436 km), through El Renk, Malakal, Shambe, Diam Diam, Bor and Mongala.

Product 3.1 Development of Water ways capacity

At certain parts of the river network problems exist with navigability, particularly during low water. Sediments, water hyacinth, flooding and shipwrecks make transport difficultly.

Market

Transport and dredging sector, agricultural markets, local governments.

Strategy

Interested organizations should work on a convincing program for trade master plans whereby the problems of siltation water management and transport are demonstrated to the government. The government will not be the financier, but a partner with which to look for finances, possibly with organizations as the African Development Bank.

Finance

African Development Bank programs, IFIs, possibly also investment banks.

Partners

Interested organizations or companies should operate as a consultancy whereby a desk study of the water ways such as the Nile trans border water regime and its problems tie into an integrated development plan for dredging, development of mooring quays and other riverine infrastructure.

Sector: Climate

The report by Heun and Latire (2011) describes how South Sudan will suffer more from flooding and drought due to the influence of climate change. Products that mitigate the effects of climate change will be in high demand.

Product 4.1

Products include Climate proofing through:

- (i) buffering of water resources, the 3R method (retention, recharge and reuse of water)
- (ii) coping with variability and uncertainty,
- (iii) Preventing drying up of rivers and wetlands (land use, watershed management, wetland management)

Market

Water management authorities working at landscape level, local implementing organizations.

Strategy

The program follows many of the recommendations of the South Sudan Strategic Climate Fund.

Finance

Climate funds, Integrated WASH or Agricultural programs.

Partners

Local implementing organizations. Climate expertise from neighboring countries.

Appendix I: Methodology

The Water OS positioning survey is part of the Water OS program: a facility of the Ministry of Foreign Affairs. The Water OS program aims at providing support to the Dutch Embassies in 12 partner countries in the formulation and implementation of their water programs. Central element of the program is the involvement of the Dutch water sector, i.e. companies, NGOs, knowledge institutes and governmental organizations.

In order to generate more evidence for effective continuation of the Water OS Program and to ‘trigger’ Dutch water sector players, RVO contracted Aidenvironment, in collaboration with Panteia, Chris Engelsman and Jan Oomen, to conduct a “Positioning Survey”. This survey identifies opportunities, strategies and approaches for the Dutch water sector, and more specifically seeks high potential Product/Market Combinations (PMCs) in the 12 Water OS countries included in the Survey. The final deliverables of the survey are twelve positioning survey reports (one for each country) and one overarching management summary. Primary target group for the Positioning Survey Reports are the Technical Experts (TDs) at the Netherlands Embassies in the 12 OS countries, with all Dutch water sector players as secondary target group.

The methodology comprises desk research, a web survey and additional strategic interviews:

- The desk research studied the most essential reports and documents per country (market scans, market reports, strategic papers of Embassies and International Financial Institutions). The Key Advisors within the Water OS program played an important role in rendering accessible and prioritizing the data available.
- In the period November 2014 – January 2015, Panteia carried out a web survey. Two different questionnaires have been applied, one for companies, knowledge institutes and water boards, and another questionnaire for NGOs. Despite the length of the survey and thanks to a considerable effort of the project team and NWP, the response rates were not disappointing and for a web survey in general above average: NGOs: 16 out of 48 implying a response rate of 33,3%, and companies (including knowledge institutes and water boards): 87 out of 531 implying a response rate of 16,4%.
- Based on the outcomes of the desk study and web survey, Aidenvironment selected 27 companies, 3 (semi) commercial financiers, 7 NGOs, and 8 knowledge institutes (including Water Boards (‘waterschappen’) and water service providers) to be interviewed on strategic topics focusing on market opportunities and applicable market entry strategies (and business models). Through these strategic interviews, the research team gained more detailed information on projects of front runners. These projects gave more information on lessons learned, success factors, and opportunities for up scaling.

Regarding the web survey, two important remarks can be made:

Value and limitation of the survey results

The web survey results have provided very useful data for this study. The value of the results especially lies in the provision of relative figures on various aspects enabling comparisons between countries, opportunities, bottlenecks, groups or respondents, etc. and to monitor the developments in these figures over time. The limitation of the study lies in the inability to provide reliable absolute figures on for instance turnover values.

OS-study versus WEX

For the web survey a similar methodology has been applied as is done for the WEX (Water Export Index) – study, which is carried out twice a year. A sample of companies and institutions is asked to provide data on national and export turnover in the water sector and the division of this turnover over regions and over subsectors. The samples do not have the same composition. Also over time the

samples may differ in the WEX, but never provide a bottleneck though to assess the WEX and to make reliable comparisons over time. Like in the WEX, the estimation of the export turnover is based on the sample results of a survey. Starting from this value relative export shares of the various regions and countries have been determined for the sample. Since the sample may not represent the whole water sector in an optimal way, we cannot draw any hard or general conclusions about the export turnover figure and division of this figure over subsectors, regions and countries. The real value will be higher, but this value can only be obtained with sample results once the whole population is known. Getting to know the population is difficult and cannot be realized in the context of this study nor in the WEX-study. Another complicating factor for generalizing study results lies in the fact that large projects (especially those in water construction) may influence total and regional export figures drastically and lead to large fluctuations over time. For the sample of the web survey no such 'disturbing' projects have been found. The sample results of the OS-study regarding relative export shares of regions are in line with the results of the WEX 2014.

The average budget per country positioning report is EUR 7,000. Therefore, the positioning survey cannot be seen as a fully fledged market research. An in-depth assessment of the markets (the OS Water countries) was not part of this research, instead the research relied on secondary information (reports available) and expert opinions (Key Advisors Water OS program, TD staff on Embassies, YEP network, and a network of 'water professionals').

An important disadvantage of the web survey – in contrast with a telephone survey for which a stratified sample has been selected - is that the characteristics of the total population are unknown. By lack of a stratified sample, the outcome of the web survey does not offer the opportunity to level up the sample results to the total population and to calculate absolute figures for turnover and export volumes for each subsector and region. Despite this limitation of the web survey, it does provide very useful information for the positioning studies.

Additionally to the country specific positioning reports, a management summary was drafted. The management summary elaborates on the overall findings and provides overall conclusions.

Appendix II: Finance

The Dutch Government is able to support activities performed by the water sector in developing countries (in this case the 12 Water OS countries) in different ways. On a strategic level, financial support can be labeled as:

Bilateral support (country to country)

Multilateral support (to different countries often funneled through International Financial Institutes or UN related organizations).

Specific instruments (e.g. managed by RVO or commercial organizations like Atradius and FMO).

The financial support from Dutch Government related to the 12 Water OS countries aims to combine trade and aid perspectives. The policy focuses on three key points: 1) improved management of water catchments and safe deltas, 2) efficient use of water, especially in the agriculture sector, and 3) improved access to clean drinking water and sanitation.

This appendix provides an overview of the support provided on different strategic levels: bilateral, multilateral and specific instruments. The content is structured following the most important organizations involved in funneling these funds starting with the Ministry of Foreign Affairs, The Dutch Embassies, RVO, Dutch (Semi) Commercial Players, and the most relevant International Finance Institutes. At the end, the appendix provides a non exhausted list of foundations financing water related projects and activities.

Centralized programs managed by IGG/Water DGIS/Ministry of Foreign Affairs

DGIS (within the Ministry of Foreign Affairs) focuses on the Dutch international cooperation with partnering countries. The cooperation involving the water sector is mandate of the section water within the department of DME (future: IGG (Inclusive Green Growth)). This section manages the water related portfolio of programs providing regional and multilateral support. The funding is often labeled and does not provide direct opportunities for the Dutch water sector.

Decentralized programs managed by Embassies:

The Multi Annual Strategic Plans (MASP) is the nucleus of Dutch bilateral support to a country. Projects, programs or businesses being part of the Embassies' program to implement the MASP fit into the country specific strategy and are aligned with the overall water policy of Dutch government. The funding of Dutch Embassies provides opportunities for the Dutch water sector.

Specific Instruments: RVO

RVO has developed different type of instruments depending on the phase the project/program/business is in, starting at the development of an idea, testing the concept in a pilot, scaling up the pilot to significant size to start building a business or self financing project on. We follow this structure when presenting the different instruments.

To finance the development of an idea, innovation or R&D:

VIA water:

This is a relatively small fund (EUR 10 million over 4 years) to finance out of the box ideas and small-scale innovations using grants. Aqua for all manages the fund, which started operating in 2015. Maximum size of the grant is EUR 200,000 per project.

To finance a pilot:

Partners for Water:

This is a funding program (grants) financed by different Ministries runs from 2010 till 2014. After 2015 the program will continue following the same strategy. In 2015 the facility is not open for new application. The program financed 80 projects of which 50 included a pilot. The average subsidy size was EUR 200,000 financing 20-80% of the budget. The new program will start with a total budget of EUR 10.5 million.

DHK:

This instrument provides grants and aims to finance demonstration pilots, feasibility studies and acquiring of knowledge. The program has a specific EUR 3 million window for DGGF countries of which EUR 1 million is allocated to the least developed countries. This facility is specifically applicable for projects in fragile states.

DRR:

DRR finances the Dutch Risk Reduction Team, a database of Dutch Water Experts that are available for solving water related issues with respect to disasters. DRR is not a facility financing disaster response or aid, though DRR provides knowledge that can be used to e.g. avoid disasters. RVO in close cooperation with NWP manages the facility.

To finance the scale up of activities or pilots:

ORIO / DRIVE:

ORIO was cancelled in 2014. ORIO used to be a grant facility financing investments related to the development, implementation and operation of infrastructure in developing countries. Governments of these countries submit the applications and the private sector is involved in the development and execution of projects.

DRIVE is the successor of the ORIO program and provides concessional loans to governments of developing countries to develop, construct and operate infrastructure. DRIVE will be launched in April 2015 and has an available budget of EUR 100.000.000 annually expecting to finance 10-15 projects. The facility aims to actively involve the Dutch Water sector and contribute to development of the receiving country.

G4AW:

G4AW stands for Geodata for Agriculture and Water and finances projects, programs and businesses aiming to improve food security in developing countries by using satellite data. Netherlands Space Office (NSO) is executing this program, commissioned by the Dutch Ministry of Foreign Affairs. In 2014-2015 the facility has EUR 30.5 million available to provide grants (EUR 0.5-5.0 million) financing up to 70% budgets. Proposals and partnerships should be based on a business plan geared towards satellite data at the start of the information chain.

FDW/FDOV and GWW:

RVO developed three facilities to finance Public Private Partnerships (PPP) in the water (and agriculture) sector. These facilities aim to: 1) increase access to drinking water and sanitation, 2) enhance efficient and sustainable water use (especially in the agriculture sector), 3) improve management of catchment areas and safe deltas, and 4) (specifically for FDOV) improve food security and private sector development. GWW (Ghana Wash Window) is a specific window financing water related PPPs in Ghana.

The three facilities are in place since 2012, in 2014 FDW and FDOV launched and closed its second call, the GWW second call for proposals closes in February 2015. The facilities are planning the third call to be executed in 2016. Because the facilities just started operating, (impact) results have not been reported yet.

The facilities provide grants and have different modalities. The facilities received many applications and resulted into the finance of new initiatives. The application process is being perceived by a significant group of applicants as complex, and requires a clear business case, or theory of change aiming to enhance the enabling environment as part of the proposal, plus a significant contribution by the private sector. The facilities are especially applicable for large applications fitting into investment agenda's or strategic objectives of the private sector players involved.

DGGF:

The Dutch Good Growth Fund started operations in mid 2014 and aims to combine aid and trade goals. DGGF is a revolving fund, providing finance (not grants) to initiatives with a 'healthy risk profile'. DGGF focuses on 66 countries (called the DGGF countries), including the Water OS countries. DGGF is build on three pillars: 1) a fund financing activities of Dutch SMEs in DGGF countries (managed by RVO), 2) a fund financing local SMEs and banks in DGGF countries (managed by PWC and Tripple Jump), and 3) a fund financing export credit insurance and export finance activities (managed by Atradius).

In Pillar 1, RVO works closely together with Dutch banks. The fund is equipped to provide guarantees to banks up till 60% of the credit risk, loans to banks and investment funds (equity). The maximum is EUR 10 million per project or business. A TA facility will be in place to provide assistance on improvement of the business plan or investment proposal.

Pillar 2 is under construction; this pillar will provide fund to fund investments up to EUR 175,000.

Pillar 3 provides export credit insurances covering non-market risks up till a maximum claim amount of EUR 15 million. Besides insurances, this fund provides export finance instruments. Products focus on Dutch SMEs needs, covering small and large transactions.

Besides these above mentioned programs and facilities, the following instruments can be useful and applicable for financing water related activities.

PSI:

PSI was grant program available for non-Dutch and Dutch companies wishing to make an innovative investment, in cooperation with a local partner in one of the PSI countries. This program stopped operating mid 2014.

MMF:

MMF is a match making program, aiming to establish a long term business relationship between a Dutch entrepreneur and an entrepreneur from a developing country.

OS Partner Countries:

This program finances the projects, managed by the local Dutch Embassies. These projects fit into the Multi Annual Strategic Plans of the specific Embassies.

TDs / economic diplomacy:

This program finances the so called thematic experts working at the Dutch Embassies in a limited number of OS Partner Countries.

TMEA:

Managed by DDE / DGIS, this large program focuses on the East African region financing initiatives contributing to the enhancement of trade relations within the region. The facility is applicable for financing initiatives linked to port development.

Water Mondiaal:

Water Mondiaal is a program launched by the Dutch government to cooperate actively with countries in low-lying delta areas, protecting them against floods and ensuring sufficient, clean water. Partners for Water is managing this program, the program aims creating long lasting cooperation agreements between the public and private sector, and civil society and knowledge institutes. Water Mondiaal focuses on five deltas: Egypt, Bangladesh, Indonesia, Mozambique and Vietnam.

(Semi) Commercial Organizations managing funds on behalf of Dutch Government

The following facilities or organizations are in some way closely linked to RVO or the Ministry of Foreign Affairs.

Atradius:

Atradius offers a comprehensive range of credit management solutions that protect businesses of all sizes against the commercial and political risks inherent in domestic and global trade. Atradius provides credit insurance, debt collection services, bonding, reinsurance and a range of special products.

Atradius Dutch State Business performs different facilities on behalf of and for account of the Dutch State. There is no direct link with the RVO organization, though Atradius products can be combined with RVO instruments (e.g. ORIO/DRIVE).

Atradius does not specifically focus on the water sector. However dredging, waste management, port development and the maritime sector are important sectors from a business perspective. Atradius is not actively involved in all Water OS countries; the table below provides an overview of the outstanding volumes of credit insurance products per January 2014.

Table 1: Atradius business in Water OS countries

Credit Insurance outstanding risks

Country	Risk Volume (EUR million)
Mali	1
Yemen	1.2
South Sudan	0
Palestine	0
Ethiopia	0
Mozambique	105
Benin	0
Rwanda	0.1
Ghana	182
Kenya	118
Indonesia	1,373
Bangladesh	0

Source: Atradius January 2015

Atradius manages the third pillar of DGGF. In the first six months Atradius received 7-8 requests, one of these came from the maritime sector. The DGGF facility provides support on smaller transactions; therefore this product is applicable for Dutch small and medium enterprises.

FMO:

FMO manages three funds relevant for the Dutch water sector.

FOM-OS

The first pillar of the DGGF program will replace this fund. The fund offered loans to private sector players investing in non (commercially) bankable projects or businesses in developing countries.

Innovative Finance Fund for Development

This fund aims to catalyze private sector investments.

IDF

IDF stands for Infrastructure Development Fund. The IDF is aimed at creating reliable infrastructure in many sectors, ranging from potable water and mobile telecommunication services to roads and power. By providing risk capital through the IDF, FMO takes on definite risk while acting as a gateway for other financiers.

IDF offers finance through equity, mezzanine and debt products that can be used even in early stage of projects. The fund has the following fund limits:

Individual transaction amounts maximized at EUR 25 million

Financing about 25% of total project investment

Shareholding maximum 25%

Maximum tenor of 20 years

Convertible contributions are selectively available for financing during the development phase of projects (up to 49% of total development cost)

About 8% of the portfolio is allocated to water related projects (mainly water related to energy: dams). IDF hardly finances projects in other sub sectors of the water sector, this is due to: 1) the limited willingness to pay (drinking water), 2) the strong involvement of a weak public sector, 3) the limited role of the private sector, 4) the lack of involvement by Dutch water sector as a strategic operator or investor.

Within the FMO organization the department NL Business manages the IDF fund and provides (financial) transaction advisory support to Dutch businesses aiming to become active in developing markets. NL business brings in the financial perspective when Dutch businesses want to develop a consortium. Regarding consortium development within the Dutch water sector, port development, dredging and waste (water) treatment are potential sectors. Thinking along the lines of so called corridor concepts (infrastructure connection points like transfer utilities) seems to be a promising market entry point.

EP - Nuffic:

EP-Nuffic is the main expertise and service centre for internationalization in Dutch education, from primary and secondary education to higher professional and academic higher education and research. EP – Nuffic runs several programs, the NICHE program is relevant for the water sector.

The Netherlands Initiative for Capacity development in Higher Education (NICHE) is a Netherlands-funded development cooperation program. By sustainably strengthening higher education and technical and vocation education and training (TVET) capacity in partner countries, it contributes to economic development and poverty reduction. The program focuses on four policy priorities: 1) Water, 2) Food security, 3) Sexual and Reproductive Health and Rights (SRHR) and 4) Security and the rule of Law.

Dutch Commercial Banks:

Looking at the global networks of the larger Dutch international operating banks (ABN AMRO, Rabobank and ING), the Rabobank has the most visible overall presence in the 12 Water OS. In the strategic interviews, this bank was the only commercial bank mentioned a couple of times as being active in the international water sector.

The water sector is not a specific priority sector for Rabobank. From an international perspective Rabobank focuses on the agriculture sector. However Rabobank is involved in financing the Dutch water sector in The Netherlands. From this perspective, Rabobank 'follows its clients abroad' (especially the dredging and water engineering sector plus larger consultancies are being mentioned). Rabobank has branches in Kenya and Indonesia, participations in Rwanda and Mozambique and operates in partnership with e.g. Standard Charter Bank in Mali, Ghana, and Bangladesh.

Export finance, guarantees and currency risk management are the most common services/products offered to international operating clients.

International Financial Institutes (IFIs):

The so-called multilateral aid program of governments is being managed by IFIs like the Worldbank, ADB, AfDB and EU (EU grant program and EIB). The following IFIs play an important role financing water sector related projects, programs and businesses.

World Bank (WB):

In 2014 WB announced reorganization. The new structure has five relevant departments focusing on water: GP14 Water, GP1 Agriculture, GP3 Energy and Extractives, GP 4 Environment & Natural Resources, GP12 Transport and ICT, and GP13 Urban & Rural Social Development. GP14 Water department integrates WASH, irrigation, and Water Resource Management. One global staff pool is in place to partner with outside organizations. More weight is put on knowledge into operations. WB offers loans to developing countries, projects have to fit the multiyear WB strategy, and the fund receiving countries lead the tender procedure. About 20% of the annual budget is allocated to water projects of which 53% WASH, 13% irrigation, 24% water and energy, and 10% flood protection and delta technology.

The Asian Development Bank:

Programs of ADB are complementary to other donors and have the starting point to promote inclusive water policies (including the poor). Focus on mainstreaming water efficiency in supply and use and enhanced cooperation with the private sector. From 2010-2020 the budget is USD 20-25 billion.

The African Development Bank (AfDB):

Looking at the AfDB strategy 2013-2022 paper, the 10 year focus will be on inclusive growth and green growth. The bank identifies five operational priorities: 1) infrastructure development, 2) private sector development, 3) governance and accountability, 4) regional economic integration, and 5) skills and technology. In implementing its ten-year Strategy, the Bank will pay particular attention to fragile states, agriculture and food security, and gender. Supporting the water sector is specifically part of the agenda on infrastructure and agriculture and food security.

In view of its important contribution to the achievement of all the MDG goals and therefore its unique contribution to poverty reduction on the continent, the water sector has received major attention as a strategic priority of the Bank. Since 2000, following the adoption of its Integrated Water Resources Management (IWRM) Policy, the Bank has increased its focus on the water sector,

especially on drinking water, sanitation and hygiene, and the promotion of integrated management of water resources.

The African Water Facility is an interesting facility that can be used to finance WASH related activities.

The EU:

These funds are the main source of EU development aid for the African, Caribbean and Pacific (ACP) countries and the overseas territories (3% of the annual EU budget in 2008-13). The funds are connected to the Cotonou Treaty. The European Investment Bank invests significant amounts in the water sector. The grant programs do not have a specific focus on water related projects, the EU Water Facility, one of the grant programs focusing specifically on water will be cancelled.

Foundations:

Especially for development related activities within the water sector, foundations provide interesting opportunities to finance projects and programs. Below an unexhausted list of foundations provides a first entry point to seek for funds. As each foundation has its own finance policy, we refer to the individual websites for more information.

Blood:Water.

Blue Planet Network Foundation

Charity Water

ExxonMobil Foundation

Global Water Challenge

Millennium Water Alliance

Project Concern International

ActionAid International USA

Alcoa Foundation

Boeing Company Charitable Trust

BP Foundation

Global Green USA

Habitat For Humanity International, Inc.

Lemelson Foundation

McKnight Foundation

Prem Rawat Foundation

Water 1st International

Water Environment Research Foundation

Wateraid America, Inc.

World Vision, Inc.

Appendix III: Elaborated outcomes of web survey

The Comext database of Eurostat includes trade statistics for a limited number of watersector related products. Table 1 demonstrated the development of the exports of these products for EU-28 in total and for some EU-countries during the 2010-2013 period. The Dutch share in total EU-28 exports is only 1% on average, much lower than the respective shares of Germany and France.

Table 2: Exports from EU 28-countries to South Sudan (in mln. €) in total and for watersector related products and export shares of some EU-countries, 2010-2013

	2010	2011	2012	2013	Total 2010-2013
Total EU-28 exports to South Sudan				49	49
Watersector related products				1	1
<i>Shares in EU-28 exports of watersector related products</i>					
- Netherlands				45%	45%
- Germany				43%	43%
- France				0%	0%
- Denmark				3%	3%

Watersector related products:

TUBES, PIPES AND HOSES, AND FITTINGS THEREFOR, OF PLASTICS

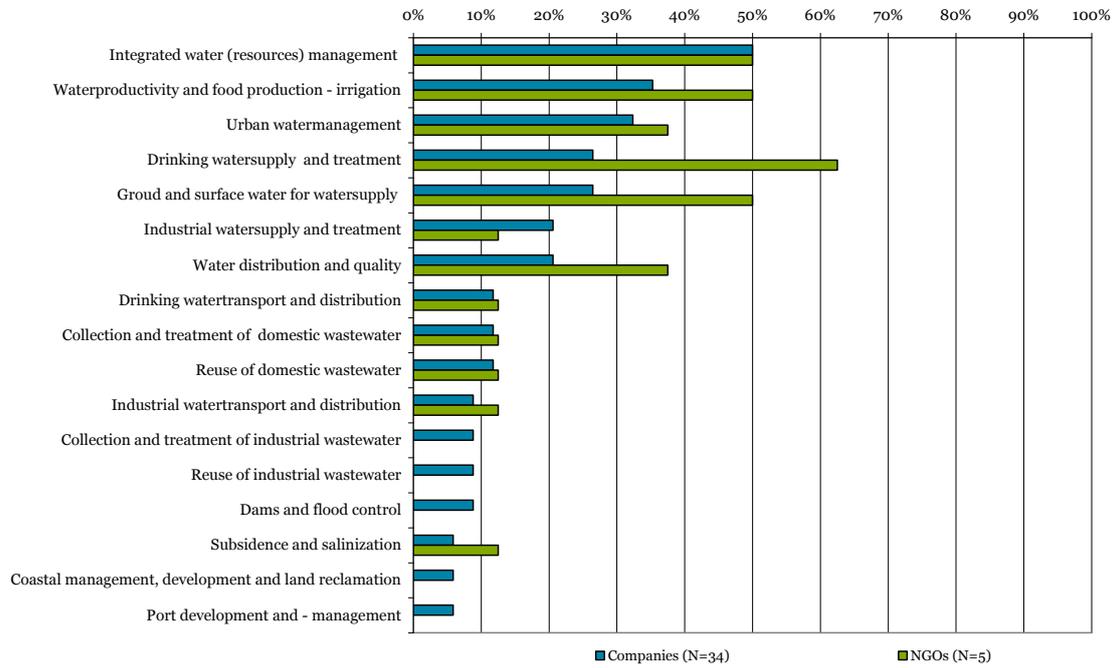
TUBES, PIPES AND HOLLOW PROFILES, AND TUBE OR PIPE FITTINGS, OF IRON OR STEEL

STEAM TURBINES AND OTHER VAPOUR TURBINES AND PARTS THEREOF, N.E.S.

PUMPS FOR LIQUIDS, WHETHER OR NOT FITTED WITH A MEASURING DEVICE; LIQUID ELEVATORS; PARTS FOR SUCH PUMPS AND LIQUID ELEVATORS

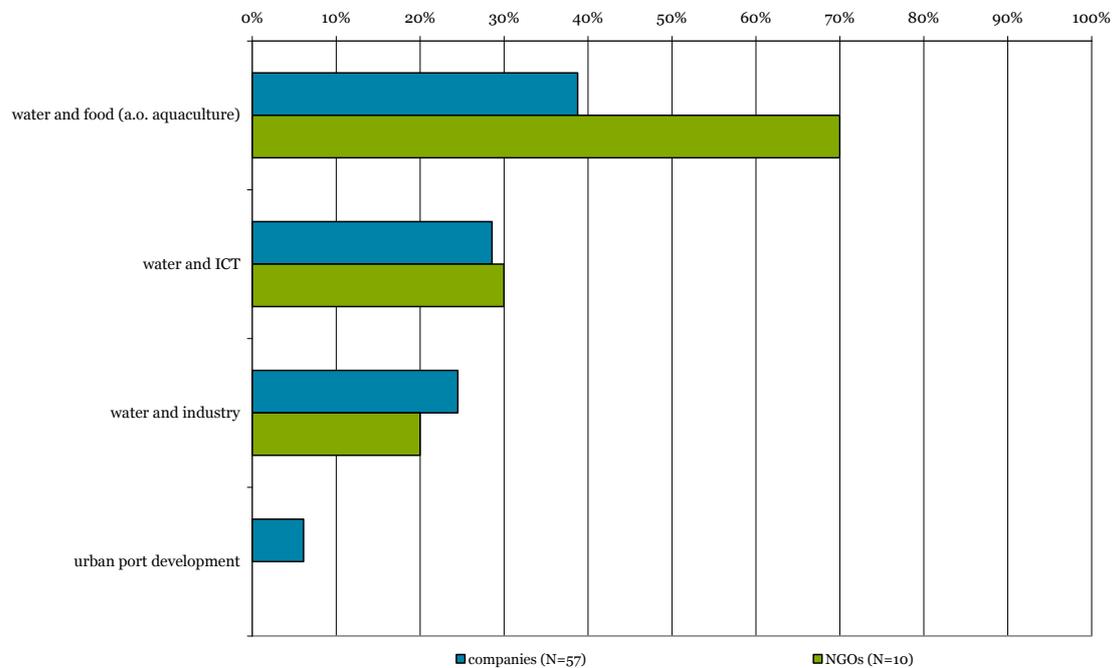
Source: Comext Eurostat

Figure A.1: Promising areas in South Sudan according to companies and NGOs interested in South Sudan, in % of respondents (more answers possible)



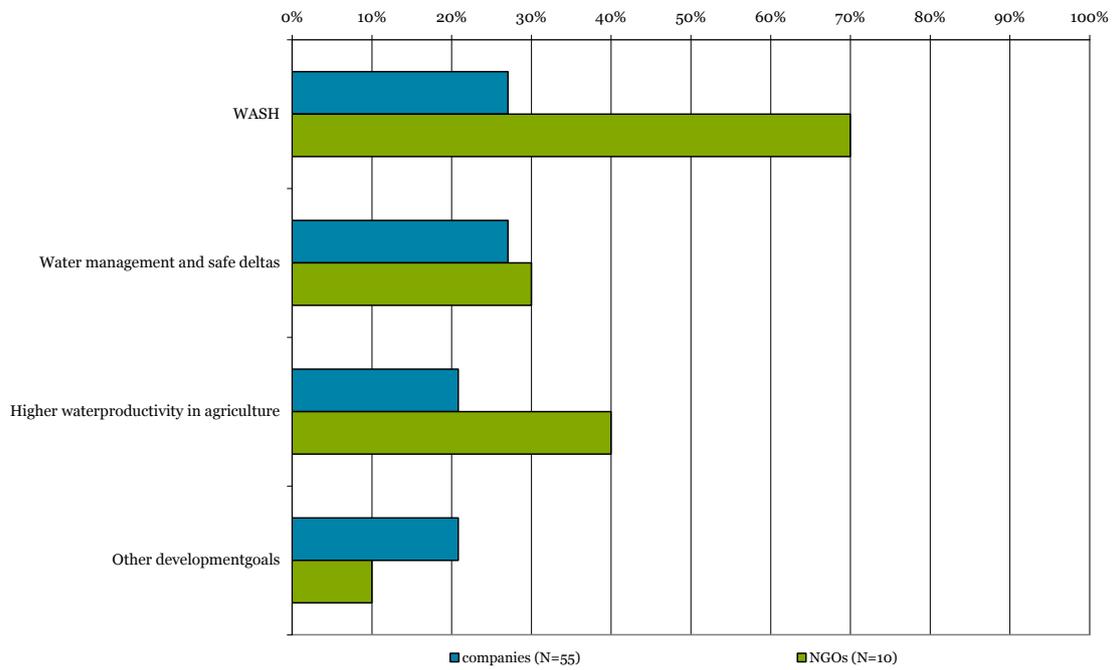
Source: Web survey Panteia, 2014/2015

Figure A.2: Promising cross-overs in South Sudan according to companies and NGOs interested in South Sudan, in % of respondents (more answers possible)



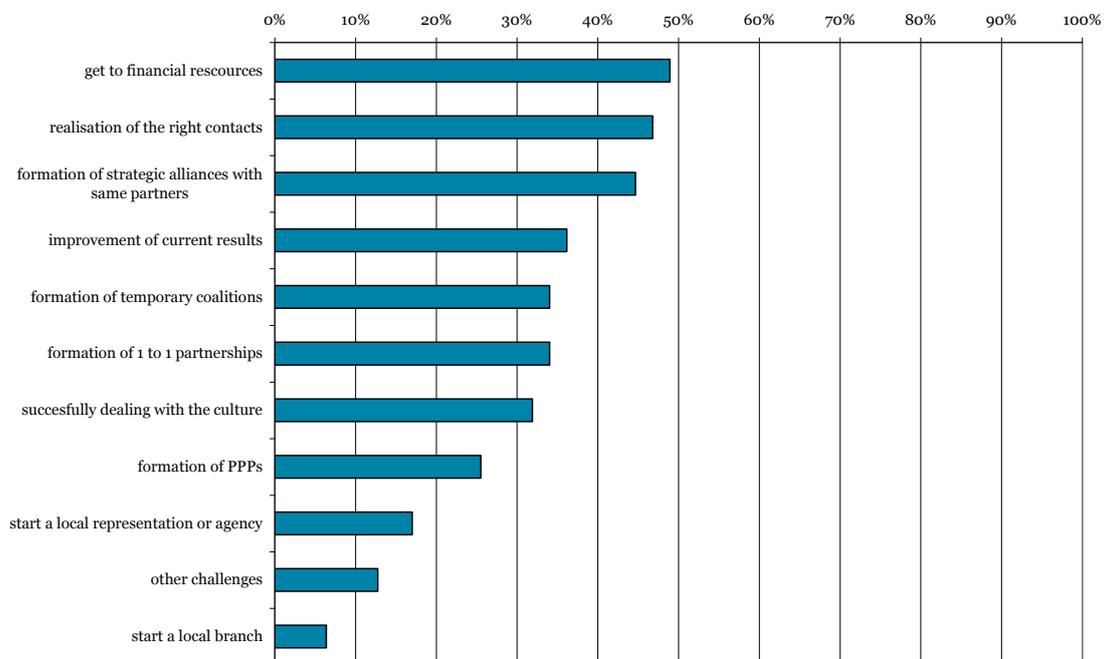
Source: Web survey Panteia, 2014/2015

Figure A.3 : Development opportunities in South Sudan according to companies and NGOs interested in South Sudan, in % of respondents (more answers possible)



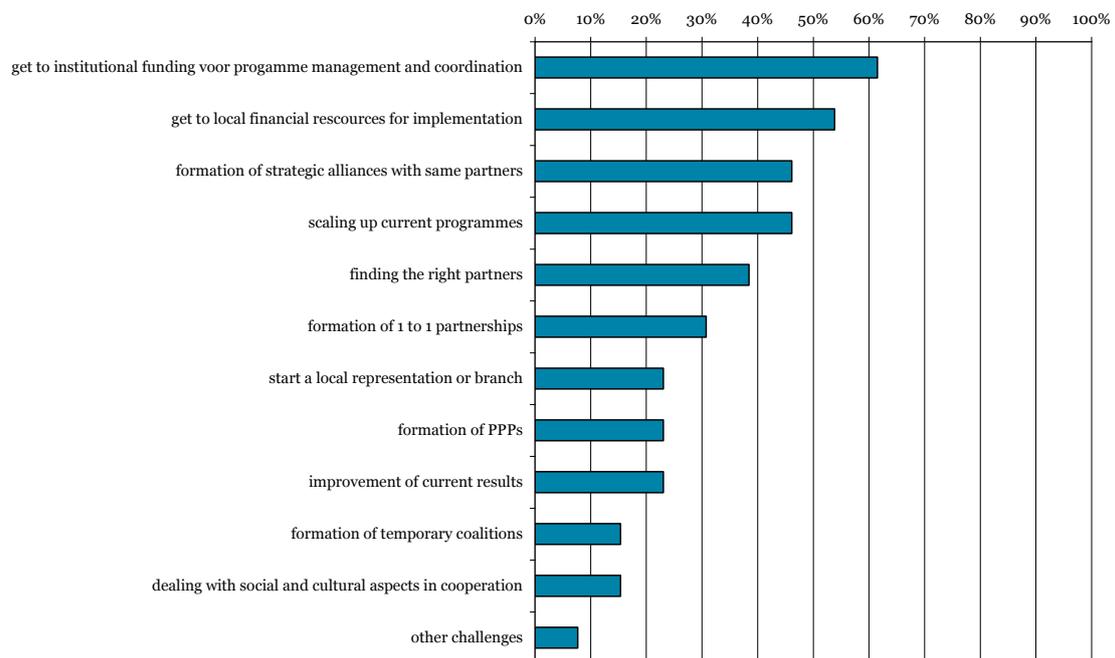
Source: Web survey Panteia, 2014/2015

Figure A.4: Challenges for scaling up activities in South Sudan according to Dutch companies, waterboards and knowledge institutions, in % of respondents (N=47)



Source: Web survey Panteia, 2014/2015

Figure A.5: Challenges for scaling up activities in South Sudan according to NGOs, in % of respondents (N=13)



Source: Web survey Panteia, 2014/2015

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Appendix V: Respondents

NWP/Key Advisors:

Wim Klaasen

Dutch Embassy:

Felix Hoogveld

Web survey:

Not disclosed

Strategic interviews:

Name organization	Contact person
Alkyon + ARCADIS	Ferry Vis
Aqua for All	Sjef Ernes
Aqua Industrial Water Treatment	Marik Beerten
AquaAero Water systems	Martijn Nitzsche
Atradius	Oscar Boot
Bam International	Maikel Jagroep
Bam International	Henk van Veen
Basic Water Needs	Martijn Smid
Berson UV	Paul Buijs
Boskalis	Bastiaan Lammers
Bucon Industries	Peter Bulsing
Colubris Environment	Marco Moekardanoë
Deltares	Ron Thiemann
ECORYS Nederland	Viek Verdult
ECORYS Nederland	Ilse van de Velde
Euroconsult Mott Macdonald	Pieter van Stuijvenberg
Euroconsult Mott Macdonald	Hero Heering
FMO	Roel Messie
Genap	Dick van Regteren
Groasis	Pieter Hoff
Grontmij Nederland	Ernst Malipaard
Hatenboer-Water	Peter Willem Hatendoer
ID Consultancy	Dick Konijn
IHC Merwede	Sergio Ooijens
IRC	Stef Smits
ITC	Victor Jetten
ITC	Dinand Alkema
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