

# Ethiopia

## Positioning Survey for the Dutch water sector

Aidenvironment

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# Ethiopia

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# Glossary

<b>Abbreviation</b>	<b>Explanation</b>
ABSF	Agribusiness Support Facility
ABWRMA	Awash Basin Water Resources Management Agency
AGP	Agricultural Growth Program
AfDB	African Development Bank
CSO	civil society organizations
DAG	Development Assistance Group
DRM	Disaster Risk Management
EKN	Embassy of the Kingdom of the Netherlands
ENLBA	Ethiopian Netherlands Business Association
EPA	Environmental Protection Authority
EPRDF	Ethiopian People's Revolutionary Democratic Front
ETB	Ethiopian Birr
EU	European Union
GoE	Government of Ethiopia
GTP	Growth and Transformation Plan
IFC	International Finance Corporation
IFI or IFIs	International Financial Institute(s)
IWRM	Integrated Water Resource Management
JMP	Joint Monitoring Program
MASP	Multiple Annual Strategic Plan
MDG or MDGs	Millennium Development Goal(s)
MoA	Ministry of Agriculture
MoWR	Ministry of Water Resources
NGO or NGOs	Non Governmental Organization(s)
NWP	Netherlands Water Partnership
ODA	Official Development Aid
PASDEP	Accelerated & Sustainable Development to End Poverty
PMC or PMCs	Product Market Combination(s)
PPP or PPPs	Public Private Partnership(s)
PSNP	Productive Safety Net Program
PSO or PSOs	Public Service Organization(s)
RVO	Rijksdienst voor Ondernemend Nederland
SWF or FDW	Sustainable Water Facility of Fonds Duurzaam Water
UAP	Universal Access Plan
WASH	Water, Sanitation and Hygiene
WB	World Bank
WRDF	Water Resources Development Fund

# 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 Ethiopia. Chapter 1 gives 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:*

Water has been relatively low on the political agenda of the Government of Ethiopia, which has implications for resource allocation to the sector. The major challenge in the water sector lies on sustainable water infrastructure development and sustainable management of water resources. Currently there are many small and large-scale infrastructural development activities for increasing water supply for WASH, agriculture and hydropower. The main challenge in this aspect is failure of physical and institutional infrastructure, which is often related to insufficient assessment of existing water recourse and how to ensure the availability of these water resources on a longer-term. There is often a gap between plans for projects and the actual construction or delivery of these projects. Conflict over water (also trans-boundary) is increasing due to less predictable rainfall patterns, water pollution or contamination and limited access to water sources.

## *Current interest and activities of Dutch organizations:*

There are many Dutch organizations active on water in Ethiopia, although water is not directly included in the current MASP of the EKN. There is a differentiation in NGOs and knowledge institutes, mainly active in the field of WASH in general, versus companies who are focus largely on the agricultural sector in Ethiopia. Most potential is therefore seen in combining these activities through sustainable water resources management for both WASH and agriculture.

## *Potential product market combinations:*

Product market combinations are mainly seen in integrated water resources management (IWRM) and water governance as well as in water for irrigation purposes. Given the large need on sustainable WASH services, this will remain important. Through the current organizations active in Ethiopia as well as the embassy program (focusing on food security), synergy and linkages should be sought to combine the currently differentiated efforts from Dutch organizations. Many donors and investors are still focusing on Ethiopia, with a focus on climate change adaptation and private sector development.

## *Suggestions on positioning strategies for future activities:*

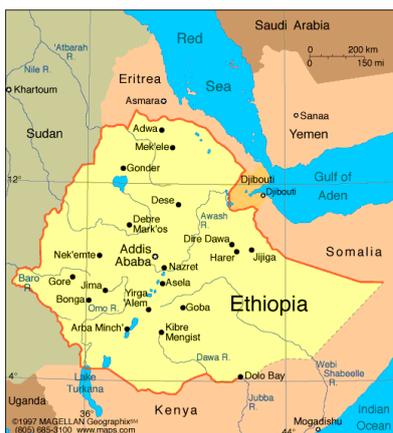
In order to have access to local as well as Dutch-oriented opportunities, organizations could work through the existing agricultural private sector platforms of the EKN as well the water boards and other Dutch organizations already active in this field in Ethiopia. Focus should be on strategic linking of current activities on water management and agriculture.

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:	Federal Republic
Political situation:	<p>Since 2010, the ruling Ethiopian People’s Revolutionary Democratic Front (EPRDF), a coalition of five political parties under the leadership of the Tigray People’s Liberation Front (TPLF), has held 546 out of 547 seats in the House of People’s Representatives and thus faces no parliamentary opposition. The ruling party’s virtual monopoly on power resulted in political debate and a lack of control on the part of the populace over government decisions. The concept of Ethiopian citizenship is accepted by a majority of the people, but questioned by ethnic minorities such as the Ogaden clans in the Somali region and parts of the Oromo, which provides the oppositional Oromo Liberation Front (OLF) with sufficient support to survive. Thus, the legitimacy of the nation-state is frequently challenged.</p>
Stability:	<p>Parliaments are elected, although the fairness of elections has been questioned. Local, regional and national parliaments and councils have limited tasks and can operate as long as they maintain the dominant party line of the ruling Ethiopian People’s Revolutionary Democratic Front (EPRDF). Stability varies from region to region. Whereas in the north</p>

	(where Amharic- and Tigrinya-speaking people live) formally democratic institutions mainly function properly, regions with security issues (such as in Ogaden, Gambela and Afar) are less stable, and the human rights of its inhabitants being questioned. All trade unions and civil society organizations (CSO) are closely monitored by the government. A new press law, a new NGO law and a new anti-terrorism law were adopted by the government and used to manage the sphere of influence of non-governmental institutions.
Language:	Amharic (official national language) 29.3%, Oromo 33.8%, Somali 6.2%, Tigrigna 5.9% and at least 10 other languages cover the remaining 24,8 %
Population:	96.633.458
Population growth:	2,89%, which ranks 14th globally
Economic growth (GDP growth):	7%, which ranks 24 <sup>th</sup> globally
Expected growth (GDP growth in % till 2016):	2015: 7,0%, 2016: 6,6%
GDP (PPP):	47,34 billion
GDP (PPP) per capita:	1.300
Unemployment rate (in%):	17,5%
Inflation rate (in %):	8,4%
Forecasts inflation rate(in %):	2015: 5,02, 2020: 6,14
Foreign direct investments (in % of GDP):	2,0
ODA in % of GNI:	7,6
Imports:	10,68 billion
Import partners:	China 13.1%, US 11%, Saudi Arabia 8.4%, India 5.4% (2012)
BTI index on banking system:	4
	The country's banking system and capital market are poorly differentiated; regulation and supervision requirements are inadequate. The government is refinancing its expenditures to a large extent through domestic borrowing. The banking system is open to private banking since 1997, but foreign banks are not allowed to conduct business freely in Ethiopia. Since the end of 2010, the National Bank of Ethiopia, the country's central bank, has said that it is adopting a new reserve-capital growth target. This strategy is designed to address the problem of excess liquidity and demonetization. It is expected that the government will return to the IMF for balance-of-payments support. Nevertheless, the government is likely to continue to bar foreign banks while maintaining its monopolies in the



dissolution of evaporite minerals.<sup>2</sup> Ethiopia has a groundwater database for assessing and managing water resources, called ENGDA. ENGDA is implemented jointly by the Ministry of Water Resources, Addis Ababa University, and the Geological Survey of Ethiopia.<sup>3</sup>

### **1.2.2 Climate and climate change**

Ethiopia has a long history of coping with extreme weather events as rainfall is highly erratic, both in spatial and temporal extents, and typically falls in the form of intensive convective storms spawned by the country's varied topography. Over the past three decades, Ethiopia has experienced countless localized drought events and seven major droughts five resulting in famines. Future climate variability and change are expected to worsen these conditions, potentially accelerating already high levels of land degradation, soil erosion, deforestation, loss of biodiversity, desertification, recurrent floods, as well as water and air pollution. Recurrent drought and floods pose the greatest threat to local populations. According to Ethiopia's National Adaptation Program of Action (NAPA), the agricultural water resources and human health sectors will be most negatively impacted by climate change. The NAPA additionally identifies the infrastructure sector as particularly vulnerable to climate change impacts.<sup>4</sup>

### **1.2.3 Pressures on water sources**

Total renewable water resources:	122 cu km (2011)
Fresh water withdrawal:	5,6 cu km/year

Fresh water resources, although potentially high, are under high pressure in Ethiopia, due the inaccessibility of ground water and pollution with fluoride, arsenic and evaporate minerals, as described above. Competition between water for agriculture, hydropower and water for domestic supply is becoming more intense. Also, Ethiopia's main river systems are trans-boundary. Sharing the water resources of these trans-boundary rivers is very challenging, particularly the Nile tributaries (Abbay, Tekeze and Baro Akobo) with the downstream riparian countries Sudan and Egypt. Recently, under an international law supporting the equitable utilization of the water resources, positive progress has been observed now that riparian countries are deciding on common water development programs. The Nile Basin Initiative has been created and a Strategic Action Program is prepared which consists of two sub-programs: the Shared Vision Program (SVP) and the Subsidiary Action Program (SAP).<sup>5</sup>

### **1.2.4 Irrigation**

Irrigated land: 2,896 sq km (CIA 2014) in relation total area: 1,104,300 sq km

Region-wise, about 39 percent of the irrigated area is in Oromia in central Ethiopia, followed by 24 percent in Amhara in the north, 15 percent in Afar in the northeast and 12 percent in SNNPR, while the remaining 10 percent is in the other regions. Most irrigated land is supplied from surface water, while use of groundwater has just been started. Both irrigated and rain-fed agriculture are important. Virtually all food crops in Ethiopia come from rain fed agriculture with the irrigation sub-sector accounting for only about 3 percent of the food crops. Medium and large-scale irrigation schemes are managed by government enterprises. The management of small-scale irrigation schemes is the responsibility of the farmers themselves. Drainage is as important as irrigation, particularly in the

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<sup>2</sup> British Geological Research, 2001

<sup>3</sup> <http://www.mowr.gov.et/index.php?page=6.4&pageht=840px>

<sup>4</sup> [http://sdwebx.worldbank.org/climateportalb/home.cfm?page=country\\_profile&CCode=ETH](http://sdwebx.worldbank.org/climateportalb/home.cfm?page=country_profile&CCode=ETH)

<sup>5</sup> Aquastat

highlands of Ethiopia. Drainage is not yet given the required attention in rain fed agriculture where farmers construct traditional drain ditches commonly diagonal to the main slope of the farmlands.<sup>6</sup> Irrigation in Ethiopia could represent a cornerstone of agricultural development, contributing up to ETB 140 billion to the economy and potentially moving up to 6 million households into food security. Current irrigation schemes cover about 640,000 ha across the country (about 4 percent of the currently cultivated land). The remainder area mainly consists of rain-fed agriculture. Ethiopia has already planned in the PASDEP to increase its total area of irrigated land to about 1.8 Mha.<sup>7</sup>

### **1.2.5 Flooding of river systems**

The rainy season in the country is concentrated in the three months between June and September when about 80% of the rains are received. Torrential down pours are common in most parts of the country. As the topography of the country is rather rugged with distinctly defined watercourses, large scale flooding is rare and limited to the lowland areas where major rivers cross to neighboring countries. A major river basin that has serious flood problems is the Awash River basin located in the Rift Valley. Irrigation development in the river basin is quite advanced and is located in the flood plains on either side of the Awash River. High economic damage occurs during flooding along this river basin. Therefore, flood protection practices and river training are limited to this river basin. It is estimated that in the Awash Valley almost all of the area delineated for irrigation development is subject to flood. The other rivers where significant floods occur are Wabi-Shebelle River in south eastern Ethiopia near the Somali border and Baro-Akobo/Sobat River in western Ethiopia near the Sudanese border.<sup>8</sup>

### **1.2.6 Coastal zones and maritime areas**

Not applicable

## **1.3 The water sector**

### **1.3.1 Public sector**

The federal constitution has provided for five levels of government: federal, regional, zonal, woreda and kebele (tabia in Tigray) along with specific powers and functions at each level. The various levels of government have popularly elected councils at regional, national, zonal (in Amhara), woreda and kebele levels. Several water sector institutions have been established at federal and regional level under the regionalization and decentralization policy. At the federal level, the public institutions involved in water resources development include:

- The Ministry of Water & Energy is responsible for the overall planning, development, management, utilization and protection of the country's water resources, as well as supervising all water development activities carried out by other institutions. Large-scale water supply is also handled by the ministry through its Water Supply and Sewerage Department. The Ministry of Water Resources is responsible for the formulation and execution of the National Water Resources Policy (consisting of 13 sub-policies), Water and Sanitation Policy, Irrigation Policy and Hydropower policy.

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<sup>6</sup> Aquastat

<sup>7</sup> IWMI (2010) Irrigation Potential in Ethiopia; constraints and opportunities for enhancing the system; IWMI (2007) Water Resources and Irrigation Development in Ethiopia. Working paper 123)

<sup>8</sup> [http://www.apfm.info/publications/casestudies/cs\\_ethiopia\\_full.pdf](http://www.apfm.info/publications/casestudies/cs_ethiopia_full.pdf)

- The Awash Basin Water Resources Management Agency (ABWRMA) is the only basin level institution established for administering and managing the Awash River Water. Most of the medium- and large-scale irrigation projects and salinity and flooding problems are concentrated in this basin.
- The Ministry of Agriculture (MoA) is in charge of water management (irrigation extension), including water harvesting for smallholder irrigated and rain fed agriculture.
- The Environmental Protection Authority (EPA) is responsible for the preparation of environmental protection policy, laws and directives. It is also in charge of evaluating the impact of social and economic development projects, particularly irrigation and hydropower projects, on the environment and is further responsible for follow-up work.

The regional/sub-national institutions involved in the water sector include:

- The Bureaus of Water, Mines and Energy (BoWME) and/or Bureaus of Water Resources Development (BoWRD) which exist in some regions and are responsible for small-scale irrigation and rural water supply as well as small-scale hydropower development.
- The Commissions for Sustainable Agriculture and Environmental Rehabilitation (Co-SAER) and the Irrigation Development Authorities which undertake operational activities in line with their mandates (study, design and construction of small-scale irrigation schemes).
- The Bureaus of Agriculture (BoA) have similar functions at the regional scale as the MoA.
- Several NGOs are involved in the water sector, particularly in small-scale irrigation and rural water supply projects.<sup>9</sup>

### 1.3.2 Legislation

Water has been relatively low on the political agenda of ruling parties and opposition parties, which has implications for resource allocation. Further, there is a risk that 'self supply' is being promoted to cut costs and boost coverage figures, without due consideration for water quality or the ability of households to finance such systems. Fiscal, administrative and political decentralization processes in the sector have taken place to differing degrees. However, political constraints have limited this process and there is partial decentralization in cases.<sup>10</sup>

Cooperation in the field of WASH is getting stronger since 2006 when a Memorandum of Understanding (MoU) was signed between the Ministries of Health, Water and Education. The WASH coordination office that was established in that year coordinates the efforts of these Ministries, as well as those of the private sector, donors and the public at large to achieve the UAP, which requires an attitude change on the part of citizens, professionals, investors and the political leadership. The reviewed UAP now has four components:

- Rural Water Supply UAP;
- National Hygiene and Sanitation Strategic Action Plan;
- Urban Water Supply UAP; and
- Urban Sanitation UAP.

Ethiopia has adopted the principles of Integrated Water Resources Management (IWRM) in its Water Resources Management policy and has already put in place water legislations, strategy, and program for their implementation. The implementation is taking place on watershed level. The activities include rehabilitation of degraded watersheds and developing the agricultural and hydropower potential of river basins. The main issues around this topic are trans-boundary of nature

<sup>9</sup> Aquastat

<sup>10</sup> <http://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/6109.pdf>

for most of the river basins. These have made the development initiatives around the resources lengthy as it involves users outside the country.

### 1.3.3 Public sector current spending and investment plans

Source	Theme	2012	2013
GLAAS report	WASH	162 million	
Government of Ethiopia's Aid Management Platform (AMP)	Agriculture	638,965,000	1,046,520
	Energy generation and supply	104,165,000	148,688,000
	Mineral resources / mining	205,000	42,000
	Water supply & sanitation	152,768,000	66,639,000

International Development Association (IDA) is Ethiopia's largest provider of official development assistance. The IDA has committed over \$7 billion to more than 60 projects in Ethiopia since 1991, most notably for the protection of basic services, productive safety nets, and roads. The Bank has worked to promote economic growth and address systemic poverty challenges across many sectors. Main donors are the African Development Fund of which 10% for Water supply and Sanitation and 9% for Agriculture, African Development Bank, Australia, Austria, Arab Bank for Economic Development in Africa (BADEA), Belgium, Canada, Denmark, EU, etc

A Water Resources Development Fund (WRDF) has been established recently within the MoWR to serve as a public financial intermediary dedicated to financing the water supply and sanitation services and irrigation development through the provision of a long-term loan to groups meeting established criteria and based on the principles of cost recovery. The WRDF, which finds funds from donors, is a nucleus for the development of a financially autonomous institution for water resources development through a cost recovery system."

### 1.3.4 Private sector

Ethiopia continues to record robust growth. However, the state-led development model might constrain the private sector in contributing to the growth in the long term. Ethiopia's economic policy is based on a 5-year Growth and Transformation Plan (GTP), which envisages improvements in infrastructure, human development and agricultural productivity through public support. The large public investments (19% of GDP, third highest in the world) are largely financed domestically, including through compulsory financing by commercial banks and direct financing by the central bank.<sup>12</sup>

In line with the country's Growth and Transformation Plan, the Ethiopian Government signed a Governance Framework for a Multi-Donor Initiative for private sector development, on May 15 2014. This move serves to formalize the collaboration among the International Finance Corporation (IFC), the Ethiopian government and donor partners that has been working for nearly two years. The IFC's strategy for Ethiopia includes bolstering direct investment in priority sectors, including small and micro enterprise development and supporting the Government in improving the investment climate.<sup>13</sup>

<sup>11</sup> Aquastat

<sup>12</sup> <https://economics.rabobank.com/publications/2014/june/country-report-ethiopia/>

<sup>13</sup> <http://allafrica.com/stories/201405210053.html>

Both public and private enterprises are active in water infrastructure development, with publicly owned business enterprises being dominant. These enterprises are established at the federal and regional level with the general name of 'Water Works Construction Enterprise'. The enterprise has grown from ETB 60.43 million in 2001 to ETB 2 billion in 2012. Another major actor in the infrastructure sector is the 'Water Works Design and Supervision Enterprise'. Its mandate is to conduct surveys, geo-technical and hydrological studies, water quality assessments, design and technical support and supervision for water constructions.

### **1.3.5 NGOs and knowledge institutes**

Compared with countries elsewhere in Africa, the NGO sector is small, although 310 national and 120 international NGOs. Its operating capacity, while expanding, remains limited, and the geographical focus of NGO activities is noticeably confined to Addis Ababa. The enabling environment in which NGOs operate can be challenging. Too many international NGOs and donor agencies remain only rhetorically committed to serious efforts to build the institutional capacity of national NGOs. There is a sense that the overall operating climate for NGOs is improving. Relations with the central and regional governments are better, if still uneven. The shift in emphasis from relief to long-term development on the part of NGOs has increased their relevance and, significantly, acceptance by the government. The sophistication of sector leaders as they strive to define NGOs' operating space and improve the enabling environment for their members is notable.<sup>14</sup>

The main INGOs in water in Ethiopia are WaterAid, the Millenium Water Alliance and the Ethiopian WASH Alliance (as part of the Dutch WASH Alliance).

### **1.3.6 Pressing needs**

#### *Expertise on sustainable water resources development*

The major challenge in the water sector lies on sustainable water infrastructure development and sustainable management of water resources. Currently there are many small and large-scale infrastructural development activities for increasing water sources for WASH, agriculture and hydropower. The main challenge in this aspect is failure of physical and institutional infrastructure, which is often related to insufficient assessment and knowledge of existing water resources and how to ensure the availability of these water resources on a longer-term. Water resources assessment as well as hydro(geo)logical modeling is needed to ensure more sustainable water infrastructure.

#### *Expertise, technological solutions and capacity building on operation, maintenance and management for sustainable irrigation schemes*

There is often a significant gap between plans for irrigation projects and the actual construction or delivery of these projects. Many schemes currently operate significantly under their design capacity. Sustainability is threatened by unregulated surface and groundwater development, lack of watershed and environmental management, and the need for smallholder farmer buy-in and investment. A series of scale-up constraints include inadequate funding, human capacity and labor constraints, and limited private sector involvement (Source: IWMI (2010) Irrigation Potential in Ethiopia; constraints and opportunities for enhancing the system; IWMI (2007) Water Resources and Irrigation Development in Ethiopia. Working paper 123).

With an increase in irrigated areas and more users, irrigation water management and rules for water allocation are becoming more complex and problematic. Disputes are already common, especially between upstream and downstream users. A decentralization process is under way with regional and lower level administrative organs which are becoming more autonomous in aspects related to

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<sup>14</sup> <http://siteresources.worldbank.org/INTRANETSOCIALDEVELOPMENT/873204-1111663470099/20489508/CSandDevEthiopiaSnapshotView.pdf>

irrigation development and water management. The strategy is to establish Water Users Associations and there is a need to build their capacity on operation and water management. (Source: Aquastat).

#### *Technologies and training on flood protection along the Awash River basin*

A major river basin that has serious flood problems is the Awash River basin located in the Rift Valley. Irrigation development in the river basin is quite advanced and is located in the flood plains on either side of the Awash River. High economic damage occurs during flooding along this river basin. Therefore, flood protection practices and river training are limited to this river basin. This is of importance since it is estimated that in the Awash Valley almost all of the area delineated for irrigation development is subject to flood.

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#### *Climate smart solutions for water for agriculture, industry and domestic water supply*

The pressure between water for agriculture or industrial activities and water for domestic supply is becoming more and more intense. Conflict over water is also increasing due to less predictable rainfall patterns, water pollution or contamination and limited access to water sources. Ethiopia's main river systems, which can form a major source of water within the country, flow across the borders to neighboring countries, thus becoming trans-boundary rivers, which leads to conflicts over water. In rural areas, people live very scattered and communal water systems are therefore often not feasible. Combined this calls for climate smart and decentralized solutions for water supply, both for productive and domestic purposes. Technologies like rainwater harvesting, flood-based farming and ground water recharge have large potential and are already practiced in many parts of the countries.

#### *Capacity building of CSOs on lobby on WASH service provision*

WASH has been relatively low on the political agenda, which has implications for resource allocation to the sector and results in weaker demands for the ruling party to meet its water promises. There is a risk that water 'self supply' is being promoted out of political expediency, to cut costs and boost coverage figures. As stated in the GTP and UAP:

- Lack of recognition of sanitation and hygiene being a subsector of WASH within the Government of Ethiopia's Growth & Transformation Plan. This would call for capacity building on lobby on sanitation and hygiene for CSOs.
- Lack of dedicated government funding to promote sanitation and hygiene. This would call for technical advice and capacity building in financial mechanism on the promotion of sanitation and hygiene.
- Lack of sanitation and hygiene indicators in the Health Management Information System (HMIS). This would call for technical advice and capacity building in sanitation and health indicators and smart ICT tools in WASH.
- Low functionality rate of water schemes and lack of any sustainability checks for water and sanitation schemes. This would call for technical advice and capacity building on operation and maintenance of water and sanitation schemes.
- Lack of coordination among responsible institutions.

#### *Water extraction and purification technologies*

In many parts of the country, access to groundwater is limited due to geology and water quality, mainly saline and fluoride. Fluoride is therefore a recognized major problem, especially for the communities living within the Rift. Increased salinity in many groundwater aquifers in the south, southeast and north-eastern parts of the country arises from the dissolution of minerals. However, people use this water from springs, dug wells and tube wells, which leads to health problems. Smart low-tech solutions for both water abstraction and purification are needed.

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<sup>15</sup> [http://www.apfm.info/publications/casestudies/cs\\_ethiopia\\_full.pdf](http://www.apfm.info/publications/casestudies/cs_ethiopia_full.pdf)

### **1.3.7 Dutch cooperation and priorities**

The orientation in the MASP 2013-2017 is based on past experience, the new policy priorities and certain strategic considerations and focuses on building strong commitment of the government of Ethiopia to poverty reduction, inclusive growth and socio-economic development. The MASP is focusing on three sectors: Food security, SRHR and Security & Rule of Law. Water is only included under the sector Food security, which has the following objectives:

- (1) Reduce household vulnerability, improve resilience to shocks and promote community based nutrition in food insecure areas of rural Ethiopia. Through the Productive Safety Net Program (PSNP), an increased self-sufficiency was achieved, as well as improved nutritional status and progress on governance aspects.
- (2) Increase agricultural productivity and market access in surplus producing areas with increased participation of women and youth. The Embassy was instrumental in setting up the Rural Economic Development and Food Security joint donor Sector Working Group with its flagship Agricultural Growth Project (AGP). Good results have been achieved in the Integrated Seed Sector Development project enabling the production of more than 18.000 tons of quality seed through local seed businesses. In addition, the Agricultural Growth Project and the aligned agricultural research and capacity building project CASCAPE are gaining momentum. The embassy, together with DFATD (Canada), has started the SMIS (Small Scale and Micro Irrigation Support) project to support the AGP by building the capacities of public and private organizations needed to develop small scale irrigation and household irrigation.
- (3) Increase the competitiveness and business climate for a number of agribusiness subsectors. Two public private partnerships in the fields of horticulture and oilseeds were established. Results were achieved in the development of a Code of Practice for the Floriculture sector, widespread adoption of integrated pest management and initial exports of linseed to the EU. In addition, the number of agribusiness companies supported by the Embassy, and the recently established Agribusiness Support Facility (ABSF) and Ethiopian Netherlands Business Association (ENLBA) increased substantially.

A relative big number of Dutch companies are active in Ethiopia. The Embassy aims to strengthen the inter-phase between its food security program and trade opportunities, to fully utilize the availability of private sector tools for this aim, to assist in an adequate manner Dutch companies, and to work on the necessary improvement of the business climate as one of the core activities of the Embassy. As around 80% of the Dutch companies in Ethiopia are active in the agricultural sector the Embassy will continue to focus on and provide support to the relatively most important agribusiness subsectors, to know horticulture, dairy, seeds and sesame.

The current Embassy's program is well aligned to the 'top sectors' Agro & Food and Horticulture & Planting Material. Specific initiatives have been developed to create a strong link between the Dutch private sector and Ethiopia, through the establishment of a potato business platform and specific Dutch-Ethiopian public private partnerships in the seed sector. The food security program will continue to contribute to adapting and building resilience to climate change through its support of public works activities, such as reforestation and soil and water conservation (PSNP), and climate smart agriculture, including the production and access to improved (drought resistant) seeds, increased water use efficiency, agricultural productivity, building capacity of women and vulnerable groups, family planning and improved market access for local/small producers.

## 2. Chances and opportunities

This chapter presents the results of the web survey among Dutch water sector players, completed by the main observations derived from previous (existing) market studies and interviews with water professionals and strategic actors within the Dutch water sector (please refer to Appendix 1 providing an overview of the method of research). The first section describes the current situation. The second section describes the most important trends, linking the current situation with future opportunities, which is the topic of the third section. This chapter ends by identifying promising product market combinations (PMCs).

### 2.1 Current situation

#### 2.1.1 Progress on MDGs

MDG 7c:

- Not on track
- Drinking Water: 68,5%
- Sanitation: 53%

Although 100% access to sanitation and water has not yet been achieved, progress on water supply has been particularly encouraging. The share of the population with access to clean water has increased dramatically since 1994/95 and given current trends, Ethiopia seems to be on track to reach the MDG target of halving the population without access to clean water by 2015. Access to safe drinking water increased from 19% in 1990 to 69% in 2009/10. Although the latest data are not available, the 2006 study report indicates that the overall access to basic sanitation is low. It is projected that the expansion of health extension and education program at all levels, particularly for the last five years could have significant increasing both in demand and utilization of sanitation services.

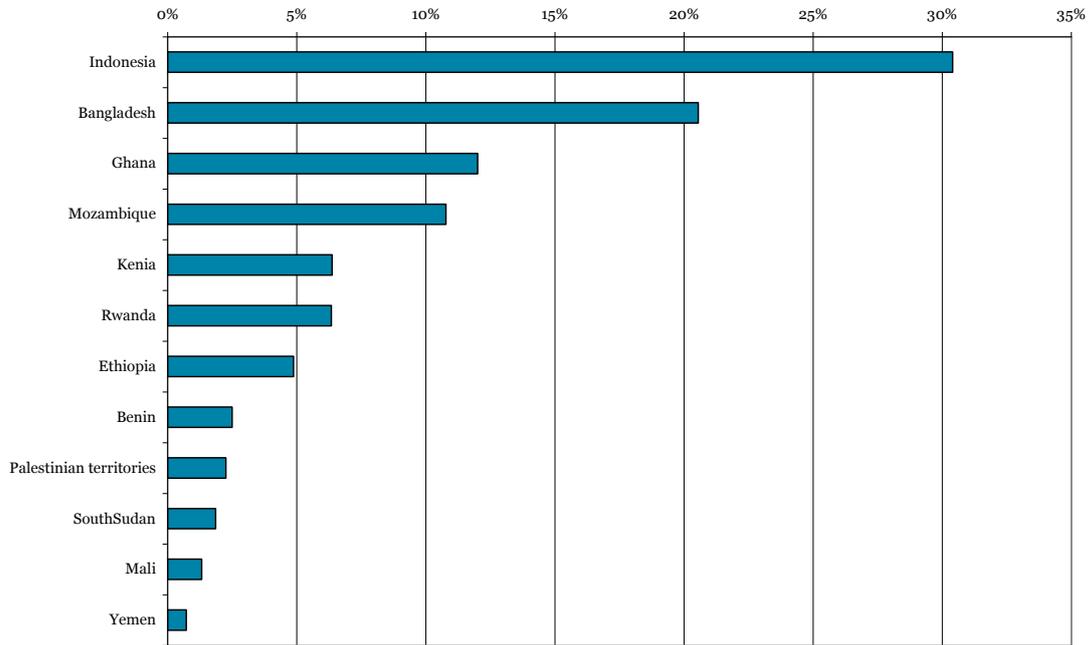
#### 2.1.2 Dutch sector involvement

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.<sup>16</sup> Figure 1 shows the breakdown of these exports over the 12 OS-countries. The share of Ethiopia is about 5% of this total.

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<sup>16</sup> 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.

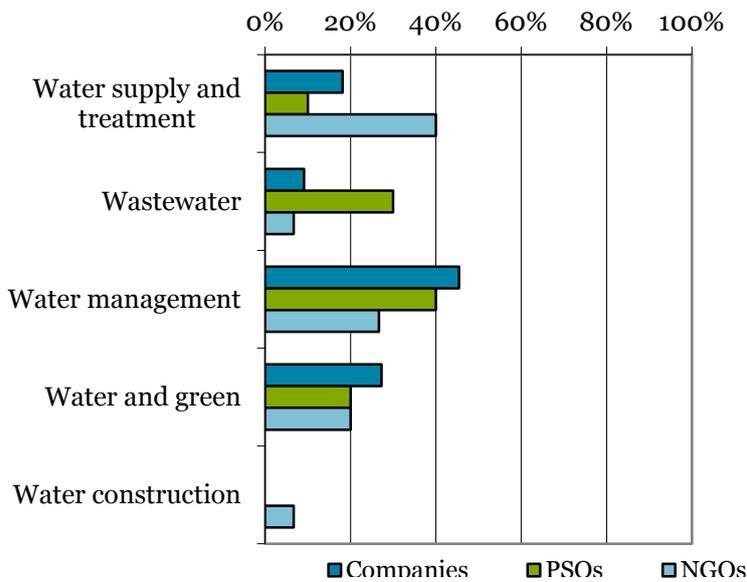
**Figure 1 Breakdown of Dutch exports in the water sector to the 12 OS-countries, in % of turnover (N = 60)**



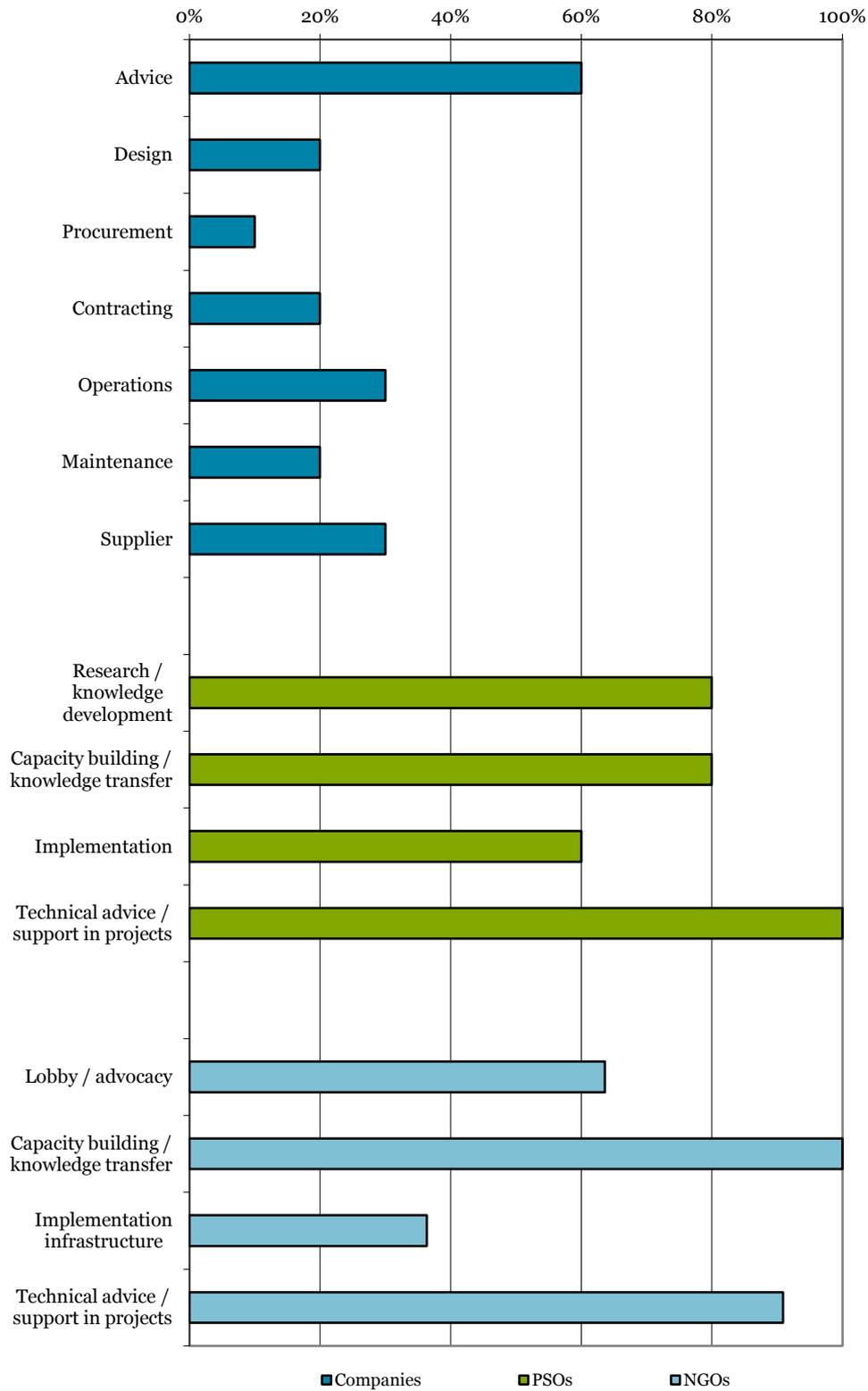
Source: Web survey Panteia, 2014/2015

Current activities and activity areas in various subsectors in Ethiopia, resulting from the web-survey, are given in figure 2 and 3.

**Figure 2 Current activities of Dutch organizations in the various subsectors of Ethiopia, in % of total observations (N=36)**



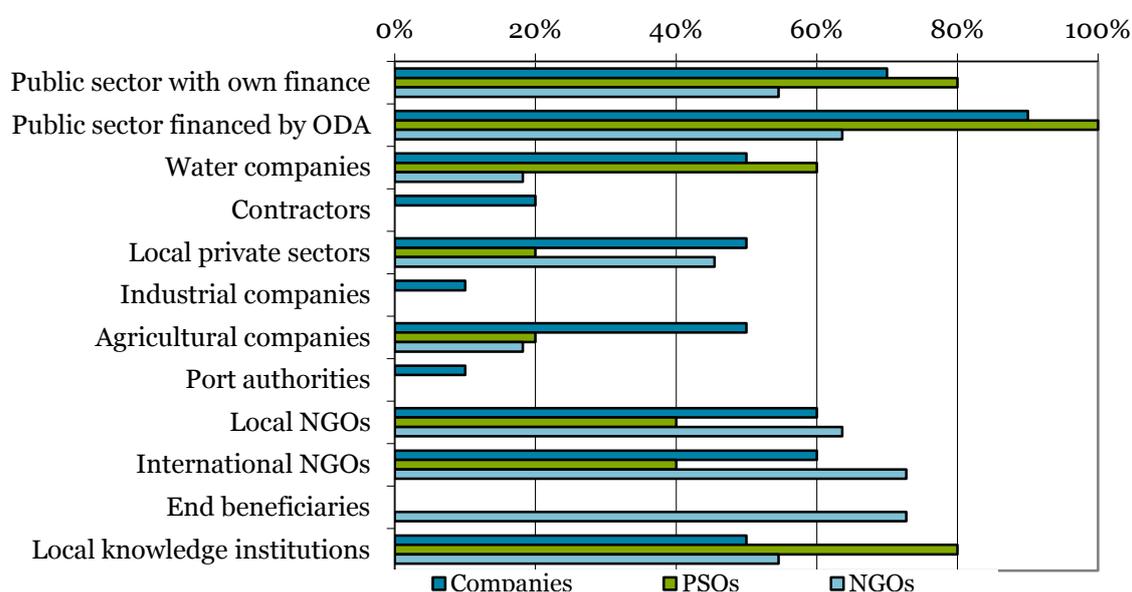
**Figure 3** *Current activity areas of Dutch companies, PSOs and NGOs in Ethiopia, in % of respondents (multiple answers possible) (N=36)*



Source: Web survey Panteia, 2014/2015

## Client groups of Dutch parties in Ethiopia

**Figure 4** Current client groups of Dutch companies, PSOs and NGOs in Ethiopia, in % of respondents (multiple answers possible) (N=36)



Source: Web survey Panteia, 2014/2015

### 2.1.3 Dutch support programs

The projects in the table below are resulting from the “Resultaat Fiche” of the EKN in Ethiopia. These projects are focusing on mainly food security, resulting from the focus areas of the embassy. The projects are mainly managed by non-Dutch organizations.

Name organization	Name project	Channel
UNICEF	Community based nutrition	Multilateral
World Bank	Agricultural Growth Plan	Multilateral
AACCSA	Agribusiness Support Facility	PPP or network
Various – not mentioned	Consultancy fund food security	Research institute or company
HoA-REC	Gambella and Rift Valley Landscapes	Research institute or company
ATA	Agricultural Transformation Agency	Government
ICCO	Food security and Rural Entrepreneurship Fund	NGO

Source: “Resultaat Fiche” Ethiopia, EKN

The Dutch Embassy, together with the Government of Canada supports the Agricultural Growth Plan of the Government of Ethiopia through the SMIS (small scale and micro irrigation support project). This project is developed to support the Ministry of Agriculture and regional partners in their efforts to achieve equitable and sustainable development of small scale irrigation and micro irrigation schemes, in an integrated manner that enhances irrigated agricultural productivity and food security for stallholder farmers.

The projects from FDW1 supported by RVO are focusing on WASH, water for irrigation and cattle rearing.

Name organisation	Name project	Channel
Population Service International	Marketing Low Cost household water treatment options in Ethiopia	Improved access to clean drinking water and sanitation
Vitens Evides International	Sustainable Water Services in Harar, Ethiopia	Improved access to clean drinking water and sanitation
Vitens Evides International	Source to tap and brack	Improved access to clean drinking water and sanitation
MetaMeta research	Beneficial Use of Floods	Efficient water use

Source: FDWI projects, RVO

Below an overview is given of the projects funded through DDE for the period 2008 – 2018. The total amount is over 43 million euro through which 100 projects have been funded. The projects below are mainly focusing on agriculture and are not directly related to water.

Program	Nr of projects	Total budget	Period	Main sector
PSI	19	12.292.021,00	01-01-2010 / 28-02-2017	Agri&Food
FDOV	4	8.784.918,00	21-05-2013 / 31-05-2018	Agri&Food,
FDW	2	751.050,00	01-04-2013 / 31-03-2018	Water
PSD Apps	2	89.075,00	21-05-2014 / 30-11-2014	Agri&Food,
DHK	2	211.108,00	01-10-2013 / 30-11-2014	Agri&Food,
ORIO	2	798.609,00	18-12-2012 / 01-05-2015	Social Services/Transport
FOM	2	3.870.379,00	01-06-2008 / 01-01-2040	Agri & food
PUM	50	250.000,00	01-01-2014 / 31-12-2014	Agro
Edukans	2	437.065,00	01-07-2013 / ?	Agro
Agri Pro Focus	Not available	330.765,00	01-01-2014 / 31-12-2017	Agro
CBI	9	1.820.425,00	01-01-2008 / 01-11-2017	Agro & Food/MI
NUFFIC	5	9.362.109,00	01-09-2010 / 01-08-2016	Agro & Environment
BoPInc	1	4.666.666,00	01-01-2011 / 31-03-2017	Food
<b>Total</b>	<b>100</b>	<b>€ 43.664.190,00</b>		

Source: Projects DDE

## 2.2 Trends

### 2.2.1 Pressing needs

A pressing need can be seen as a local need or demand related to water in the specific country. Below the most pressing needs resulting from desk-research and consultations with experts are summarized, which are described in more detail in paragraph 1.3.6.. This list not exhaustive and there is now priority given in the sequence of these pressing needs.

- Expertise on sustainable water resources development
- Expertise, technological solutions and capacity building on operation, maintenance and management for sustainable irrigation schemes
- Technologies for and training on flood protection along the Awash River basin
- Climate smart solutions for water for agriculture, industry and domestic water supply
- Capacity building of CSOs on lobby for WASH service provision
- Water extraction and purification technologies

### 2.2.2 Government plans and agenda

The Plan for Accelerated & Sustainable Development to End Poverty (PASDEP) from 2005-2010, as well as the Growth and Transformation Plan (GTP) of 2010, represented strategic frameworks with the aim to make Ethiopia a middle-income economy by 2025. All initiatives need to be viewed within the context of these overarching frameworks.

- Ethiopia's overriding development objective is to achieve inclusive, accelerated and sustained economic growth to eradicate poverty. A new five year development plan, the GTP, was launched in late 2010. It is the vehicle for poverty reduction and laying the foundation for structural transformation. The GTP sees rapid growth as key to achieving the ambitious targets in employment and poverty eradication. Investment in growth-oriented sectors will be expanded. GTP accords priority to the industrial sector, especially small & medium enterprises (SMEs) in order to create employment opportunities for a growing population, especially in the urban areas.<sup>17</sup>
- Water has been relatively low on the political agenda of ruling elites and opposition parties, which has implications for resource allocation to the sector and results in weaker demands for the ruling party to meet its water promises. Further, there is a risk that water 'self supply' is being promoted out of political expediency. This leads to a demand for low-cost and low-tech water supply, water treatment and irrigation technologies.
- The Government of Ethiopia has set high targets on agriculture in the agricultural growth program. Agricultural production is to double, to ensure food security in Ethiopia.<sup>18</sup> Other targets are focusing on increased contribution from the industrial sector, particularly focused on increased production in sugar, textiles, leather products and cement. The horticulture export development sector is given priority in the Growth and Transformation Plan (GTP). The Agricultural Growth Program (AGP) is implemented by the Ministry of Agriculture and supported by the World Bank and other donors, and covers a selected number of high potential woredas in four regions of the country. The objective is to increase agricultural productivity and market access for key crop and livestock products in targeted woredas with increased participation of women and youth. The AGP focuses on selected clusters of woredas – that have considerable potential for agricultural growth. The Agricultural Growth Project (multi donor fund) became operational at the end of 2010 with a first annual plan approved mid 2011. Based on the first round of bottom up plans there has been a larger than expected demand for small scale irrigation. work on operationalizing

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<sup>17</sup> African Development Bank

<sup>18</sup> www.ATA.gov.et

the strategy for irrigation development – taking all the above into account as well as ongoing work on the Agricultural Transformation Agency and the existing policies and plans.

- The hydropower potential of Ethiopia is large, due to its tremendous water potential and major river systems.<sup>19</sup>
- The prevailing National Economic Development Policy of Ethiopia is Agricultural Development-Led-Industrialization which aims at revitalizing the mineral sector to generate foreign currency and to supply import substituting minerals as raw materials to the local industries. This mineral development scheme and its future growth takes into account the attraction of high risk capital from foreign companies with technical and management capability to find new deposits and to bring those to development/exploitation.<sup>20</sup>

### **2.2.3 Agenda of donors and funders**

- The investments in agriculture remain highest amongst all sectors and the MASP of the Dutch Embassy is specifically focusing on agriculture and private sector enhancement. Specific initiatives have been developed to create a strong link between the Dutch private sector and Ethiopia, through the establishment of a potato business platform and other subsector platforms, notably Poultry, Aquaculture and Spices, Herbs & Aromatics as well as specific Dutch-Ethiopian public private partnerships in the seed sector.
- The food security program of the Dutch Embassy will continue to contribute to adapting and building resilience to climate change through its support of public works activities, such as reforestation and soil and water conservation (PSNP), and climate smart agriculture, including the production and access to improved (drought resistant) seeds, increased water use efficiency, agricultural productivity, building capacity of women and vulnerable groups, family planning and improved market access for local/small producers.
- The World Bank supports the Government of Ethiopia through the Country Partnership Strategy (CPS) which builds on the progress achieved by Ethiopia in its Growth and Transformation Plan (GTP). The CPS framework includes two pillars with governance as its foundation and two cross-cutting themes. The first pillar, “Fostering competitiveness and employment,” aims to support Ethiopia in achieving a stable macroeconomic environment; increasing agricultural productivity and marketing in selected areas; increasing competitiveness in manufacturing and services, and Medium and Small Enterprises’ access to financial services; improving access to and quality of infrastructure including electricity, roads, and water and sanitation; and improving regional integration, by enhancing involvement in regional agriculture technology generation and dissemination. The second pillar aims to support Ethiopia in improving the delivery of social services and developing a comprehensive approach to social protection and risk management. This includes increasing access to quality health and education services; enhancing the resilience of vulnerable households to food insecurity; increasing adoption of Disaster Risk Management (DRM) systems; and strengthening sustainable natural resource management and resilience to climate change. Climate change mitigation and adaptation is also considered by the Bank as an important part of the development process. Therefore, a focus on climate change issues will be mainstreamed into ongoing and future operations to make them more “climate-smart.”
- EU+ partners are committed to supporting the rehabilitation, preservation and proper use of natural resources and ecological integrity. This includes climate-smart actions like the expansion of renewable energy, focusing on hydro, wind, geothermal and solar energy,

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<sup>19</sup> <http://www.mowr.gov.et/index.php?pagenum=4.3&pageht=100opx>

<sup>20</sup> <http://www.mom.gov.et/aboutEthiopia.aspx>

watershed management, livestock management, land use planning, including protected areas, and the preservation of forests through, for instance, participatory forest management. EU+ partners will also support balanced urban development and the Climate Resilient Green Economy strategy. EU+ partners will also ensure climate proofing of their development activities and support climate change resilient agricultural development

- The Development Assistance Group (DAG) was established in 2001 to coordinate donor activities, enhance harmonization of donor practices, facilitate coordinated donor dialogue, ensure information sharing, broaden engagement with regional state authorities and non-state actors and to support the implementation of national development programs. The DAG currently has 24 members, 13 of which represent EU member states or the EC.<sup>18</sup> Thematic Working Groups (TWGs) and Sector Working Groups (SWGs) have been established to support thematic and sector-level activities, some of which are also co-chaired by the Government. Over the last few years the 'aid landscape' has gradually changed, with non-traditional bilateral donors such as China, India and the Gulf States increasingly engaged in Ethiopia. As a result, the overall share of EU financial flows to the country has gradually diminished, while EU aid flows remain relatively stable.

#### **2.2.4 Macro developments in agriculture, industry, etc**

- Water-centered development' is explicitly seen as the entry point for growth and improved livelihoods in Ethiopia. Increasingly water resource development is integrated with economic development and land use planning. In the last five years the large potential role and contribution of groundwater in water-centered development is recognized. In a number of areas with shallow groundwater farmer-driven groundwater development are taking off. Along with the increasing groundwater development there is growing awareness that management is needed to ensure the sustainability of investments in groundwater development, to optimize the opportunities for groundwater recharge and reuse and to regulate the long term equitable use of the resource.
- Until recently, agriculture (mainly smallholder farming and livestock production) was the dominant sector in the economy. While the services sector has recently outstripped agriculture in terms of its share of GDP (currently estimated at 46%) agriculture remains critical for broad-based growth. The agriculture sector accounts for 42% of GDP, 80% of employment and 85% of Ethiopia's export earnings. Given the mainly smallholder dominated structure, pushing the production frontier without technological innovation and the development of rural infrastructure will not be feasible. The Government of Ethiopia, therefore, sees the diffusion of modern agricultural technologies and best practices as central to economic transformation. The increase in exports, remittances and Foreign Direct Investment (FDI) has provided impetus to growth. Ethiopia's relatively low integration in global financial markets somewhat insulated the economy from the worst effects of the global economic and financial drivers
- The pace of procurement reform has been slow and capacity is lacking. As part of the efforts to improve public sector management, the Government of Ethiopia has recently stepped up action to improve public procurement. To this end, the Government of Ethiopia has issued Directives, prepared a manual and Standard Bidding Documents following the Federal Parliament's enactment of a new Public Procurement and Property Administration Proclamation in 2009. While most of the Regions have prepared their own laws modeled after the Federal prototype, other documents including directives and standard bidding documents are not yet revised in the Regions. Building capacity, especially at the sub-national level, is critical. The ongoing Country Procurement Assessment Report, jointly conducted by the Government and DPs, will pinpoint areas that require further attention.
- Shifting from Small to Medium & Large scale irrigation. This trend mainly focuses progress of irrigation practices is slow compared to the potential of the country. Farming is still

largely rainfall dependent. Recently there is new strategy designed on agricultural development and transformation. The strategy is aimed at promoting public and private investments on medium and large scale mechanized irrigation agriculture. Also potential irrigation areas and availability of water were identified. This strategy and potential offers many opportunities for investors.

## 2.3 Opportunities

### 2.3.1 Past and current opportunities

In Table 1 examples of projects with Dutch involvement are presented including financial characteristics, resulting from the web survey. In appendix IV a more extensive list of projects per type of organization is given.

**Table 1 Characteristics of projects mentioned by Dutch parties, active in Ethiopia**

Projects mentioned by companies and institutions	Dutch finance or mix?	Financial sources
MUSTRAIN	Mix of Dutch and foreign finance	Partners for Water
PPP Harar	Full Dutch finance	FDW, Heineken
Productive Employment from Feeder Roads	Full Dutch finance	NWO
S2TAB	Full Dutch finance	Own funding
Source to tap and back	Mix of Dutch and foreign finance	RVO
Harar, Bedele breweries	Full Dutch finance	Heineken
Source to Tap and Back	Full Dutch finance	RVO
UE water facility fund	No Dutch finance	EU
Deep groundwater mapping	No Dutch finance	Unesco
Ethiopian Climate Innovation Centre	No Dutch finance	InfoDEV, World Bank
Projects mentioned by NGOs	Dutch finance or mix?	Financial sources
Ethiopia WASH Alliance	Full Dutch finance	MFS2
OneWASH plus	No Dutch finance	UNICEF, DFID
Opening up New Markets through New Methods: Investing in Low-Cost Water-Supply	Full Dutch finance	Partners for Water / Woorden Daad
self supply	Mix of Dutch and foreign finance	MWA, USAID, DGIS
Rainwater harvesting	Full Dutch finance	Rotary
WASH M&E	No Dutch finance	DFID
Rossa	Full Dutch finance	NWB fund & DGIS
Partners voor Water	Full Dutch finance	Partners for Water
Self supply	Mix of Dutch and foreign finance	USAID, DGIS

Source: Web survey Panteia, 2014/2015

### 2.3.2 Future opportunities

Main opportunities in governmental and larger donor organizations / IFIs are as follows:

- Ethiopia has already planned in the PASDEP to increase its total area of irrigated land to about 1.8 Mha. Small-scale irrigation and rainwater harvesting will account for about two-thirds of this expansion, as they require lower capital and technical investments.
- The Nile Basin Initiative has been created and a Strategic Action Program is prepared which consists of two sub-programs: the Shared Vision Program (SVP) and the Subsidiary Action Program (SAP). Projects are selected by individual riparian countries for implementation and submitted to the Council of Ministers of the Nile Basin Initiative for approval. The council has already accepted four hydropower and four irrigation development projects proposed by Ethiopia.
- The Ministry of Water Resources has defined the so-called UAP for WASH. In this program targets for achieving universal access to WASH have been defined.
- In line with the country's Growth and Transformation Plan, the Ethiopian Government signed a Governance Framework for a Multi-Donor Initiative for private sector development, on May 15 2014. This move serves to formalize the collaboration among the International Finance Corporation (IFC), the Ethiopian government and donor partners that has been working for nearly two years. The IFC's strategy for Ethiopia includes bolstering direct investment in priority sectors, including small and micro enterprise development and supporting the Government in improving the investment climate.
- The Central Rift Valley has been selected by the IDH program on sustainable water and land management. Such Dutch funded program is potential an excellent way to show case Dutch expertise.
- A Water Resources Development Fund (WRDF) has been established recently within the MoWR to serve as a public financial intermediary dedicated to financing the water supply and sanitation services and irrigation development through the provision of a long-term loan to groups meeting established criteria and based on the principles of cost recovery.
- Main INGOs: UNICEF, SNV, World Bank, DfID and JICA. The Millennium Water Alliance is one of the main actors in the WASH sector. The major donors that support the alliance are USAID, Coca Cola and CNHF. They have contributed a total of over US\$ 35 million to MWA's Ethiopia program over the past decade.
- Main international donors: World Bank, AfDB, UNICEF, IGAD, ICRAF, African Development Fund, African Development Bank, Australia, Austria, Arab Bank for Economic Development in Africa (BADEA), Belgium, Canada, Denmark, EU, etc

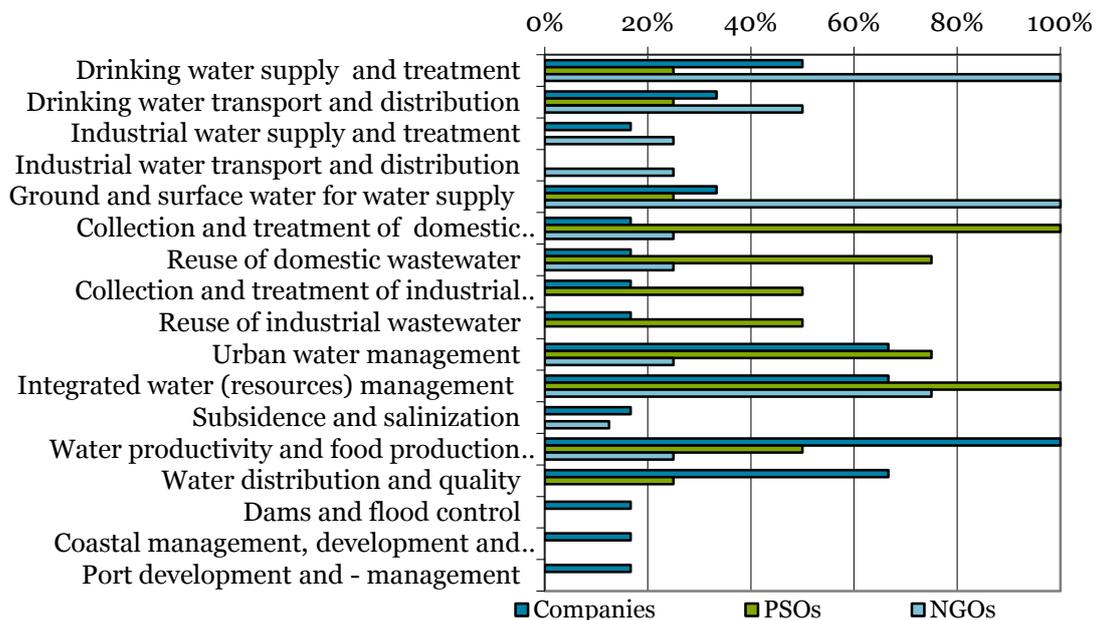
These programs focus mainly on integrated water resources management, irrigation and WASH service delivery. In the table below, some running program of the main international donors in Ethiopia are given, which are also focusing mainly on water resources management and WASH.

Organization	Name of program	Period	Budget
UNICEF, World BANK, USAID, DIFID and AFDB	WASH (OneWASH program)	2015 – not available	Not available
Government of Norway	Sustainable Land Management Program (SLMPPII)	2013 – not available	50 million USD
World Bank	Irrigation and Drainage project. The project consists of three technical components covering: (i) Irrigation Development; (ii) Agricultural and Market Development; and (iii) Irrigation	June 2007 – October 2017	100 million USD

	Management. The fourth component is Project Management. The objective of the Irrigation Development component is to develop about 20,000 hectares of ground and surface water infrastructure and ascertain future irrigation potential in 80,000 hectares.		
	ET Productive Safety Nets Project 4 (PSNP 4). The Fourth Productive Safety Nets Project (PSNP) has an objective to increase access to safety net and disaster risk management systems, complementary livelihoods services and nutrition support for food insecure households in rural Ethiopia. Three components will contribute to the achievement of the overall PSNP development objective.	September 2014 – December 2020	600 million USD
	Sustainable Land Management Project I and II	Not available	Not available

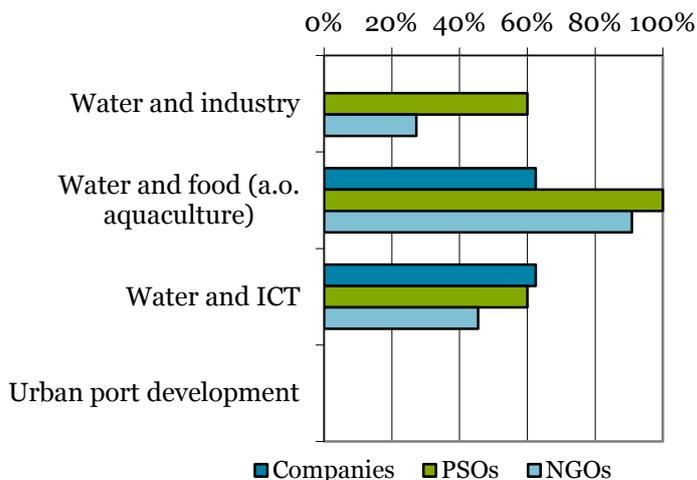
In general, resulting from the web survey as given in figure 5, Dutch organizations are mostly interested in integrated water resources management in Ethiopia. The other sub-sectors show a larger differentiation between NGOs, PSOs and companies. In the cross-overs (figure 6) we see that the main interest lies in Water & Food for all Dutch sector organizations.

**Figure 5 Promising areas in Ethiopia according to companies and NGOs active in Ethiopia, in % of respondents (multiple answers possible) (N=36)**



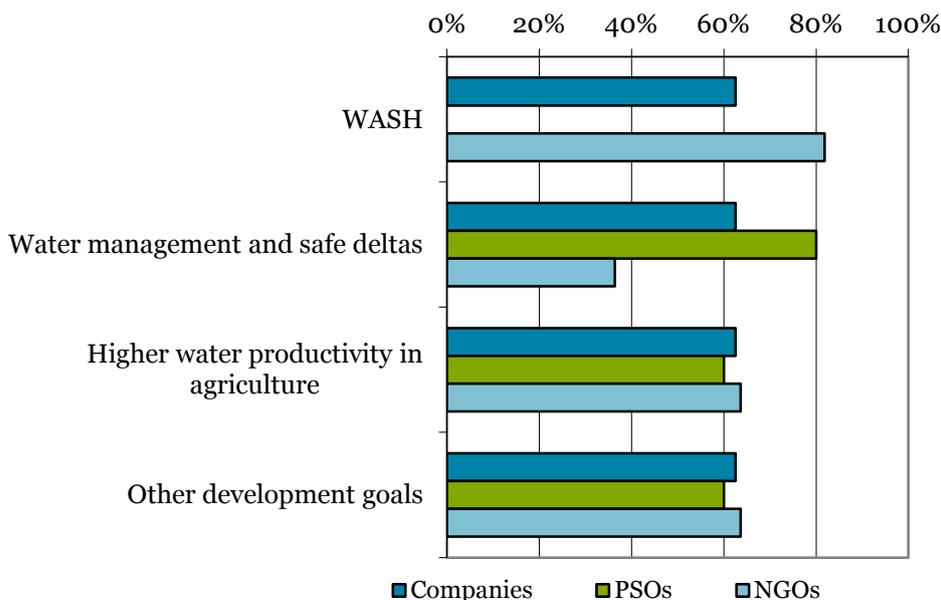
Source: Web survey Panteia, 2014/2015

**Figure 6 Promising cross-overs in Ethiopia according to companies and NGOs active in this country, in % respondents (multiple answers possible) (N=36)**



Source: Web survey Panteia, 2014/2015

**Figure 7 Development opportunities in Ethiopia according to companies, PSOs and NGOs active in this country, in % respondents**



Source: Web survey Panteia, 2014/2015

**Other contributions to development goals, resulting from the web survey:**

- Sustainable development, amongst others sustainable energy production, integral landscape planning, ecosystem services, water resources management through water retention and recharge;
- Enabling water governance structures through good governance practices, institutional development and decentralization, including horizontal en vertical policy alignment;
- Supporting local entrepreneurship and building supply chains;
- Integrating the principles of sustainable development into country policies and programs and reverse the loss of environmental resources;
- Climate change adaptation and disaster risk reduction;

- Sexual Reproductive Health and Rights;
- Promoting ICT solutions in water for awareness raising, data management, monitoring etc.

**Opportunities**, resulting from the web survey:

- Large scale physical baseline mapping, including (ground)water mapping, GIS trainings;
- Good governance and integrity in water resources management practices, including financial arrangements;
- WASH service delivery through self supply solutions , which is promoted by the Ethiopian government;
- Efficient irrigation technologies and practices in the horticulture sector, including recycling drain water;
- Effective management and use of water resources through the integration and implementation of water buffering retention through groundwater development, soil and water conservation measures;
- Crop yield prediction systems;
- Water and food programs, support through FDOV, G4AW and DGGF.
- ICT solutions for social change, awareness raising, open data etc.

## 2.4 Product-Market Combinations

Below a list of potential Product Market Combinations for the Dutch water sector in Ethiopia are given. These are directly linked to the pressing needs as defined in paragraph 1.3.6. and the opportunities resulting from chapter 2.

### Demand

*Integrating agricultural activities and water management to ensure sustainable development*

Improving agricultural production is a strong focus area of the Ethiopian government. The irrigation sector in Ethiopia has to significantly expand to reach the full irrigable potential of over 5 Mha. Medium- and large-scale schemes will be an important strategy to achieve this aspiration, in combination with exploring and developing groundwater potential, especially given that an estimated 85 percent of Ethiopia's total surface water irrigation potential is estimated to be in large-scale schemes. Moreover, large-scale schemes will play a critical role in helping Ethiopia overcome the correlation between rainfall and agricultural growth – a goal no country has achieved without large-scale irrigation interventions. Irrigation and improved agricultural water management practice is important in Ethiopia to increase productivity. Understanding of the water resources (both surface/ground and quantity/quality) is still relatively poor.

### Product

- Sub-sectors / themes: Water&Food, IWRM, water productivity, irrigation
- Services / Products: There are five regions defined outside of the Central Rift Valley for agricultural development and at least 10 Dutch private sector (mainly producers: flowers, food etc) are already interested. These are mainly medium enterprises. Next to this, Dutch water boards, NGOs and knowledge institutes are working actively in six larger catchment areas on water management and governance. There is no link yet between the agricultural sector and these water plans, which could provide good opportunities to boost sustainable water resources management and use in the agricultural sector. Added value of the Dutch water sector could be, amongst others, in the pre-assessment of the agricultural investment areas and the water resource availability through mapping exercises and advice on sustainable management and use of these water resources. The Dutch sector can play a role in mapping the biophysical, socio-economic and social environment, which is the basis for sustainable agricultural development. Next to this, there is a need for capacity building on sustainable water management in the

agricultural and horticulture sector, including technologies for (waste) water treatment like making use of helophyte filters.

#### Market

Horticulture and agricultural companies, national / district and local government, local entrepreneurs in water supply and irrigation technologies. Fruit, vegetable and cut flowers are fast-growing export businesses, with great potential for private investment.

#### Demand

##### *Capacity building in water governance*

Water governance is a sensitive, but relevant issue. Water management and capacity building at district and local level is required. Currently there are already several programs focusing on water governance, to know: the “Horn of Africa Climate Change Programme“, executed by HoA-REC and funded by DGIS, the “regreening Programme“, executed by ICRAF/World Vision and funded by DGIS (under development) and the activities of the Dutch water boards. There is a need for more coordinated efforts, combining these initiatives and including linkages with other sectors, like agriculture and energy.

#### Product

- Sub-sectors / themes:
- Services / Products: technical advice on water governance and management, development of IWRM plans

#### Market

National, district and local government staff as well as NGOs active in this field.

#### Demand

##### *Technologies for and training on flood protection*

A major river basin that has serious flood problems is the Awash River basin located in the Rift Valley. Irrigation development in the river basin is quite advanced and is located in the flood plains on either side of the Awash River. High economic damage occurs during flooding along this river basin. Therefore, flood protection practices and river training are limited to this river basin. This is of importance since it is estimated that in the Awash Valley almost all of the area delineated for irrigation development is subject to flood.

#### Product

- Sub-sectors / themes: flood protection, water management, Water&ICT
- Services / Products: technical advice, like GIS mapping and hydrological modeling, linked to land use planning and water management. This can involve assessment of areas and providing advice on land use planning as well as providing services covering the full chain of activities to come from a land use map to the implementation (including financing) of such a plan.

#### Market

This could involve trainings of district government staff as well as private companies interested to invest in these irrigation areas.

#### Demand

##### *Climate smart solutions for water for agriculture, industry and domestic water supply*

The pressure between water for agriculture or industrial activities and water for domestic supply is becoming more and more intense. Ethiopia’s main river systems, which can form a major source of water within the country, flow across the borders to neighboring countries, thus becoming trans-boundary, which leads to conflicts over water. In rural areas, people live very scattered and communal water systems are therefore often not feasible. Conflict over water is also increasing due to less predictable rainfall patterns, water pollution or contamination and limited access to water sources. Combined this calls for climate smart (and decentralized solutions) for water supply, both

for productive and domestic purposes. Technologies like rainwater harvesting, flood-based farming and ground water recharge have large potential and are already practiced in many parts of the countries. Urban areas demand for other solutions than rural areas, and therefore climate-smart plans should be developed for each context.

#### **Product**

- Sub-sectors / themes: Water&Food, water productivity, irrigation, water supply
- Services / Products: Technical advice on integration of climate change adaptation measures into water management plans in both urban and rural areas

#### **Market**

National, district and local government staff, NGOs, private sector players depending on availability of water resources.

#### **Demand**

##### *Upscaling of WASH service delivery*

In Ethiopia there is a strong Dutch NGO presence in the field of WASH and most activities are scattered. Since the start of the Dutch WASH alliance program, NGO activities have been more aligned although there are limited linkages with other Dutch WASH initiatives. Next to this, most activities are still small-scale and it is unclear whether that presence or track record has potential for upscaling. For example, there are currently two Water Operating Partnerships with VEI. This model can possibly be upscaled to other large- and medium sized towns.

#### **Product**

- Sub-sectors / themes: WASH
- Services / Products: Technical advice on WASH service delivery for urban and rural areas.

#### **Market**

Municipalities, larger donors (like USAID, Oxfam, WorldVision etc), government staff

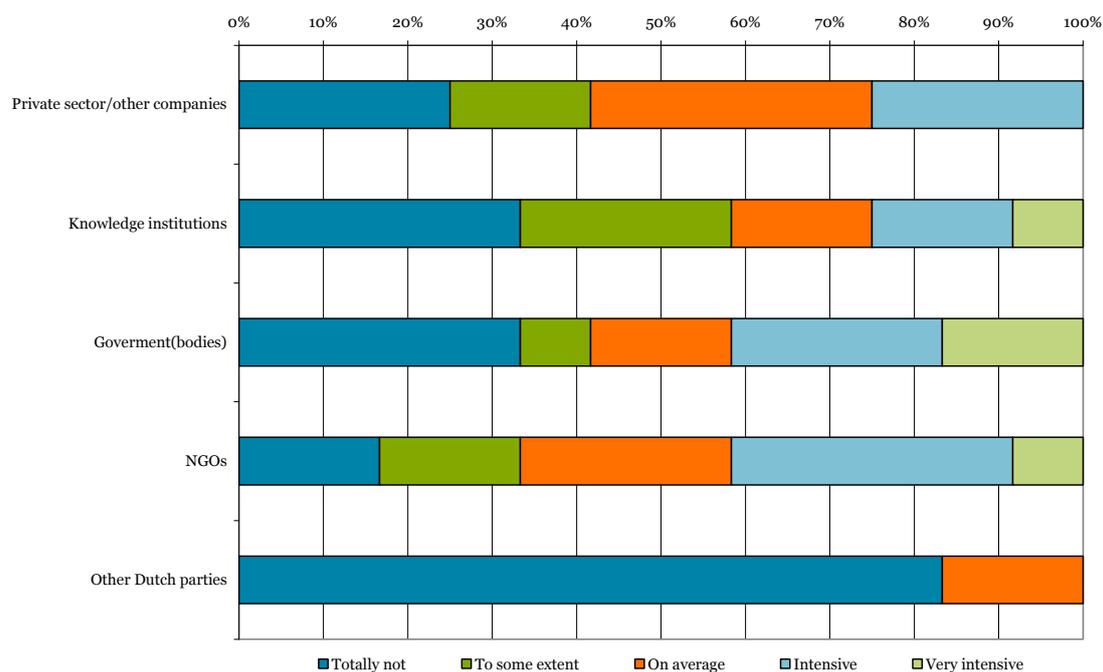
### 3. Market entry strategies

To convert market opportunities into business requires a plan: a market strategy. 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 4 describes lessons learnt, while section 5 describes the major bottlenecks and drivers. The chapter ends by suggesting specific positioning strategies per potential product market combination (PMCs).

#### 3.1 Entering or re-entering the country

Figure 8 provides an indication of the status and intensity of the cooperation of Dutch organizations with various other parties in Ethiopia, such as private sector/other companies, knowledge institutions and government (bodies). Cooperation with government (bodies) and NGOs appears to be the most intense: 42% of the companies state that cooperation with these parties is (very) intense.

**Figure 8** *Intensity of cooperation of Dutch organizations with various parties in projects and programs in Ethiopia, in % of respondents (N=12)*

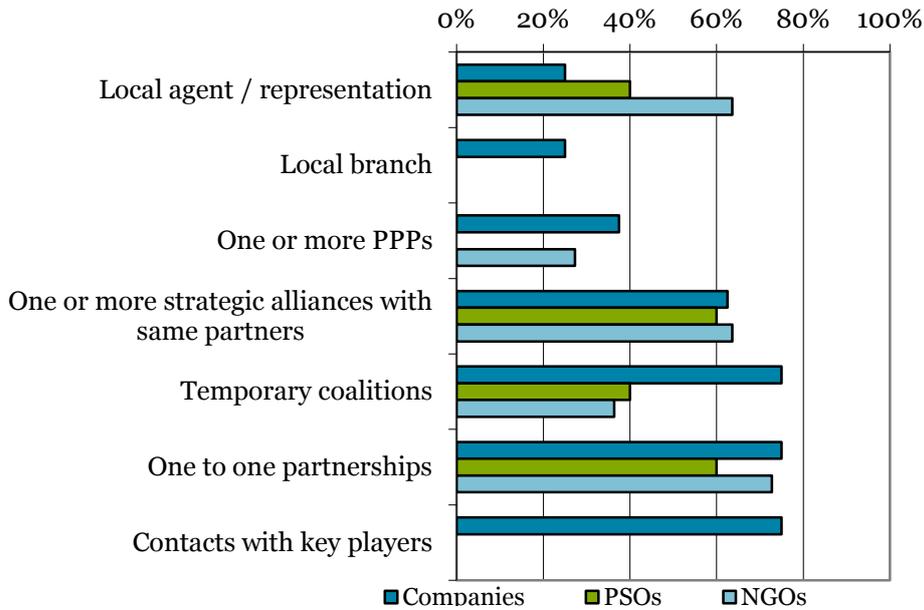


Source: Web survey Panteia, 2014/2015

### 3.2 Cooperation and business development alternatives

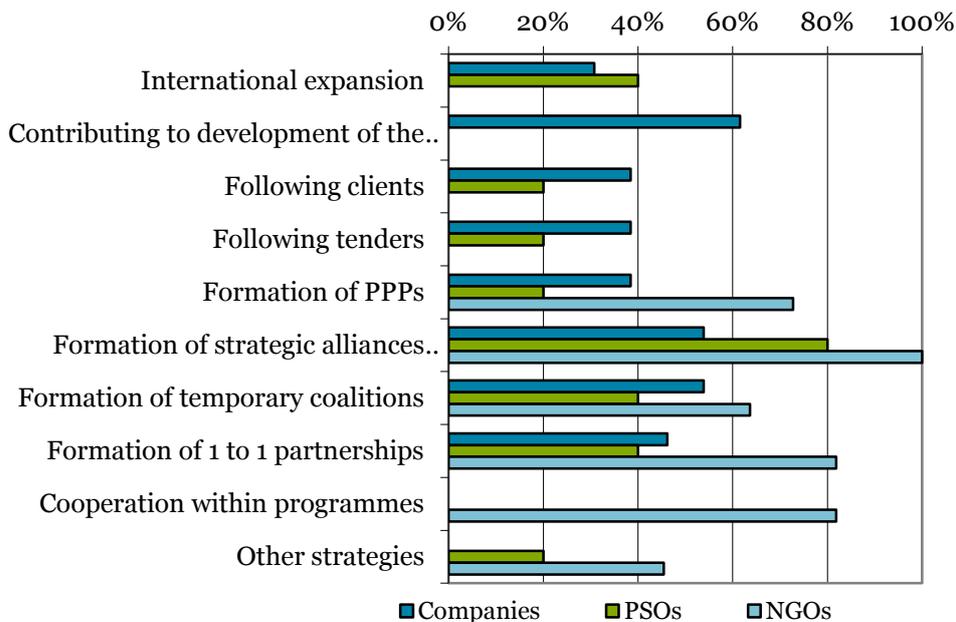
In figure 9 and 10 current strategies and representation of Dutch organizations in Ethiopia are given, resulting from the web-survey.

**Figure 9** Current representation characteristics of Dutch organizations in Ethiopia, in % of respondents (multiple answers possible) (N=24)



Source: Web survey Panteia, 2014/2015

**Figure 10** Current strategies Dutch organizations in Ethiopia, in % of respondents (more answers possible, N=29)



Source: Web survey Panteia, 2014/2015

### 3.3 Successes and lessons learned

Direct relations with key decision makers and providing evidence through existing projects as well as national or international seminars and workshops promote success and its dissemination. For example, ITC-University of Twente has been supporting universities and government in collecting geographical data, like information on land-use, water resources etc. They work on strengthening local capacity on using and analyzing geo-data. Due to this project, the Ethiopian ambassador has shown interest to continue the collaboration with ITC to boost the agricultural sector in Ethiopia, which relies on better data (management). ITC is working in a G4AW program in Ethiopia. This is also mentioned by VEI that indicates that visibility in the country through existing projects is crucial. The Dutch water boards are successful through their direct relations between people working at the government in these countries through programs through GTG (Government to Government) programs.

Addressing the full range of stakeholders and activities can ensure a more secured market. For example WASTE is working according to the Diamond approach, which involves engaging and setting up local companies and attracting local finance. Through this, they are creating a market in developing countries for the poorest of the poor, by assessing what is already in place (private sector companies. activities) and strengthening their activities through trainings and creating linkages with crucial partners. Next to this, WASTE mobilizes local banks that can financially support these strengthening private sector players.

**Table 2 Successful and unsuccessful projects in Ethiopia according to NGOs**

Successful projects	Unsuccessful projects
Education program	Basic Water needs filter production plant
Farmer organization program	ROSSA wastewater management
MUSRAIN	
ROSSA-knowledge transfer	
TVET and higher education	

Source: Web survey Panteia, 2014/2015

### 3.4 Drivers and bottlenecks

*Bottlenecks:*

- All trade unions and civil society organizations (CSO) are closely controlled by the government.
- Stability varies from region to region. Whereas in the north (where Amharic- and Tigrinya-speaking people live) formally democratic institutions mainly function properly, regions with security issues (such as in Ogaden, Gambela and Afar) are less stable.
- The sometimes conflicting agendas of maintaining a strong government influence in the private sector while attracting foreign investment will probably persist.
- Fresh water resources are under high pressure in Ethiopia. Rainfall is varying highly throughout the country and dry spells are increasing, while ground water is not easily accessible or polluted with fluorine, arsenic or holds high concentrations of dissolved salts.

Pressure between water for agriculture and water for domestic supply in the Rift Valley is becoming more intense.

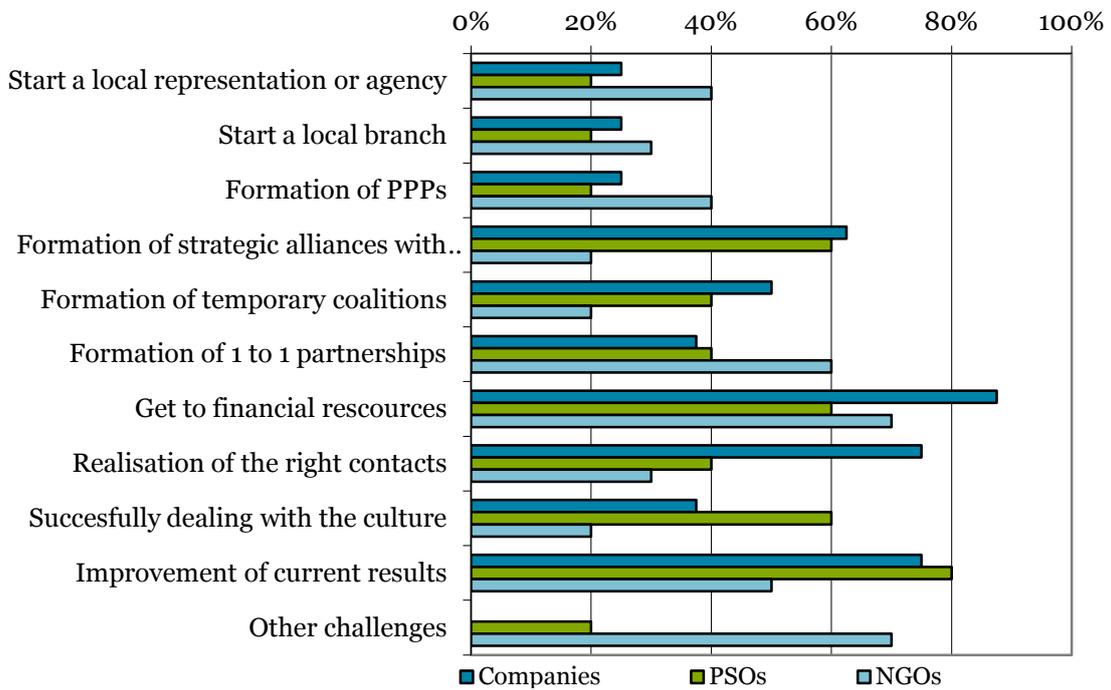
- Persistent centralization of political and fiscal power, and differential capacity of the regions to demand more autonomy from the centre
- Ethiopia continues to record robust growth. However, the state-led development model might constrain the private sector in contributing to long term growth.
- The enabling environment in which NGOs operate is challenging. Too many international NGOs and donor agencies face challenges to building up the capacity of national NGOs.
- There is a slowly developing ICT sector and large need for an open data strategy. Transparency is needed to enhance future growth.

*Drivers:*

- Specific initiatives have been developed to create a strong link between the Dutch private sector and Ethiopia, through the establishment of a potato business platform and specific Dutch-Ethiopian public private partnerships in the seed sector. This platform provides opportunities for water sector players to link with the current agricultural plans.
- Ethiopia has adopted the principles of Integrated Water Resources Management (IWRM) in its Water Resources Management policy and has already put in place water legislations, strategy, and program for their implementation. The implementation is taking place on watershed level.
- Ethiopia's economic policy is based on a 5-year Growth and Transformation Plan (GTP), which envisages improvements in infrastructure, human development and agricultural productivity through public support.
- The Embassy is looking to strengthen the inter-phase between in particular its food security program and trade opportunities; to fully utilize the availability of private sector tools for this aim; to assist in an adequate manner Dutch companies, and work on the necessary improvement of the business climate being one of the intended core activities of this Embassy.
- The food security program of the Dutch embassy will continue to contribute to adapting and building resilience to climate change through its support of public works activities, such as reforestation and soil and water conservation (PSNP), and climate smart agriculture, including the production and access to improved [drought resistant] seeds (ISSD), increased water use efficiency, agricultural productivity (AGP), building capacity of women and vulnerable groups, family planning and improved market access for local/small producers.
- There are national Water Supply and Sanitation (WSS) policies in place and the sector is well organized.
- In line with the country's Growth and Transformation Plan, the Ethiopian Government signed a Governance Framework for a Multi-Donor Initiative for private sector development, on May 15 2014. This move serves to formalize the collaboration among the International Finance Corporation (IFC), the Ethiopian government and donor partners that has been working for nearly two years. The IFC's strategy for Ethiopia includes bolstering direct investment in priority sectors, including small and micro enterprise development and supporting the Government in improving the investment climate.

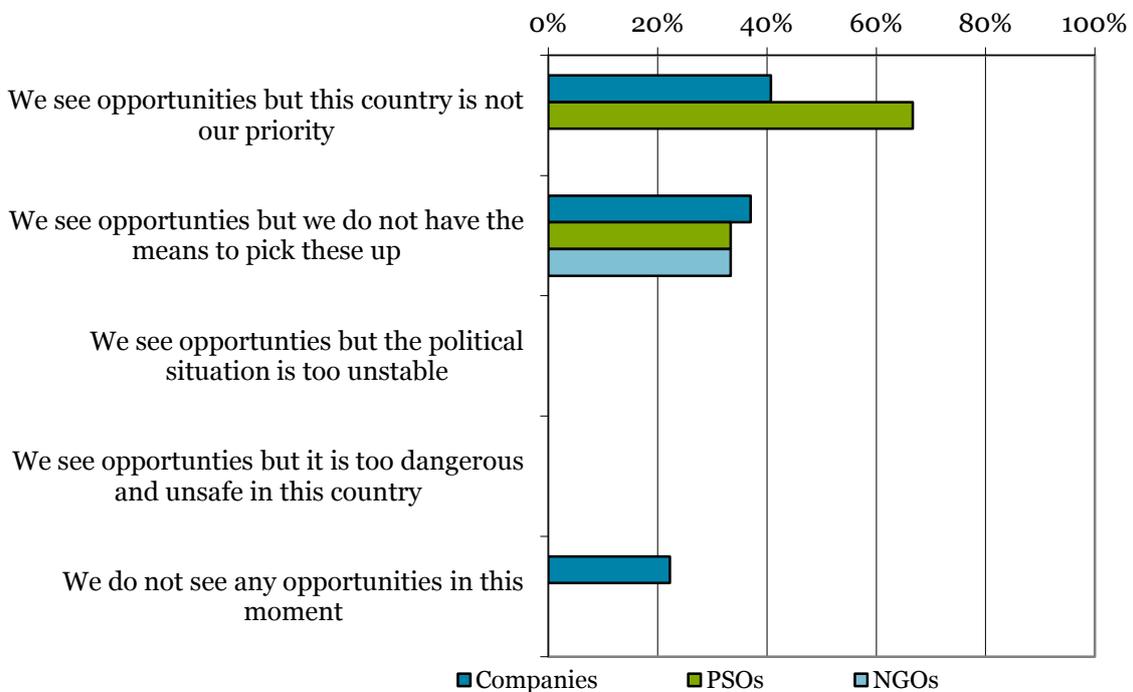
In figure 11 the main challenges for current Dutch organizations active in Ethiopia are given. This is resulting from the web-survey. In figure 16 the main drivers and bottlenecks are given.

**Figure 11 Challenges for scaling up activities in Ethiopia for Dutch organizations, in % of respondents (N=14)**



Source: Web survey Panteia, 2014/2015

**Figure 12 Reasons why companies and NGOs are not active in Ethiopia, in % of respondents (N=36)**



Source: Web survey Panteia, 2014/2015

### 3.5 Possible strategies for selection of PMCs

Below a selection has been made of the PMCs as given in chapter 2.4. This selection has been made based on consultation with the Dutch core advisor and embassy, as well as identified trends and opportunities. The selection of PMCs given below are seen as the most potential areas for development within the water sector in Ethiopia and as most promising for Dutch water sector actors. This is based on the clear need for sustainable water resources development and governance and the opportunities to integrate water into the current agricultural activities by Dutch private sector organizations.

<b>Theme: Water&amp;Food, IWRM, water productivity, irrigation</b>
<b>Product</b>
<i>Integrating agricultural activities and water management to ensure sustainable development</i>
Added value of the Dutch water sector could be, amongst others, in the pre-assessment of the agricultural investment areas and the water resource availability through mapping exercises and advice on sustainable management and use of these water resources. The Dutch sector can play a role in mapping the biophysical, socio-economic and social environment, which is the basis for sustainable agricultural development. Next to this, there is a need for capacity building on sustainable water management in the agricultural and horticulture sector, including technologies for (waste) water treatment like making use of helophyte filters.
<b>Finance</b>
Larger programs of the World Bank and EU through the Government of Ethiopia. There are good opportunities to link to the current the Dutch Embassy program on food security to water management and make use of their private sector platform to facilitate networking between water and agriculture sector players. Dutch instruments like FDOV and FDW can provide opportunities as well, where existing Dutch and Ethiopian private sector actors from the existing private sector platform of the Embassy could be involved directly as partners.
<b>Partners</b>
Horticulture and agricultural companies, national / district and local government, local entrepreneurs in water supply and irrigation technologies. Fruit, vegetable and cut flowers are fast-growing export businesses, with great potential for private investment.
<b>Entry strategy</b>
Through the agricultural private sector platforms of the EKN as well the water boards and other Dutch organizations already active in this field in Ethiopia. Focus should be on strategic linking of current activities on water management and agriculture.

<b>Theme: water governance, water management, IWRM</b>
<b>Product</b>
<i>Capacity building in water governance</i>
Technical Advise on water governance and management, development of IWRM plans. There are five regions defined outside of the Central Rift Valley for agricultural development and at least 10 Dutch private sector (mainly producers: flowers, food etc) are already interested. These are mainly medium enterprises. Next to this, Dutch Water Boards, NGOs and knowledge institutes are working actively in six larger catchment areas on water management and governance. There is no link yet between the agricultural sector and these water plans, which could provide good opportunities to boost sustainable water resources management and use in the agricultural sector.
<b>Finance</b>
Dutch funding opportunities: EKN, Unie van Waterschappen, Nuffic / NICHE. International: see finance appendix II
<b>Partners</b>

National, district and local government staff as well as NGOs active in this field. Dutch Water Boards, knowledge institutes and NGO already active in this field.

**Entry strategy**

Through the Unie van Waterschappen, EKN and Dutch consultancies active in Ethiopia on water governance.

**Theme: flood protection, water management, Water&ICT**

**Product**

*Technologies for and training on flood protection*

Technical Advise / training, like GIS mapping and hydrological modeling, linked to flooding and water management. This can focus on both national as regional (cross-boundary) water management and flood protection.

**Finance**

Dutch funding opportunities: EKN, Unie van Waterschappen, Nuffic / NICHE. International: see finance appendix II

**Market**

District and national government staff

**Entry strategy**

Through current knowledge institutes (Dutch and Ethiopian) focusing on capacity building and supporting project preparation.

**Theme: Water&Food, water productivity, irrigation, water supply**

**Product**

*Climate smart solutions for water for agriculture, industry and domestic water supply*

Technical Advisee on climate smart approaches for agricultural, industrial and domestic water use and supply

**Finance**

Dutch: FDOV, G4AW. World Bank: Irrigation and Drainage project, ET Productive Safety Nets Project 4 (PSNP 4).

**Partners**

National, district and local government staff, NGOs, private sector players

**Entry strategy**

Through current knowledge institutes (Dutch and Ethiopian) and EKN agricultural business platforms focusing on capacity building and supporting project preparation.

**Theme: WASH**

**Product**

*Upscaling of WASH service delivery*

Technical advice on WASH service delivery for urban and rural areas.

**Finance**

FDW, OneWASH program (UNICEF, World BANK, USAID, DFID and AfDB)

**Partners**

Municipalities, larger donors (like USAID, Oxfam, WorldVision etc), government staff

**Entry strategy**

Through current Dutch organizations active in WASH, like VEI, Aqua for All, the Dutch WASH Alliance etc.

## 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 institutions 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 institutions 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
Ethiopie	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, Rabo bank 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 water sector 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 period 2010-2013 period. The Dutch share in total EU-28 exports is 7% on average, lower than the respective shares of Germany and France.

**Table A.1 Exports from EU28-countries to Ethiopia (in mln. €) in total and for water sector related products and export shares of some EU-countries, 2010-2013**

	2010	2011	2012	2013	Total 2010-2013
Total EU-28 exports to Ethiopia	750	951	1.173	1.209	4.083
Water sector related products	12	17	25	29	82
<i>Shares in EU-28 exports of water sector related products</i>					
- Netherlands	18%	10%	5%	1%	6%
- Germany	14%	25%	9%	7%	12%
- France	6%	3%	11%	4%	6%
- Denmark	2%	2%	1%	2%	2%

Water sector related products:

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

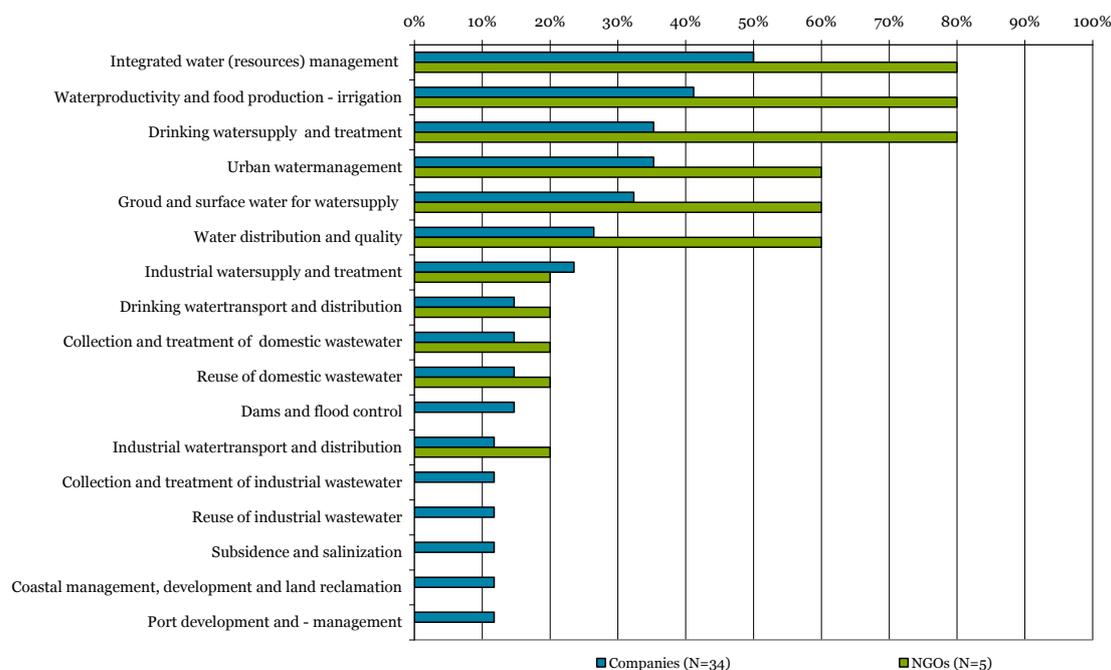
TUBES, PIPES AND HOLLOW PROFILES, AND TUBE OR PIPE FITTINGS, OF IRON OR STEEL

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

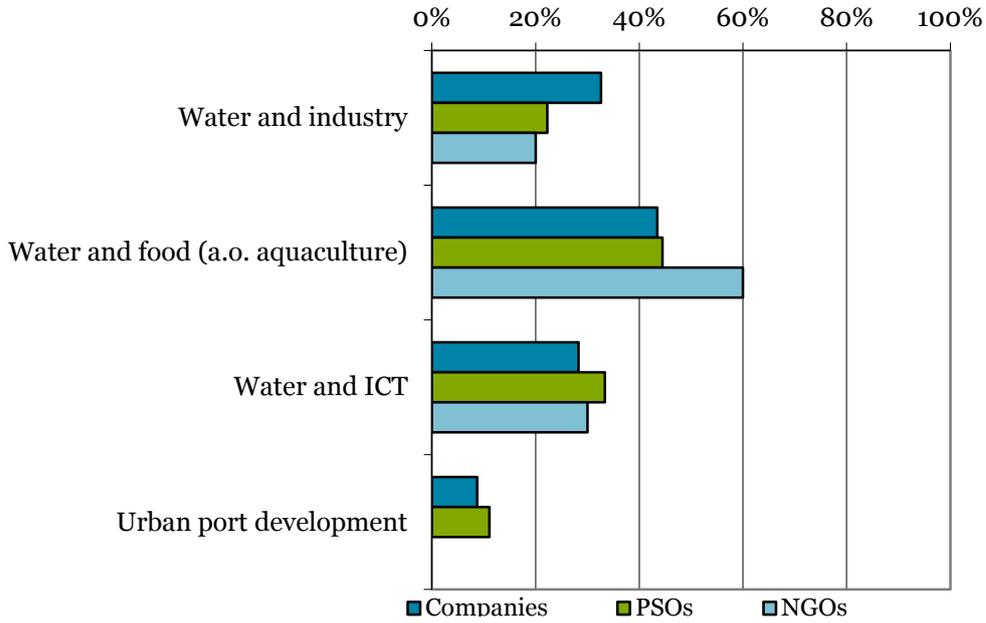
Source: Comext Eurostat

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



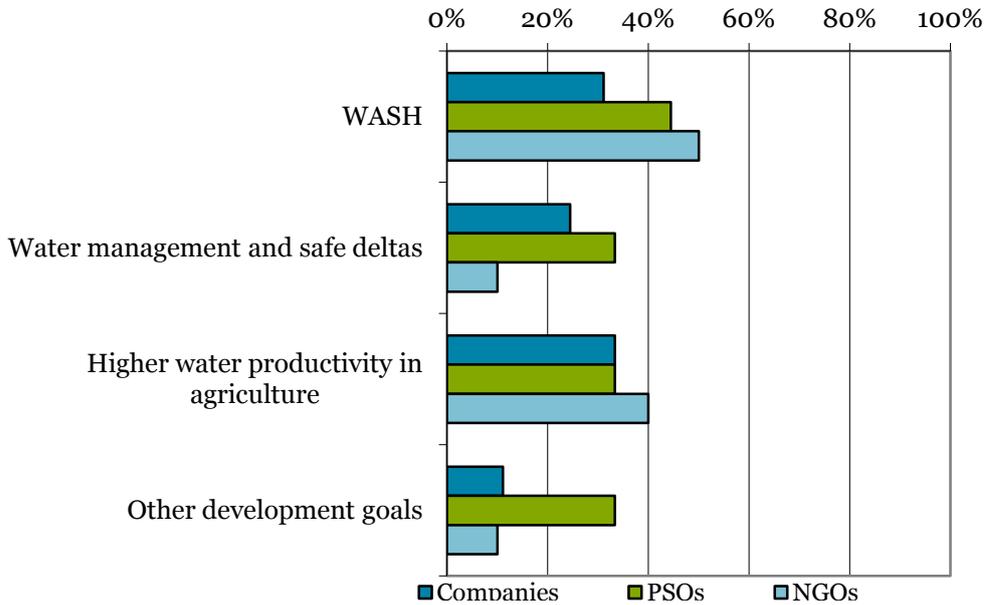
Source: Web survey Panteia, 2014/2015

**Figure A.2 Promising cross-overs in Ethiopia according to companies and NGOs interested in Ethiopia, in % of respondents (multiple answers possible)**



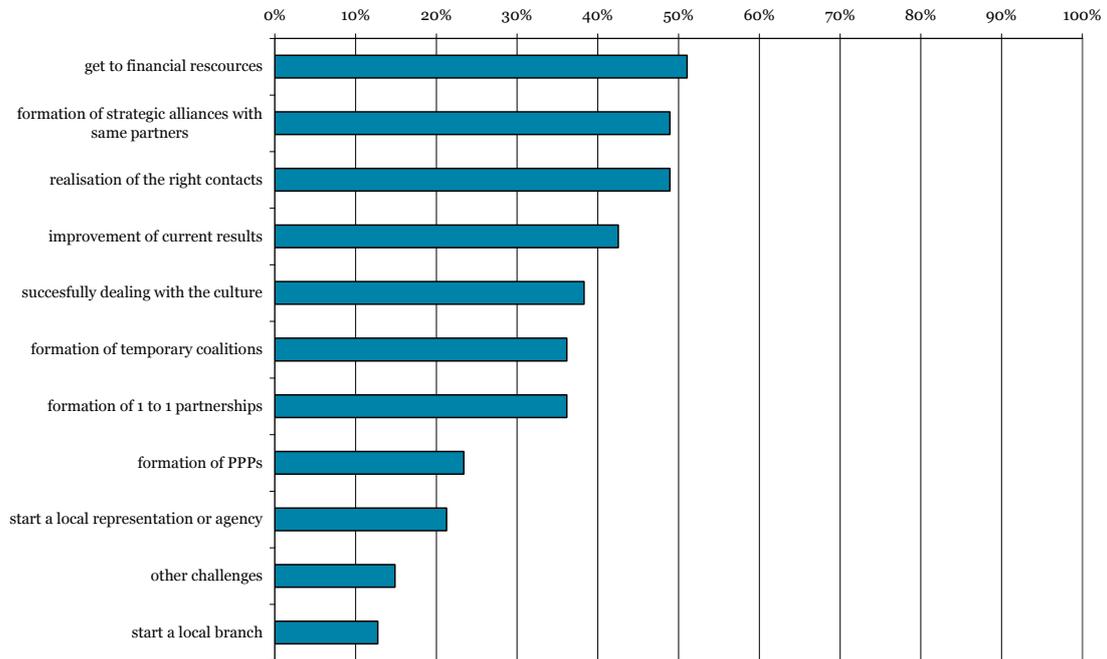
Source: Web survey Panteia, 2014/2015

**Figure A.3 Development opportunities in Ethiopia according to companies and NGOs interested in Ethiopia, in % of respondents (multiple answers possible)**



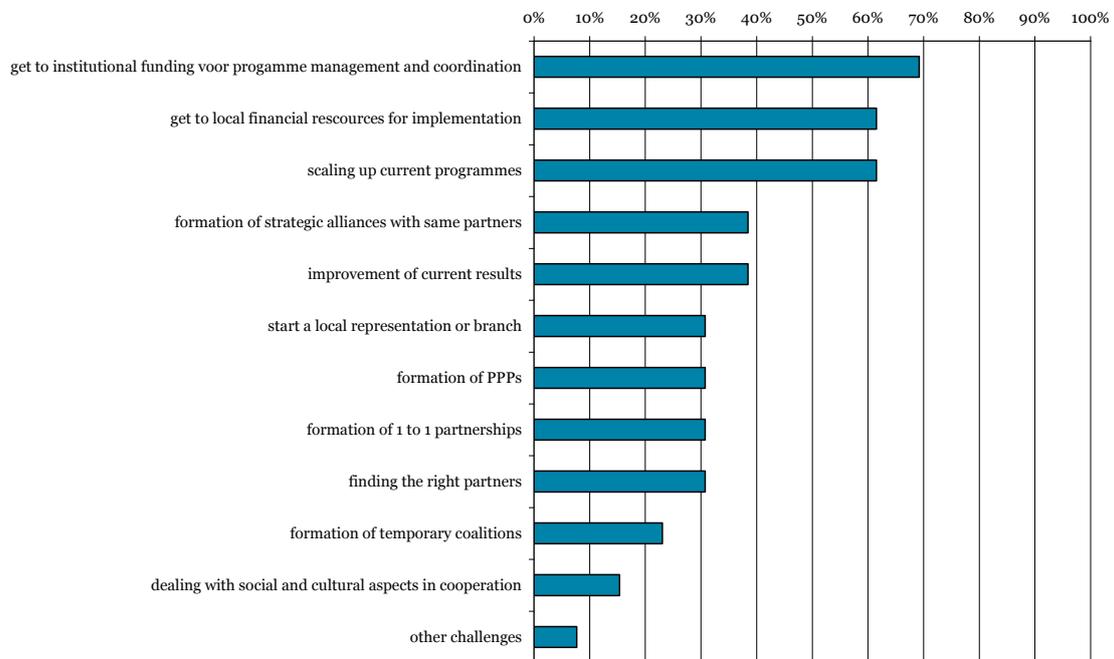
Source: Web survey Panteia, 2014/2015

**Figure A.4 Challenges for scaling up activities in Ethiopia according to Dutch companies, Water Boards and knowledge institutions, in % of respondents (N=47)**



Source: Web survey Panteia, 2014/2015

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



Source: Web survey Panteia, 2014/2015

## Appendix IV: Projects per type of organization

NGO	Project description
Akvo	WASH mapping using Akvo RSR, Akvo FLOW
Aqua for All	Involved in the Resource Oriented Sanitation Services in Adama (ROSSA) project, supporting a wide range of small but vital water and sanitation projects and promoting the 3R (recharge, retention, reuse) approach to water resources management. They will take a critical role in the Millennium Water Alliance's new programme in Ethiopia from mid-2014, financing and supporting activities to introduce Self-supply technologies, build capacities and engage the finance sector.
Aqua for All	The project aims to increase sanitation coverage by providing low-income suitable sanitation systems. The project involves education, knowledge sharing, investment and setting up small businesses related to the sanitation chain.
Cordaid	In Ethiopia, Cordaid work in pastoral settings on the major gaps in WASH coverage and very low hygiene and sanitation practice among the pastoral communities. In Addis Ababa, Cordaid builds the capacity of local partners and is introducing appropriate toilets and a decentralized human waste management system.
Ethiopia WASH Alliance	The Ethiopia WASH Alliance is a consortium of seven member NGOs and companies working together in a joint programme. The members are AMREF Ethiopia, RiPPLE, WaterAid Ethiopia (WASH Ethiopia Movement), Horn of Africa Regional Environmental Center & Network, Hararghe Catholic Secretariat, Action For Development, and MetaMeta.
SNV	SNV manages a number of WASH projects in Ethiopia within the framework of the Government of Ethiopia's One WASH Programme. Projects are implemented on behalf of a range of development partners including DFID, EU, UNICEF and the Dubai Cares Foundation.
WASTE	The partnering business consultant in Ethiopia is Fair and Sustainable. Key activities: urban sanitation with a focus (but not exclusively) on business support and the identification of locally available finance.
Connect International	Henk Holtslag, also known as Mr. Rope Pump, is developing improved and standardised rope pump models under his assignment seconded through MetaMeta to Japan International Cooperation Agency.
QUEST-Ethiopia	From July 2014, QUEST-Ethiopia will also host the Millennium Water Alliance Ethiopia Secretariat, supporting the work of this influential alliance of US and international NGOs in WASH.
IRC, QUEST and RAIN	MUSTRAIN project focused on developing opportunities for multiple-use water services linked to water harvesting innovations and household-led investment.
Water Governance Centre	The Dutch Water Authorities and Water Governance Centre (WGC), together with the Ethiopian Awash Basin Authority (AwBA) and Ministry of Water and Energy (MoWE), are involved in the execution of a project of setting up a water governance program in the Awash river basin, Central Ethiopia.
Plan Nederland	In 2010 Plan launched a large regional Community Led Total Sanitation (CLTS) program in 8 countries in Africa in order to reduce infant and child morbidity and mortality. The program in Ethiopia aims to improve the sanitation situation for 1.2 million people in 7532 rural, 4 peri-urban

	villages and 20 schools in Lalibella, Shebedino and Jimma area.
IRC, LEAF, MetaMeta, Partners for Water	The consortium aims to test the 'Hybrid Distance Learning' model, in cooperation with Addis Ababa University. This innovative method works with a combination of traditional paper course materials, CDs, USB sticks, e-mail net-based materials. The application of the method should lead to local capacity development in the water sector.
Aqua for All, Plan Nederland, RAIN	Winner of the year 2007 Swiss Re Award for sustainable natural resource management competition. This programme for improved access to safe drinking and productive use water, is a cooperation between the Ethiopian Rainwater Harvesting Association and Action for Development with Dutch partners.

Private sector	Project description
Basic Water Needs	Ethiopia is one of the priority target markets for BWN and considered to have great potential. During 2014, a factory is to be built in Ethiopia to produce Tulip filters locally for the East African market.
MetaMeta	The registered branch in Ethiopia, currently with 6 associated staff and 2 young professionals, is exploring a wide range of projects for clients like the Dutch Ministry of Foreign Affairs, the Japanese International Cooperation Agency, World Bank and the UK Development Agency.
VEI	VEI currently has three water supply programs in Ethiopia: 'Source to Tap and Back' in Addis Ababa; 'Sustainable Water Services' in Harar; and 'Sustainable Infrastructure Development and Water resources protection' in Adama & Bishoftu. The central aim of each project is to transform the local water company into a healthy long-term business providing reliable services. Sanitation and integrated water resource management are addressed through additional project activities.
Acacia Water	Acacia Water in collaboration with the RAIN foundation, Ethiopian Rainwater Harvesting Association, Action for Development and Sahelian Solutions Foundation Kenya, developed the practical guide to the construction, operation and maintenance of sand dams. Acacia Water is a partner in the Sustainable Water Services in Harar project.
Holland Water	Holland Water work in partnership with HoA-REC&N and ICCO Ethiopia to explore the purification of water using moringa shiferaw seed and are looking at the possibilities and advantages of planting moringa on a large scale.
NWP	In Ethiopia, NWP are involved in the Small-Scale and Micro Irrigation Support Project and integrated land and water management in the Central Rift Valley landscape.
Q-Point	Q-Point are supporting and developing the curriculum of the Technical Vocational Education and Training College in Agarfa. The aim is to create graduates able to provide up-to-date technical and organizational advice to villages with small-scale irrigation and micro-irrigation schemes for enhanced agricultural production.
Share Business	ShareBusiness is linked to the Royal Tropical Institute in Amsterdam. Key activities: A project in Ethiopia for the sustainable production of Tilapia won the 2013 Ondernemen Zonder Grenzen/Entrepreneurs without Borders award. The project, Africa Sustainable Aquaculture, focuses on developing the local market for sustainable Tilapia production, linking smallholder farmers, cooperatives and Dutch expertise on aquaculture.

Acacia Water, Royal HaskoningDHV, VEI	The Public Private Partnership of Vitens Evides International (VEI), Acacia Water bv, Royal HaskoningDHV bv, MS Consultancy, Harar Water and Sewerage Auth. (HWSA), Harar People Regional State (HPRS), Heineken Breweries SC, Ethiopian Catholic Church will produce a Master Plan for Integrated Water Management in the region by sustainable water abstraction and conservation providing water supply services to urban and rural water users.
MetaMeta, VEI and water board Vallei en Veluwe	Through an innovative stakeholder and capacity development approach the project aims to improve financial and environmental sustainability of water services in the greater Addis Ababa region and Adama.

Knowledge institutes	Project description
WUR	Key activities: Two of WURs research institutes Alterra and the Centre for Development Innovation (CDI) are engaged in CASCAPE (a joint effort of Ethiopia and The Netherlands to improve agricultural productivity linked to Agricultural Growth Programme). A related NUFFIC-funded project completed in 2012 on 'Strengthening Ethiopian universities in integrated river basin management' was completed in 2012.
TU Delft and MetaMeta	Access to groundwater in the different areas is subject to power play, to severe overuse or it is managed by stealth. The aim is to examine the interaction between political engagement and effective management under different natural, organisational and political conditions.
Wageningen University, UNESCO-IHE, MetaMeta	The aim of this project is to contribute to the improvement of Integrated River Basin Management in Ethiopia, to ensure future environmental and economic sustainability of water and other natural resources in Ethiopia.

Government	Project description
Water Boards	A group of Dutch water boards, Waterschap Zuiderzeeland, Vallei en Veluwe, Hollandse Delta, Velt & Vecht, Hunze & Aas and de Unie van Waterschappen, have a long term partnership agreement with the Ethiopian Ministry of Water, Irrigation and Energy and the Awash Basin Authority to improve water governance. Key activities: The activities of the waterschappen focus on integrated water resources management, stakeholder facilitation (following the 'polder model'), flood control, and wastewater treatment. Waterschap Zuiderzeeland and Waterschap Vallei & Veluwe are partners in the Vitens Evides International led EU water facility funded program 'Source to Tap and Back'.

## **Appendix V: Sources**

Annual Report Transforming Agriculture in Ethiopia, 2013 – 2014

Country Partnership Strategy for the Federal Democratic Republic of Ethiopia, 2012

Directory of Dutch-related water organizations in Ethiopia, 2014

Embassy of the Kingdom of the Netherlands, Multi-Annual Strategic Plan 2014-2017

Ethiopian Water Resources Management Policy

Resultaat Fiches Ambassades en Themadirecties, 2012

Other sources used are mentioned in the text.

## Appendix VI: Respondents

### *NWP/Key Advisor:*

Arjen de Vries

### *Dutch Embassy:*

Jan Willem Nibbering

### *Local water professionals (YEP, peer reviewers):*

Sara Groenendijk (YEP)

Selamawit Zewdu (YEP)

Daniel Wiegant(YEP)

Mukrab Kassune (YEP)

Eskinder Feleke (YEP)

Auke Boere (peer reviewer)

### *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  
ITC  
ITC  
Landustrie Sneek  
MetaMeta  
Nijhuis Water Technology  
Norit  
Rabobank International  
Redox Water Technology  
Royal Eijkelkamp  
Royal Eijkelkamp  
Royal Haskoning DHV Nederland  
Safisana Holding  
Simavi  
SNV  
TNO  
UNESCO-IHE  
Vitens-Evides International  
WASTE  
Waterschap Aa en Maas  
Wavin Overseas  
Wetlands International  
Witteveen + Bos  
WUR  
ZOA

Stef Smits  
Victor Jetten  
Dinand Alkema  
Arie van Steen  
Simon Chevalking  
Christiaan Beuzel  
Jan van den Dikkenberg  
Alexander Hoogendoorn  
Maurice Nijrolder  
Fons Eijkelkamp  
Frank Tillmann  
Harrie Laboyrie  
Aart van den Beukel  
Ewout van Galen  
Leendert Bos  
Albert Jansen  
Pieter van der Zaag  
Marco Schouten  
Jacqueline Barendse  
Paule Dobbelaar  
Giles Crofts  
Chris Baker  
Polite Laboyrie  
Ivo Demmers  
Harm Bouta