

Mozambique

Market research and positioning survey for the Dutch Water sector

Aidenvironment and Water is Essential

Commissioned by

RVO

July 2015

Project number 2526/2611

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Mozambique

Contents

Glossary	3
Executive Summary	5
1. Country profile	9
1.1 Facts	9
1.2 The water situation	13
1.3 The Water sector	16
2. Opportunities relevant to the Dutch Water sector	21
2.1 Current situation	21
2.2 Trends	28
2.3 Opportunities	36
2.4 Potential Product-Market Combinations	39
3. Market strategies	51
3.1 Entering or re-entering the country	51
3.2 Cooperation and business development alternatives	54
3.3 Successes and lessons learned	56
3.4 Strengths and weaknesses, drivers and bottlenecks	57
3.5 Possible strategies for selection of PMCs	60
4. Strengthening business opportunities	64
4.1 Recommendations to improve business opportunities	67

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Glossary

AFD	French Development Agency
AfDB	African Development Bank
AdrM	Water Operators of Maputo
AIAS	Office of Infrastructure of Water and Sanitation
ARA	Regional Water Administration
BADEA	Arab Bank for Economic Development of Africa
BAGC	Beira Agricultural Growth Corridor
CDN	North Development Corridor
CDS	Center for Sustainable Development of Coastal Zones
CFM	Mozambican Ports and Railways
CRA	Regulatory Water Supply and Sanitation Board
CSR	Corporate Social Sustainability
DGGF	Dutch Green Growth Fund
DNA	National Water Directorate
Duat	Directory for use and approval of land
DNHA	National Directorate for Agricultural Hydraulics
EIB	European Investment Bank
EKN	Embassy of the Kingdom of the Netherlands
EU	European Union
FDI	Foreign Direct Investment
FDW	Sustainable Water Fund
FIPAG	Water Supply Investment and Assets Fund
GLAAS	Global Analysis and Assessment of Sanitation and Drinking Water (WHO)
GoM	Government of Mozambique
HDI	Human Development Index
IFC	International Finance Corporation
IFI	International Finance Instruments
INIR	National Irrigation Institute
IWRM	Integrated Water Resource Management
MASP	Multi Annual Strategic Plan
MDG	Millennium Development Goal
MICOA	Ministry of Coordination and Environmental Affairs
MINAG	Ministry of Agriculture
MINED	Ministry of Education
MISAU	Ministry of Health
MOPH	Ministry of Public Works and Housing
MT	New Metical
NICHE	Netherlands Initiative for Capacity building in Higher Education
NRW	Non-Revenue Water
Opco	Operating Company
ORIO	Facility for Infrastructure Development
PCD	Cabo Delgado Ports
PARP	Poverty Reduction Strategy
PES	Economic and Social Plan
PESDA	Strategic Plan for Agricultural Development
PLAMA	Mozambican Water Platform
PMC	Product Market Combination
PNI	National Irrigation Plan

PNISA	National Agricultural Sector Investment Plan
PRONASAR	National Program for Rural Water Supply and Sanitation
PSI	Private Sector Investment Program of the Netherlands Government
PvW	Partners for Water program of the Netherlands Government
RfP	Request for Proposal
SADC	Southern African Development Community
SWP	Small Water Providers
TI	Transparency International
UGEA	Executing Unit Manager of Acquisition
UNICEF	United Nations Children's Fund
UNDP	United Nations Development Program
WASH	Water, Sanitation and Hygiene
WB	World Bank
WSP	Water and Sanitation Program (of World Bank)
WSS	Water Supply and Sanitation
ZVDA	Zambezi Valley Development Authority

Executive Summary

This report is a compilation of two studies: the 'Positioning Survey for the Dutch Water sector in Mozambique', executed by Aidenvironment on behalf of the Water OS program, and the 'Market study Water sector Mozambique', executed by Water is Essential on behalf of the Water Mondiaal Program.

The positioning survey takes the perspective of the Dutch Water sector (emphasizes the Dutch added value in relation to local demand from a 'Trade and Aid' perspective), while the market study takes the local demand (commercial and development opportunities) as a starting point in relation to the Dutch Water sector's offer.

This report aims to identify opportunities, product market combinations (PMCs), strategies, and approaches for the Dutch Water sector in Mozambique.

Chapter 1 gives an overview of the current water situation and the Water sector.

Chapter 2 provides insight into current activities, opportunities, and potential PMCs that are present for the Dutch Water sector.

Chapter 3 elaborates on (positioning) strategies to enter and operate in the market, and

Chapter 4 concludes with recommendations for improving the business environment.

The reader is advised to refer to the separate document with appendices for more detailed insights.

Growing Mozambican market is attractive for Dutch Water sector players

Mozambique is (becoming) an attractive country for doing business for the Dutch Water sector.

Mozambique ranks fourth out of the twelve Water OS countries on the list of Dutch export countries in the Water sector. Mozambique's economy showed robust growth in 2014, outperforming the economic performance of the neighboring countries. Mozambique's score on poverty reduction and other social indicators, however, remains behind its neighboring countries.

The Mozambique business environment is conducive to foreign participation and a number of Dutch organizations are active in the country. As a result of these positive developments, competition is fierce.

Dutch companies successfully operating in the market are niche players, having specific expertise or experience and/or form part of a consortium with local and international partners (section 3.4).

Companies are mainly active in the subsector integrated water resource management and port development, while Dutch Water Boards and consultants are mainly active in water management and NGOs in water supply and treatment. PSOs (public service organizations) are active in the subsectors water supply and water treatment, wastewater and water management.

The main activities of the Dutch Water sector players are advice, design, research, and capacity building. Consultancy, in particular, will be an important field of activities within infrastructural projects, port and hydro dam development, government managed sectors like water, sewerage, storm-water, flood management, and integrated water-resources management.

There are pressing needs in different sub sectors

The most pressing needs within the Water sector of Mozambique are related to WASH, IWRM (also in relation to climate change effects), water safety, good infrastructure for flooding, port development and urbanization (including drainage), and the access to energy. Also, the need for access to water and sanitation is high. In urban areas more people have access to clean water and sanitation than in rural areas; however, this is not sufficient to reach the Millennium development goals for water and sanitation in 2015. Tender opportunities for the different sectors can be found in Appendix VI.

Opportunities lie mainly in consultancy services of different sub sectors

Based on an identification of the needs (demand) of Mozambique and the interest and skills (supply) of the Dutch Water sector, a number of Product-Market-Combinations (PMCs) have been defined in the areas of WASH, IWRM, agriculture, and maritime and coastal zone development. For each sub sector tender opportunities have been identified – these can be found in Appendix VI.



WASH

Consultancy in preparatory phases, design, review and supervision of international contractors, financial and operational performance improvement, and advice on small scale interventions (NGOs)

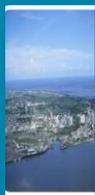
List of local important current tenders: **Table A.8**



Agriculture and irrigation

Consultancy on food security, land and water productivity, soil and water management, forecasting models for cropping and flooding, using GIS mapping and remote sensing technologies

List of local important current tenders: **Table A.9**



Port and urban development

Consultancy in feasibility, preparatory studies, master planning (multi annual strategic planning, including investment planning as well), (green) port planning, development and operations, land reclamation, flood protection, dredging, specific maritime services, construction of quays

List of local important current tenders: **Table A.10**



IWRM and flood protection

Consultancy on water systems, water-system analysis, retention strategies, water-management plans, flood-management plans, long-term maintenance plans, groundwater management, salt intrusion, and financial sustainability (water tariffs). Institutional strengthening and capacity enhancement. Flood forecasting, early-warning systems and information management. Dike-maintenance plans, maintenance plans and investment

List of local important current tenders: **Table A.11**

To a lesser extent consultancy services related to hydro dam development might also be interesting. Mining is not a prime interest as Dutch companies and institutions lack specific experience and expertise and lack also other factors that would create a competitive edge. Industrial wastewater might be interesting, but there is only one major Dutch operator and they do not have Mozambique on their radar screen.

Consultancy will be an important field of activity, especially in sectors where large infrastructure development takes place. Equipment supplies will be a difficult market for Dutch companies. Not only are the investment costs high since they have to invest in a full-fledged maintenance and spare-parts system, but also public tenders for equipment are generally selected on price. Only in public and private tenders where quality plays a sufficiently large role, will Dutch suppliers stand a chance.

Sanitation may become more important in the future, especially in the urban areas that are connected to water networks – triggered by international donors such as the World Bank. Sanitation for the smaller cities will take more time to take off. New financing structures and innovative approaches could overcome current issues in financing sanitation. It is important for the Dutch Water sector to follow the developments in sanitation closely.

There are advantages and challenges for Dutch players

Dutch Water sector players have advantages for doing business in Mozambique, but also face some challenges. In general, the Dutch players have a good reputation in the country and find sustainability in the production process important. The long term relationship between the governments of Mozambique and the Netherlands stimulates the business environment. Challenges for the Dutch Water sector lie in the limited experience in executing commercial activities and running large concessions. In addition, the Dutch and Mozambican approaches are not fully synchronized, there are restrictions and regulations for doing business in Mozambique, and the competition is fierce. A list of potential partners and competitors can be found in Appendix V.

Start with finding good partners for entering the market

In order to build a strong competitive position, it is important for Dutch Water sector players to collaborate with local partners with a local network that includes clients. Collaboration with Dutch sector players already active in Mozambique is a good strategy for entrance to the market. VEI could be a strong point of entrance for WASH and HKV could become an entrance point.

Apart from local partners, finding the right international (non-Dutch) partners is important for IFI driven tenders (i.e. World Bank and AfDB). It is important to make use of Dutch financing instruments. Market research – exploring the market to find opportunities and decrease the amount of investment and risks – is essential. The Dutch government (Embassy and Ministries) and network organizations such as NWP and PLAMA (the water network organization in Mozambique) could facilitate business development by providing space, network events, economic diplomacy and promote the use of Dutch financing instruments among existing Dutch sector players.

The Dutch government should develop strategic vehicles for business development

The Netherlands' government should – together with the Dutch Water sector – develop strategic vehicles for business development. The positioning of the Dutch Water sector should be better structured in order for the Dutch Water sector to better benefit from market opportunities. Based on experience elsewhere, a light version of support is proposed, using existing organizations and their strengths to assist Dutch companies and institutions in their efforts to develop business.

- EKN should act as a facilitator for Dutch companies and organizations that would engage in Mozambique and EKNs' endeavors should be focused on retrieving tender information from important donors at an early stage and in a structured fashion.
- The Dutch government should continue to promote quality as attribute in tender selection processes of donors, such as the World Bank, and national agencies, such as FIPAG and DNA. Currently the most important selection criterion for equipment is usually price. Ample experience shows, however, that the cheapest is not always the best, as Chinese water meters in Mozambique demonstrate.
- PLAMA should have the responsibility to link Dutch parties via matchmaking with local partners. There is a need to further strengthen PLAMA (the organization, its services, and its network) in order for it to be able to play a role in business development and act as a linking pin between the Dutch and the Mozambican Water sector. This is acknowledged by NWP which gives support to PLAMA.

- Centers of expertise along the lines used in South Africa are proposed for linking Dutch parties with launching customers and key decision makers. The selection of parties that would operate those centers is very delicate as they need to be considered to be independent, reliable and neutral, both to the launching customer and to the Dutch Water sector.

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 with the Dutch Government strategy on cooperation.



1.1 Facts¹

Government type	Democratic Republic
Political situation and stability	After the independence of Portugal in 1975, the country was in civil war until 1992, when the first democratic elections were held. The two most important political parties in Mozambique are the Front for the Liberation of Mozambique (Frelimo) and the Mozambican National Resistance (Renamo). Frelimo has a two-thirds majority in the national parliament, 80% of the seats in the provincial governments and majorities in all elected municipalities. Despite the economic growth in the country, Mozambique is still one of the poorest countries of the world. The economic situation of Mozambique is relatively stable. This, in combination with the growing extractive sector of coal, gas, and oil, have created opportunities for FDI, which makes Mozambique less dependent on donor aid. This has declined from 60% of the national budget in the 1990's to 33% in 2013.
Language	The official language is Portuguese, other languages are Emakhuwa (25%), Xichangana (10%), Cisena (7.5%), Elomwe (7%), Echuwabo (5%) and many other Mozambican languages
Population	24,692,144
Population growth	2.45% (2014 est.)
Economic growth (GDP)	7%, world comparison ranking: 222. Current growth rates are

¹ The facts concern the year 2013, unless indicated otherwise

Currency exchange rate: € 1 = USD 1.18, € 1 = MZN 37

	<p>comparable to the last three years.</p> <p>Economic growth in Mozambique outperforms the economic growth figures of its neighboring countries in Sub-Sahara Africa which had a growth rate of around 4.5 % in these years.</p> <p>Economic growth has been fueled by investments in the energy and natural resources sectors and in infrastructure. One of the main ambitions of government is to bridge the infrastructure gap in energy and transport that remained after the war and that causes serious impediments to use its full economic growth potential. There are two financing sources for these investments: Foreign Direct Investments (FDI) and public investments. The World Bank expects the growth rate to accelerate in the coming years because of the rebound of the 2013 floods and the continued high level of investments (World Bank, 2014; Millennium BCP, 2014)</p>
Expected growth (GDP)	2015: 8.6%, 2016: 8.4%
GDP (PPP)	€ 23.85 billion
GDP (PPP) per capita	<p>€ 1,017</p> <p>Despite the solid economic growth of the last years, Mozambique's score on poverty reduction remains poor. The per capita income was € 502 which is one-third of the Sub-Sahara Africa average.</p>
Unemployment rate	17% (2007)
Inflation rate	<p>4.4%</p> <p>After a few years of low inflation, inflation is growing again but not at levels that were experienced in 2010.</p>
Foreign direct investments (in % of GDP)	<p>42.1% (2010-2014)</p> <p>FDI has spiked off considerably as from 2010. A substantial part of FDI is related to mega projects in the extractive sectors in and around Tete province and in Cabo Delgado province (Port Consultants Rotterdam, 2014)</p> <p>However, the high FDI inflows also led to a surge in imports. This resulted in a widening current account deficit which amounted to 46% in 2014. The World Bank expects the deficit to continue at this level until the end of the decade when exports of for instance LNG are expected to grow.</p>
Public Investments (in % of GDP)	<p>41% (2014)</p> <p>Mozambique has increased public spending over the last few years. Public spending was 41 percent of GDP in 2014. The spike in spending can be explained not only by large public investments to bridge the infrastructure gap, but also by increases in public-sector wages and spending related to the 2014 elections. In 2014 public investment was 16 percent of GDP. The large increase in public investments has resulted in a large increase in public debt, partly on non-concessional terms. Agriculture is one of the most important sectors in Mozambique's economy, together with manufacturing and financial services. In the next table, the contributions to growth of the different sectors are given.</p>
ODA in % of GNI	14.6%

Imports	€ 5,990 billion
Import partners	The most important trading partners of Mozambique are South Africa, Netherlands, China, India, and the USA.
BTI index on banking system	7 Together with 14 other countries, Mozambique is member of the Southern African Development Community (SADC), a free trade zone established in 2008. However, there are still tariff barriers between the countries and the regional trade remains low. There is a large price difference between formal and informal economic sectors, which hampers initiatives to enhance official trade. The banking sector of Mozambique is relatively small compared to the size of the country. Around 1 million Mozambicans have bank accounts, which is a very low number. In 2012, 58 districts had banking facilities, whereas 70 districts did not. The banking system (three largest banks) is still closely linked to the Portuguese banking system, which makes the country vulnerable to economic crises in Portugal. The government has provided funding for the expansion of retail bank networks and micro-finance institutions.
Doing business index	139 out of 189 (2014) Mozambique scores relatively well on protecting minority investors and dealing with construction permits. Compared with its regional competitors, Mozambique scored lower than South Africa (place 43), Zambia (place 111) but better than Tanzania (# 131), Zimbabwe (# 171), Malawi (# 164), Kenya (# 136) and Angola (# 181). Mozambique is steadily moving upward on the scale of a conducive business environment.
Social development indicators	178 out of 187 countries (UNDP) UNDP (2014) measures social progress of a country based on the Human Development Indicators (HDI) <ul style="list-style-type: none"> • Life expectancy at birth: 50.3 years • Expected years of schooling: 9.5 • Mean years of schooling: 3.2 • Adult literacy: 56%
WEF Global competitive index	137 out of 148
Corruption perception index	119 out of 177 countries (Transparency International, 2015)

Alvarinho (director regulatory authority and director Aquashare): “Now is the time to come to Mozambique; in 1 – 2 years’ time the window of opportunity will be over and it will be difficult to penetrate the market. There are, of course, difficulties such as a lack of a well-developed credit market, lack of insurance possibilities (for instance against floods and droughts in agriculture), lack of financial and physical infrastructure.

“We need companies with a long-term vision and approach; they can be successful in Mozambique”.

The EU-delegate **Thierry Rivol** (attaché) put it this way: “There is a lot of potential, but you must be prepared for the long haul to benefit from them. The business environment is not easy. This is not a business El Dorado, but there are certainly good business opportunities”.

1.2 The water situation

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

1.2.1 Physical description of the water situation

Mozambique has a climate that varies from tropical conditions in the north to dry semi-arid steppe and dry arid desert in the south. The average precipitation of the country is 1,032 mm per year, with large variations between the north (1000-2000 mm) and the south (500-600 mm) and between the coastal areas and inland areas. The main rivers in Mozambique are the Zambezi River and the Limpopo River, and together with a number of smaller rivers, the country is provided with much water. Two large fresh water lakes in Mozambique are Lake Malawi and Lake Chirua. The Cahora Bassa dam has created a lake of 52 km². The coastline of the country is 2655 km and borders the Strait of Mozambique and the Indian Ocean. Between November and February hurricanes and typhoons occur on a regular basis. The main source of water in Mozambique is surface water. Ground water is used in urban areas for drinking water purposes. Shallow wells and hand pumps are used for drinking water in rural areas.

Mozambique has an average precipitation of 940 mm, with highest concentration of rainfall between December and March. Precipitation² is not distributed evenly across the country, with the North, particularly the provinces of Nampula, Niassa and Zambezia, having an average rainfall between 1,030 mm and 1,225 mm, while the south, including the provinces of Maputo and Gaza have very little water, having average rainfall of 595 mm and 685 mm, respectively. Also climate change is aggravating this imbalance.

1.2.2 Climate and climate change

Climate change affects the northern parts of the country with more heavy rains. The southern areas of Mozambique will be affected by longer periods of droughts. Flooding will occur in the entire country, resulting in more floods in the north, and more flood damage in the south. The intensity of cyclones and the associated rains in the country are likely to increase. The rising sea level and more erosion pose serious threats for the densely populated coastal areas of the country. Climate change will also have its effects on agricultural crops. For instance, cassava yields will benefit from increased temperature, but will suffer from a changing rainfall pattern, resulting in a decrease of yields. Maize and soy bean will both suffer from increased temperature and increased rainfall with reduced production of 24% and 25% respectively over the period 2010-2050. The yield of sorghum and ground nut will suffer from climate change effects with a decrease of 17% and 20% respectively over the same period. Finally, cotton yields will decrease by 24% until 2050 due to increasing temperatures. Yield of crops that are more sensitive to droughts are likely to decrease more in the south compared to the north (Climate Change Profile Mozambique, 2014).

² www.atlasrenovaveis.co.mz

Figure 1 The 1446 potential hydropower projects

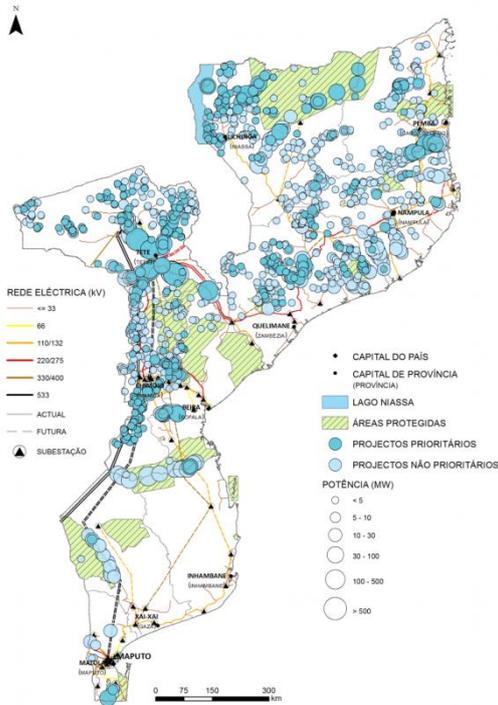
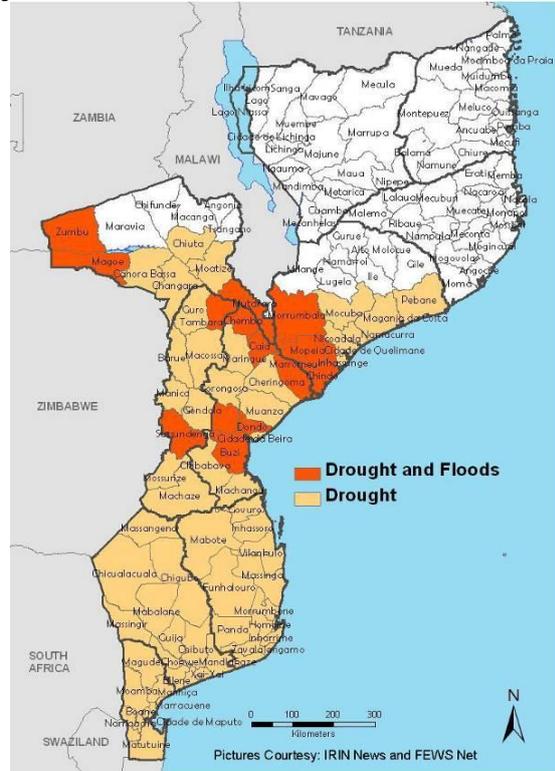


Figure 2 Areas at risk of droughts and floods³



1.2.3 Pressures on water sources

The total renewable water resources in Mozambique are 217.1 cu km (2011), the fresh water withdrawal is 0.88 cu km (2011). Most of the water is used for agriculture (70%), domestic use (26%) and 4% is used for industrial purposes. In general, water supply is unreliable during the dry season. The pressure on water resources is high due to population growth and the large share of the population that is dependent on agriculture. In addition, the growing extractive industry requires water, which causes competition and requires good management of the available water sources in the country. Half of the surface water originates from neighboring countries, which makes cooperation between the countries very important. Dams for water supply and hydropower are not yet as developed as they are in South Africa or Zimbabwe. Currently, Mozambique has 20 large dams for water supply of large cities (compared to 250 large dams in South Africa and 2,000 small-medium dams in Zimbabwe), which is expected to not be sufficient to supply the population. The Cahora-Bassa dam is one of the largest dams and is situated in the Zambezi River. Tete is the best province for hydropower production followed by Manica and Nampula. Also Niassa and Zambesia have potential. Figure 1 shows the locations of potential hydropower projects.

³ Source: Climate Change Profile Mozambique, 2014

1.2.4 Agriculture and irrigation

Mozambique is relatively self-sufficient with regard to grain production, with the exception of wheat and rice. There are, however, food security issues due to the unequal geographical distribution of agriculture and due to flood and drought. Agricultural activities can be divided into the smallholder sector and the commercial sector. Smallholders account for 95% of the production area of maize, cassava, rice and beans. Production is rain-fed and has low yields. Farmers cannot afford irrigation systems, but they do believe that improvement of irrigation is important. The commercial sub-sector has more access to technology and irrigation. The production of cotton, cashew nuts, sugar cane, tobacco and tea is focused on national and international markets (Aquastat, 2014; NWP, 2014).

Agriculture contributes 23% to GDP and represents 20% of total exports. In 2013/14, 1.3% of the GDP growth was attributable to agriculture. Despite the relatively low macro contribution, the agricultural sector is the main source of income for more than 70% of the population, provides employment for 80% of the total workforce and generates 80% of the income of rural households. The sector grew by an average annual 8% between 2003 and 2008. But, much of the growth was due to the expansion of the cultivated area and to favorable rainfall rather than increase in productivity.

About 97% of the national production comes from 3.2 million subsistence farms (on average 1.2 ha). In total, around 36 million hectares of arable land is suitable for agriculture. Currently, around 10% is cultivated and only 3% is irrigated. The main types of irrigation in Mozambique are sprinkler irrigation (50%), mainly used for the production of sugar cane, citrus fruits and vegetables. 42% is surface irrigation and 8% is drip irrigation for tomato production. Most often surface water from rivers is used for irrigation. Only smallholders use limited groundwater for irrigation (Aquastat, 2014). Rain-fed production systems produce only one crop per year. Production of two types of crops can only take place in some northern and central areas and irrigated areas. This means that improving the agricultural productivity of land can only be reached through improved irrigation systems (G4AW, 2014). However, currently only 5% of the producers use irrigation, and there are several constraints that limit the development of the agricultural sector. Some constraints are the insecurity of land rights, inconsistent governmental policies on the national and local level that neglect community rights, and government policies to promote large-scale agricultural productivity rather than small scale production.

Productivity is low and is on average only 25% of that of the same crops in South Africa. The low productivity is due to the fact that the sector mainly consists of smallholders. These smallholders mostly use traditional farming methods, with low-yield seed varieties, manual cultivation techniques, limited access to finance and other support services and little use of chemical fertilizers and irrigation techniques. The relatively low use of fertilizer is partly caused by the fact that it is expensive compared to other developing countries. The Agrix report (2014) reveals that the price is almost double the price in Thailand. Also, rising population density has forced farming households to cultivate marginal lands, resulting in declining yields.

1.2.5 Flooding of river systems

Mozambique is prone to flooding because of two factors. Firstly the cyclones that come from the Indian Ocean cause heavy rains and winds that cause flooding. Secondly, Mozambique is situated at the end of nine rivers that have crossed Africa. 50% of the water in those rivers comes from outside Mozambique, which means that the country has to deal with the downstream effects of those rivers. In the year 2000 an enormous flood affected more than 2 million people and caused over 700 deaths. The government of Mozambique has several policies and structures in place for domestic flood management, but is not able to address those challenges alone, because the effects of climate change

on water depend on events outside the country.⁴ Figure 2 shows areas that are prone to droughts and flooding.

1.2.6 Coastal zones and maritime areas

Mozambique has 2,700 km of coastline, which is divided into four coastal zones that are defined by their natural characteristics.

- i. Coralina Coast – With an extent of about 770 Km, from Rovuma River (10° 32' S) to the Archipelago of the Primeiras e Segundas (17° 20' S);
- ii. Mangal Coasts – With an extent of about 978 Km, from Angoche (16° 14' S) until Archipelago of Bazaruto (21° 10' S);
- iii. Parabolic Dunes Coast – With an extent of about 850 Km, from the Archipelago of Bazaruto until Ponta do Ouro (26° 52' S), it will continue until Mlalazi River (28° 57' S), in África do Sul.
- iv. Delta Coast – in the regions of the mouths of Zambezi and Save Rivers.

Coastal zone management and protection is important and will become important in the future. It is, however, not a priority on the government political agenda. Mozambique has a number of ports of which Maputo and Beira are the largest. The ports of Nacala, Matola, and Pemba are smaller, and are mainly used for import and export of coal, oil, containers, and grains. For development of the Maputo and Matola ports, a budget of € 636 million is available up to 2030. The Nacala port has received a € 71 million loan from the government of Japan for dredging, land reclamation and paving of the container terminal (Royal Haskoning DHV, 2013).

More detailed information on the ports and their developments can be found in Appendix X.

1.2.7 WASH

Although water resources are abundant, water supply is less than demand. The largest cities have coverage of 80 %, but for the smaller cities and the rural areas coverage is still low. The major challenge in the Water sector is to extend production, transportation and networks. This has the highest priority for Government.

Water supply and sanitation coverage in rural areas is still poor. Water is mainly supplied by boreholes equipped with hand-pumps or electric pumps in micro water supply systems. Distribution networks are weak, with many non-operational water points. Regulations on industrial wastewater are non-existent. Some international companies have wastewater treatment facilities on site but that is done for CSR and reputational risks rather than because it is legally obliged.

1.3 The Water sector

This section describes the public sector, the legislation, the spending and investment planning and the role of the private sector, NGOs and knowledge institutes. This section ends by identifying pressing needs and explaining the Dutch Government engagement strategy.

1.3.1 Public sector

The following picture shows the division and roles of the different governmental institutions in the Water sector of Mozambique. A detailed description of the different institutions and their roles and responsibilities can be found in appendix IX.

⁴http://www.apfm.info/publications/casestudies/cs_Climate_and_Society_No1_en.pdf#page=26

Figure 3 Organogram of the Water sector Mozambique

	Urban Water Supply	Urban Sanitation	Rural Water Supply	Rural Sanitation	Schools Sanitation	Hygiene & Environment
Policies definition	MOPH/DNA				MINED	MISAU
Regulator	CRA					
Services provision	FIPAG AIAS AdRM SWP	AIAS	DNA/DAS LG	DNA/DAS LG	MINED	MISAU MICOA LG

Legend:

MOPH	Ministry of Public Works and Housing
MINED	Ministry of Education and Human Development
MISAU	Ministry of Health
MICOA	Ministry of Earth, Environment and Rural Development
DNA	National Directorate of Water
DAS	Department of Water and Sanitation
LG	Local Government
FIPAG	Fund of Investment and Patrimony of Water Supply
AIAS	Administration of Infrastructures of Water and Sanitation
AdRM	Great Maputo Water Supply Operator
SWP	Small Water Provider

Mozambique has a number of plans and programs on water management:

- National program for rural water supply and sanitation (PRONASAR) (2010-2015)
- National Irrigation Strategy 2011-2019
- Poverty Reduction Strategy (PARP) three pillars: increased agricultural and fishery production and productivity, job creation, and human and social development.
- Strategic Plan for Agricultural Development (PESDA) 2010-2019
- National Sanitation Program (in development)
- National Strategy of Water Resources Management (2007)

Short, medium, and long term goals of the National Water Strategy of Water Resources Management

Assessment of water resources – priority lies in increasing data collection:

- i. Capacity building related to the survey and data collection;
- ii. Increasing knowledge of the country's water resources;
- iii. Strengthening development of databases on water resources and dissemination of information;
- iv. Increasing number of hydrometric stations
- v. Collection of data related to river sediments transport.
- vi. Monitoring water quality;

Water resources management – goals are:

- i. Preparation and updating of IRWM plans by river watershed;
- ii. Definition of the macroeconomic value of water for the different sectors;
- iii. Mitigate the floods and droughts;
- iv. Insure the balance between the hydric availability and water demands;
- v. Promote the use of legal, institutional, technical, economic, participatory and administrative instruments as a basis for water resources management;
- vi. Promote the efficient national use of water;
- vii. Use of a special attention to the IWRM related to the trans-boundary waters

1.3.1.1 Legislation

- The most important policy of the country is the National Water Policy that became effective in 1995. The policy consists of nine policies on sustainable water supply and sanitation and focuses on attracting private parties into irrigation systems and the creation of good conditions for attracting private investments for irrigation and electricity generation.
- In 2002, the country adopted the National Irrigation Policy and the Implementation Strategy that focuses on good management and conservation of water sources, integrated water management for multi purposes, promotion of irrigated agriculture and promoting decentralization and participation of beneficiaries.
- Strategic plan of the sub sector rural water supply and sanitation (2006-2015)

1.3.1.2 Public sector current spending and investment plans

The Ministry of Public Works and Housing is responsible for water and sanitation in the country.

Table 1 shows that the state budget for water in 2014 is roughly the same as in 2012. In 2013, this budget was twice as high. The component for sanitation is zero, which means that currently sanitation is not as high on the political agenda as water supply and water safety. The budgets for DNA, FIPAG and AIAS have all grown in the periods 2013-2015 (Table 2). The share of external financing is larger than the internal financing, which does not change over time. It is expected, however, that the share of external financing will increase with a further growing economy. The external financing budget for the year 2015 for FIPAG and AIAS is not known, but may be expected to be in line with the budgets of previous years. There is an increasing budget available for the Water sector on national level and local level.

Table 1 State budgets water and sanitation 2012-2014 (million euro)

	2012	2013	2014
Water	4.1	9.2	5
Sanitation	0	0	
Citizen budget			0.75*

* This budget is for infrastructure, including rural and urban sanitation and national program for the development of the Water sector.⁵

Table 2 National Water sector support 2013-2015 (million euro)⁶

Institution	2013			2014			2015		
	Int.	Ext.	Total	Int.	Ext.	Total	Int.	Ext.	Total
Source of financing									
DNA	14	47.7	61.7	32.9	35.3	68.2	35.5	73	108.8
FIPAG	2.7	17.3	20	12.5	29	41.5	14.3	...	14.3
AIAS	4.3	10.6	14.9	4.6	4.2	8.8	9.8	...	9.8
TOTAL	21	75.6	96.6	50	68.5	118.5	59.6	73	132.6

The budgets for the Water sector can be found in more detail in Table A.3 (Appendix IV) together with funding sources for each of the projects. Here, one can also see that the majority of the projects are related to water, not to sanitation. If the National Sanitation Program is approved, more investments will be allocated for sanitation in urban areas and towns. This will be implemented by the AIAS – depending on the availability of donor funding. Donor funded projects of the Ministry of Public Works and Housing mainly focus on (urban) water supply and urban water management. Major donors are the Netherlands (through Embassy programs or financing instruments such as ORIO and NUFFIC), World Bank and UNICEF (Table A.3 and A.4, Appendix IV). Over the period 2012-2014 The Ministry of Public Works and Housing Projects received funding from various donors including the World Bank, Unicef, AusAID and IMF. The total budgets (in million euros) for the respective years were 6.2, 585.1⁷, 15.3. The investments of the ministry over the period 2011-2014 were 403 million euro.

For the WASH sector, the government of Mozambique does not have a financing plan and budget that is fully followed and implemented. This applies to rural and urban areas for the sectors sanitation, drinking-water and hygiene. Over the years 2012-2013 the budget for WASH was USD 259 million. The WASH expenditures in 2012 were € 83 million. The funding sources of 2012 were €25.4 million from the national government and € 76.3 million from external sources (GLAAS, 2014).

1.3.2 Private sector

The private sector plays an important role in the WASH sector of Mozambique – in particular large international firms, mainly from South Africa (advanced technical goods), Europe, India and China. Indian and Chinese brands are becoming more important. Products from South Africa often originate from international brands that have offices or distribution points in South Africa. In order for

⁵ Orçamento Cidadão 2014 (2013). República de Moçambique Ministério das Finanças Direcção Nacional do Orçamento, Outubro de 2013

⁶ Via G. van Bork (NWP)

⁷ The budget for 2013 is much higher than the other years, this is a result from one large donor fund that has been allocated in 2013, but most probably covers multiple years.

companies to operate independently in Mozambique, they should be registered officially. International companies are closely involved in the management for urban water supply, for instance, SAUR (France), Aguas de Portugal, Vitens/Evides (Netherlands). The involvement of the private sector in public water supply is not controversial in Mozambique, neither is the delegated management model (DHV, 2011). The private sector for water management is not well organized which results in ineffective and inefficient planning and implementation of relatively good management policies and strategies.

1.3.3 NGOs and knowledge institutes

Large NGOs that are active in the Water sector in Mozambique are UNICEF, WaterAID, CARE, WSUP, NUFFIC, SNV, NICHE and WSP. Smaller NGOs are WWF, Aqua for All, Humana, Both ENDS, BOP Innovation Center, and WASTE.

Knowledge institutes active in Mozambique are Deltares, UNESCO-IHE, and Alterra/ Wageningen UR.

The Dutch water board Wetterskyp Fryslan is member of FUSP and supports ARA Sul in the development of a good local organization of water and Waterschap de Dommel supports ARA Zambezi in planning and integral management to strengthen the strategic capacity of the ARAs (DHV, 2011; NWP, 2014). Waterschap Hunze en Aa's has been active regarding a project on water governance for ARA Centro in Mozambique.

1.3.4 Dutch cooperation and priorities

The Dutch embassy will focus on urban water supply and sanitation, river basin management and safe delta technology, and water and agriculture. Less attention will be given to rural water and sanitation.

A Memorandum of Understanding was signed between the government of the Netherlands and Mozambique which prioritizes Mozambican and Dutch sourcing for investment and cooperation in the Water sector. The National Water Directorate (DNA) will receive support for institutional reforms, which should lead to creating an enabling environment and demand for Dutch expertise and business interest.

For river basin management and delta technology, the focus will be on supporting ARA Zambezi and ARA Sul. In addition, the embassy will support the establishment and functioning of an International River Basin Organization for the Incomati and Maputo River basins.

For water and sanitation support will be given to programs with Dutch added value in water technology in urban areas. The Dutch government has been involved in the development of a master plan for the city of Beira. This master plan concerns sustainable urban development (housing, industrial zone and port), protection against climate change and flood, the availability of clean (drinking) water for the urban population and the development of drainage and sewerage systems (MASP, 2014).

For water management, EKN supports trans-boundary water management through the PRIMA program (Progressive Realization of the Inco-Maputo Interim Agreement) and it provides support of international agreements for a number of rivers through the ASAS program.

For the pillar water and agriculture, the Netherlands has the ZVDA program in place through which the agency is supported in land and water development for a safe and productive valley. This includes the support for development of small scale irrigation in the Zambezi valley. The goal of the Zambezi Valley Development Agency is to attract investments for development of the valley. Through a MoU between ZVDA and the Netherlands, Dutch organizations have priority in providing knowledge and investments (MASP, 2014).

2. Opportunities relevant to the Dutch Water sector

This chapter presents the results of the web survey among Dutch Water sector players. It has been supplemented with the main observations from previous (existing) market studies and interviews with water professionals and strategic actors within the Dutch Water sector. (Please refer to Appendix I for 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

The section starts by describing the current situation: how the Dutch Water sector is involved, the type of activities performed, client groups and performance with respect to specific development indicators.

2.1.1 Progress on Millennium Development Goals (MDGs)

Mozambique will not reach the MDG targets for water and sanitation by 2015: the percentage of people with access to safe water and sanitation is still low. In rural areas 35% of the population has access to safe water (80% in urban areas). 11% of the rural population has access to sanitation (44% in urban areas). The percentage with access to water and sanitation is higher in urban areas compared to rural areas. However, service provision cannot keep up with rapidly increasing urbanization. The percentage with access has declined over the period 1990-2006 (World Bank, 2012; CIA, 2012).

The MDGs on water, sanitation and hygiene are:

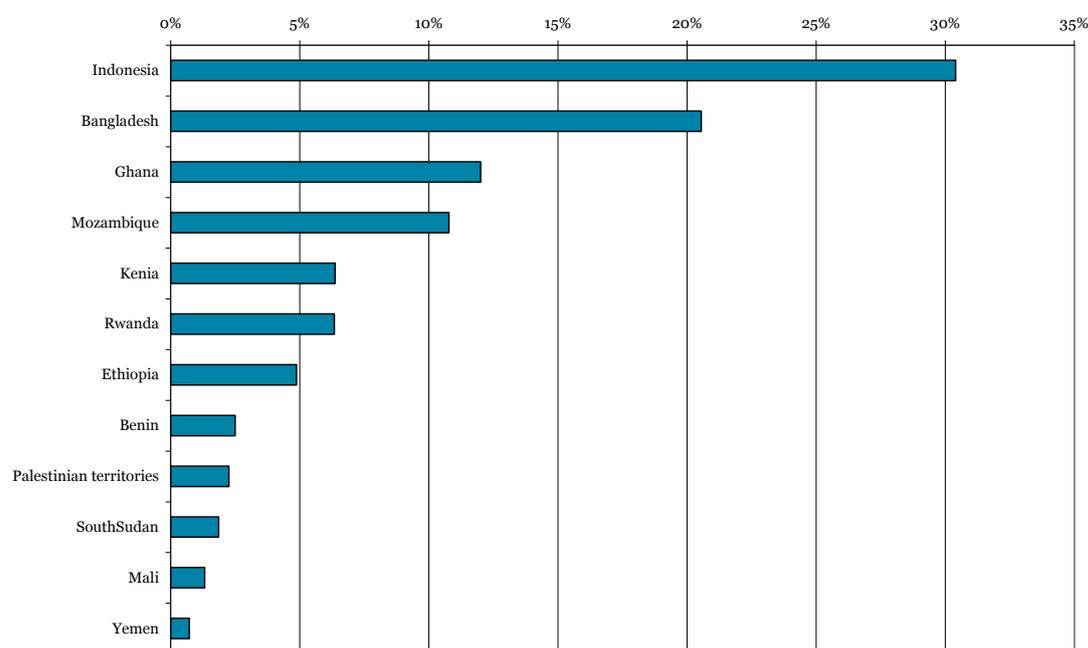
- 11% of people living in small towns and 51% in cities have sustainable access to and use improved sanitation facilities
- 4% of people living in small towns and 64% in cities have access to and use improved drinking water facilities
- In 2012 957,689 people were reached with sustainable access and use of improved water sources, which increased to 1,496,313 in the year 2013.
- 12% of the population is still engaged in open defecation

The EKN has supported FIPAG and AIAS in achieving these development results – partly through partnership with FIPAG and VEI for institutional support. The Embassy has contributed to efficient water use in agriculture through ORIO programs on rice and sugar cane. Improved river basin management and safe deltas programs, which focus on sustainable development and management of water resources at the national level, have been supported by large investment programs such as the WB National Water Resources Development Program and IFI support for river basin plans. The contribution of the Netherlands is mainly through support to DNA.

2.1.2 Dutch Water sector involvement

Total Dutch exports in the Water sector to the 12 OS-countries are estimated at 25% of total Dutch exports in this sector, or about € 60 million.⁸ Figure 4 shows the breakdown of these exports for the OS-countries. The share of Mozambique is 11% (Figure 4). Mozambique ranks fourth in Dutch exports in the Water sector of the twelve water OS countries. 32% of the companies and over 56% of the NGOs in the sample are active in this country. Somewhat less than 30% of the companies and about 10% of the NGOs in the sample are not yet active in Mozambique, but are interested (Web survey Panteia 2014/2015). Table A.5, A.6, and A.7 in Appendix V and section 2.3.1 show a detailed overview of Dutch Water sector organizations active in Mozambique.

Figure 4 Breakdown of Dutch exports in the Water sector to the 12 OS-countries, in % of turnover (N = 60)



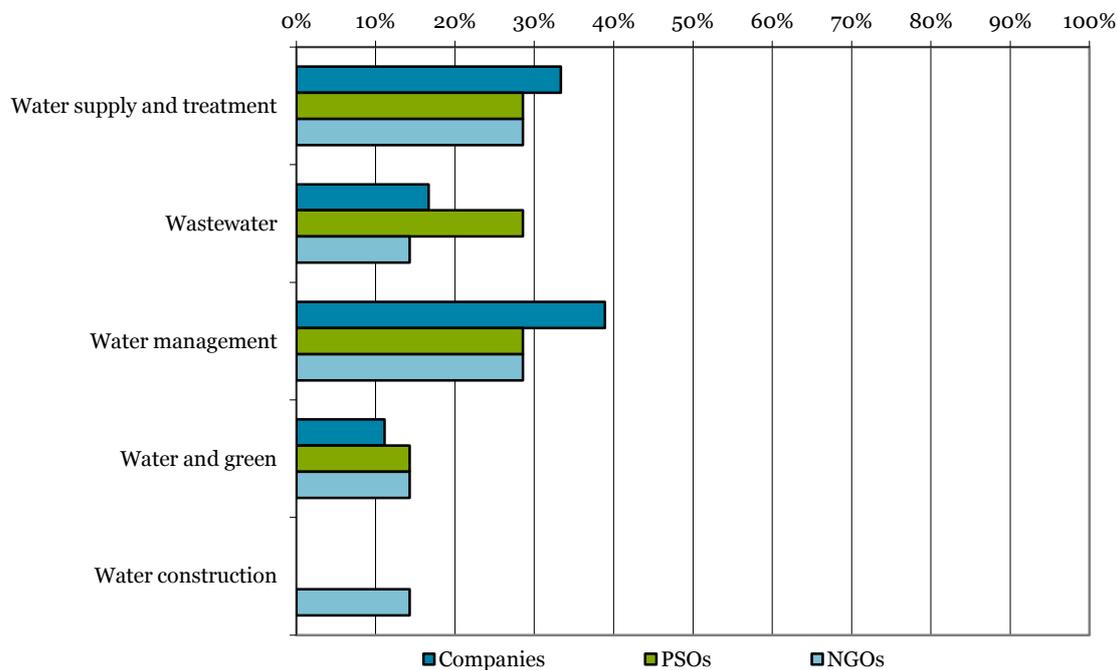
Source: Web survey Panteia, 2014/2015

Current activities in various subsectors in Mozambique

Most companies are active in the subsector water management of Mozambique (39%), followed by water supply and treatment (33%), wastewater (17%) and water and green (11%). Public Service Organizations (PSOs), consisting of Water Boards, water companies and knowledge institutes, are active in water supply and treatment, wastewater and water management (all 29%). The main activities of NGOs are water supply and treatment (29%) and water management (29%) (see Figure 5).

⁸ This estimate is based on the sample results of the web survey. Using this as a base the relative export shares of the various regions and countries were determined for the sample. Since the sample may not represent the whole water sector in an optimal way, no hard or general conclusions can be drawn. The actual value of export will be higher, but this value can only be obtained with sample results once the whole population is known. Establishing the population is complex and outside the scope of this study. Another complicating factor is that large projects (especially those in water construction) may influence export figures drastically and lead to large fluctuations over time. In the web survey sample no such 'disturbing' projects have been found. The method used in this survey is in line with the method used for WEX 2014, which is also based on sample results.

Figure 5 Current activities of Dutch organizations in the various subsectors of Mozambique, in % of total observations. Companies (N=18), PSOs (N=7) and NGOs (N=14)



Source: Web survey Panteia, 2014/2015

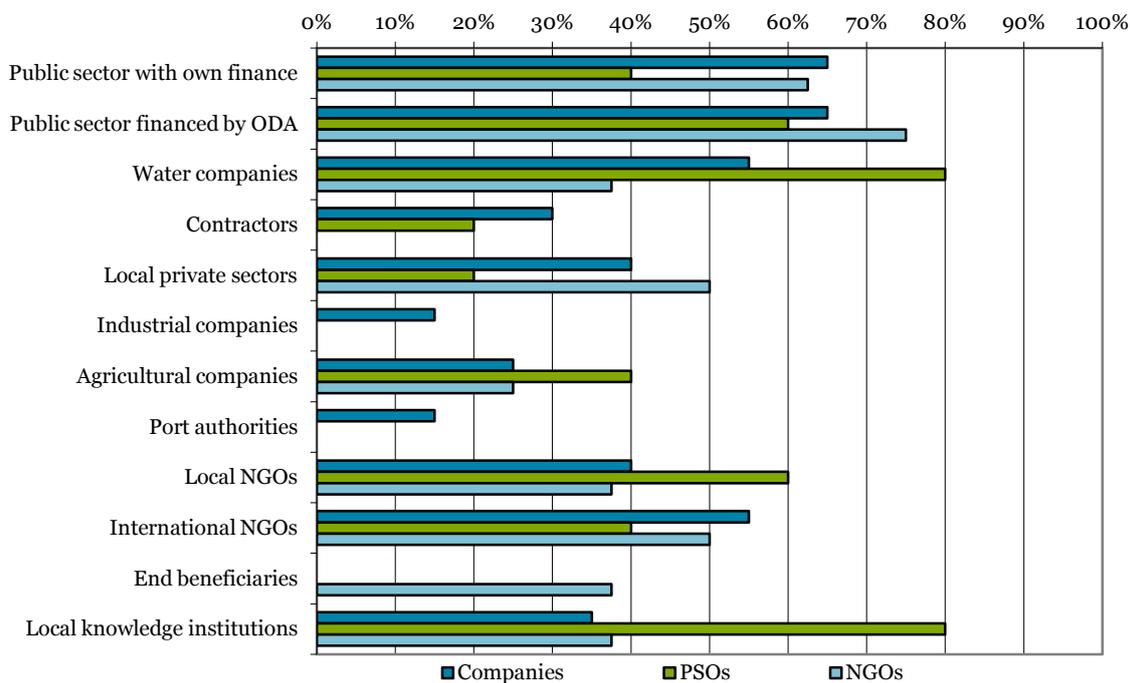
Nearly 70% of Dutch company respondents of the web survey are active in advice. Another substantial percentage (45%) is supplier of goods and/or services and design (40%). Interviews, however, reveal that companies are less active in the supply of goods, but more active in advice, design, and research. All PSOs are active in capacity building/knowledge transfer (100%), research, technical advice and implementation (together 80%). Capacity building and providing technical advice are the main activity areas of NGOs (together 88%). Lobby and advocacy and technical advice are also tasks of NGOs, but to a lesser extent (see Figure A.2, Appendix III). Several Dutch start-ups are active – made possible by Dutch financing from PvW and PSI. This allowed them to develop contacts and assess market attractiveness. In interviews, one start-up indicated that it would not have been possible to enter the Mozambican market without funding from PvW. A number of Dutch freelancers operate from Mozambique.

Companies, PSOs and NGOs currently active in Mozambique indicated in the web survey that promising areas are IWRM, urban water management (most potential for companies and PSOs), water supply (most potential for NGOs). Organizations not active in Mozambique but showing interest see most potential in the subsector IWRM. NGOs also see significant potential in drinking water supply and treatment and water and agriculture, and companies in water and agriculture. PSOs see potential in urban water management (see figure A.3 and A.4, Appendix III).

The main client groups of Dutch companies are the public sector, either with own finance or ODA financed (together 65%), followed by water companies and international NGOs (together 55%). PSO clients are water companies and local knowledge institutes (together 80%) and public sector with ODA finance and local NGOs.

Clients of NGOs are the public sector (63% resp. 75%), local private sectors (50%), and international NGOs (50%) (see Figure 6).

Figure 6 Current client groups of Dutch organizations in Mozambique, in % of respondents (more answers possible). Companies (N=20), PSOs (N=5) and NGOs (N=8)



Source: Web survey Panteia, 2014/2015

2.1.3 Dutch public support programs

The current bilateral ODA between the Netherlands and Mozambique is approximately € 12 million annually. This will be reduced as a result of the shift from aid to trade. Government supported programs focus on strengthening the cooperation between the Netherlands and Mozambique by stimulating cooperation between governmental organizations, knowledge institutes, private sector and NGOs. The following programs are active in Mozambique:

Water Mondiaal Program	Implemented in 2011, the program aims to build a long term relationship with Mozambique with a focus on delta issues in relation to climate change
Water OS	Support to Dutch Embassies in 12 countries in implementing their multi-year water program to mobilize Dutch water knowledge and expertise in these countries.
Partners for Water	Aims to create an enabling environment for Dutch water sector organizations to offer their services to clients in OS countries.

A project funded by Partners for Water is Green Infrastructure Solutions for Solving Beira's Storm water problems. This project is a spin-off of the Beira Master plan. Deltares (together with Witteveen + Bos and Wissing B.V.) has received funding for a project against flooding in a small part of Beira. Through green infrastructure, the area is protected against flooding. A second project is Water Planning Tools to Support Water Governance. The aim of the project is to set up a sustainable water

governance system in Mozambique that is based on Dutch successes and approaches. It focuses on independence of Water Boards, decision making and full cost recovery. The applicant is FutureWater and receives support from UNESCO-IHE and Waterschap Hunze en Aa's.⁹ More financing instruments can be found in Appendix II.

Embassy

In the period 2008-2018 the Embassy has invested – and will invest – in a number of projects in water management and WASH. The largest share of these investments is designated for water supply, as can be seen in Figure 7. The Embassy has invested in support of FIPAG (water supply in cities), AIAS (water supply and sanitation in small cities), and ARAs. ASAS funding is for a budget support program for the Water sector.

⁹ Via <http://www.rvo.nl/subsidies-regelingen/projecten-gis#f%5B0%5D=subsidies%3A3948>

Table 3 gives a more detailed overview of the EKN programs for the sectors mentioned in Figure 7.

Figure 7 Sectors of Dutch support programs – coordinated from EKN 2008-2018

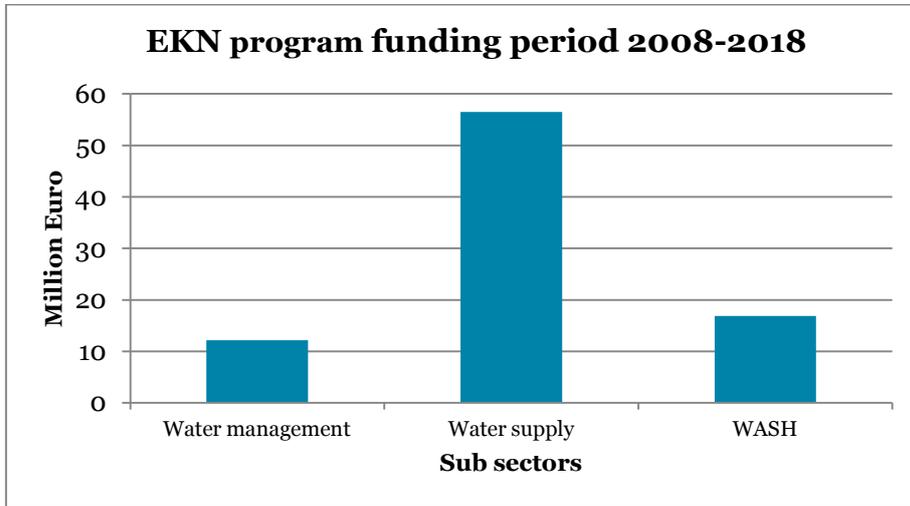


Table 3 Overview of Dutch support programs – coordinated by EKN 2007-2018 (million euro)

Project	Budget	Period	Sector
Waternet Phase III	5.4	2012-2016	Water management
FIPAG investment Chimoio	26.6	2007-2012	Water supply
FIPAG 4 towns	4.8	2008-2013	Water supply
Institutional support FIPAG	7.1	2011-2015	Water supply
PROSONAR	6.9	2010-2012	WASH
ASAS T.A	7.2	2012-2016	Water supply
ASAS	10.8	2012-2016	Water supply
IIA	0.39	2009-2012	Water management
ARA Zambezi	5.9	2012-2016	Water management
ARA Sul / Wetterskip Fryslan	0.5	2014-2017	Water management
Coordinator focal partnership water	0.04	2012-2014	
PRONASAR	3	2013-2014	WASH
Capacity building of AIAS and system operators	7	2013-2018	WASH
Total	88.03		

Other Dutch support programs: ORIO and FDW

In addition to programs funded through the Embassy, the Netherlands has a number of support programs in Mozambique. One of the most active programs in Mozambique is ORIO, through which over € 12 million has been invested in water related projects (see Table 4 and Figure 8). Two ORIO funded projects are discussed in the boxes.

Munda Munda flood control, drainage and irrigation project (2009-2019)

This project to upgrade infrastructure for irrigation, drainage and flood control targets 3,000 hectares of farmland and 5,000 farmers in the Munda Munda River plain. The applicant is the National Irrigation Institute of the Ministry of Agriculture. Activities for establishment, management, accounting and capacity building are tendered publicly through bidding procedures. The project is currently in its implementation phase.

Greater Maputo Water Supply Project

This project provides high quality drinking water for Maputo. The applicant is the Ministry of Planning and Development. FIPAG is the executing organization. The project concerns the development, construction and operation of the Corumana system. This covers the entire process from source development to water treatment, transmission and distribution to the various water connection types for domestic, public, commercial and industrial use. Dutch parties involved are Royal HaskoningDHV and Vitens Evides International (VEI).'

A grant from the Sustainable Water Fund (FDW) in 2014 was awarded to VEI for access to clean drinking water and sanitation in Beira, under the name of Sustainable Water Services Beira. This was the only FDW application for Mozambique in 2014. In 2012 no grants were awarded to projects and programs in Mozambique.

Figure 8 Dutch support programs – coordinated from the Netherlands in Mozambique 2010-2026¹⁰

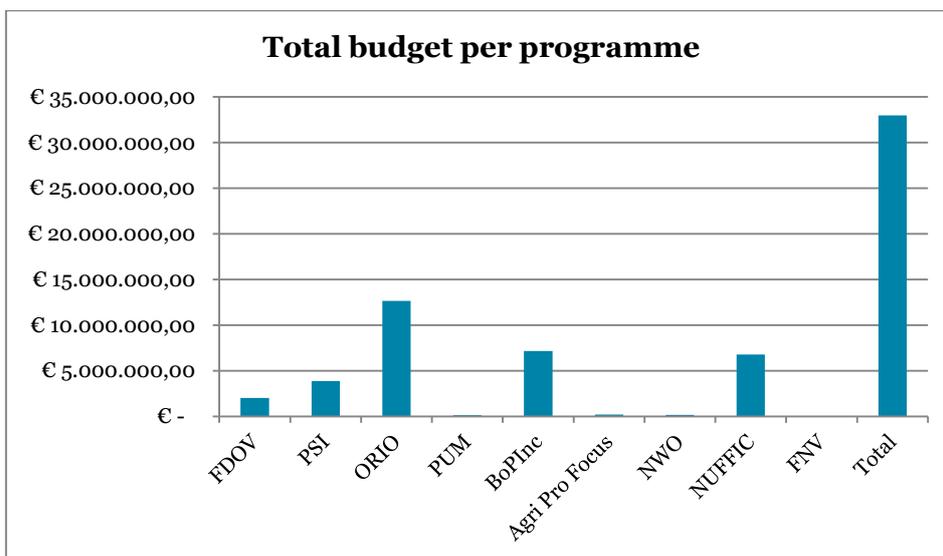


Table 4 Overview of Dutch support programs – coordinated from the Netherlands (million euro)

Program	Number of projects	Budget per program	Period	Most relevant sectors
FDOV	1	2	2013-2016	Horticulture
PSI	6	3.9	2010-2016	FoodandAgro
ORIO	6	12.6	2011-2026	Water
PUM	25	0,1	2014	Agro
BoPInc	2	7.2	2011-2017	Water/Sanitation
Agri Pro Focus		0.2	2014	Agro
NWO	1	0.2	?	Food security
Nuffic	5	6.8	2011-2016	Agro, Environment, Education, PSO
FNV	3	0.03	2013-2016	Cross sectoral
Total	49	33		

2.2 Trends

This section describes trends summarizing the most important pressing needs followed by an overview of government plans and the agenda of donors and funders.

Some worldwide general trends are relevant for Mozambique:

- Technological innovations such as waste to energy, mobile dikes, mobile and IT applications in drinking water metering and water management, ICT and innovative payment systems for water bill collection.

¹⁰ Source: Projects DDE

- Increasing attention of policy makers and donors for climate change mitigation, renewable energy and increased use of hydro dams for energy and water supply for irrigation.
- Water and urban development, covering multiple sectors such as water supply, sanitation, infrastructure and port development.
- Climate change, increasing availability of climate funding, and climate relevance of water projects.
- Innovative financing methods: blending. Blending is the combination of financing instruments such as grants, micro credits and guarantees both at the project level and at the funding level. The FUSP project for WASH in Mozambique is a good example.
- More private sector involvement and strengthening of the capacity of the private sector for more sustainable investments in water supply and sanitation. In many countries the involvement of the private sector in water is increasing. In Mozambique this is less common, as the Mozambican government does not fully support PPP constructions and the business environment remains uncertain. Nevertheless, some initiatives with entrepreneurial models have started in recent years. An example is the FUSP project (also see paragraph 2.3.1). This project involves the local private sector in the provision of products and services ranging from construction to transport and fecal sludge treatment. Other examples are SNV and BoP Inc projects in community enterprise rural water supply models. Also organizations such as the Water and Sanitation Program (WSP) of the World Bank and WSUP in projects in Maputo. UNICEF aims for more private sector involvement in their Small Towns Program in cooperation with AIAS.

General trends in Mozambique are:

- Water availability under increasing stress because of pollution, increasing claims from the extractive sectors and need for increased WASH network coverage.
- Limited public investment in infrastructure.
Significant infrastructure deficit as a result of limited investment and destruction during the civil war (1975-1992). Inhibits ability to meet growing demand for transport.
In the coming years, the prime focus of the government will therefore be infrastructural investments in transport (railways, waterways, roads), energy (production, distribution, dams), ports and social sectors (water, solid waste, sewerage). The extent to which government will be able to close the infrastructure gap depends to a large extent on the ability to attract foreign financing (via PPP or donors). Government's potential to invest heavily in infrastructure is limited given the already high level of public investments.
- Regional integration.
Despite the limitations of Mozambique's logistics network, it is well developed relative to many of its neighbors, enabling the country to serve as a major transport player within regional and international supply chains. Further regional integration and economic cooperation within the Southern-African Development Community, SADC¹⁵, will be beneficial for Mozambique as an export hub for the land-locked hinterland.
- Increasing levels of PPP financing in extractive and energy sectors that direly need investments in infrastructure.
Experience so far shows that these PPPs are packaged as full-service contracts, including design, financing and construction. It is expected that this will continue to be the trend.
- Continued dependence on donor funding.
Government will remain highly dependent on external donor funding. The development agenda will be discussed with IFIs and bilateral donors. Only if the government is able to reap the benefits of growth in the economy and invest to strengthen the structure of the economy, might dependence on external sources become less.
- Limited trickle-down.
Growth will mainly come from distinct areas in the economy (extractive sectors, oil and gas

offshore, ports development)> The challenge will be to create sufficient trickle-down effects for the rest of the economy so that the broader population benefits.

WASH

- Specific to Mozambique: increased attention for urban sanitation in Maputo and Beira. Wastewater treatment in both rural and urban settings receives more attention and becomes more attractive. This increased attention has resulted in the National Sanitation Program that is currently being developed but that still needs to be approved by the government.
- Sanitation increasingly important in large urban areas. Current coverage is low in the urban area (52%; improved facilities and shared facilities) and even lower in the rural areas (25%). Sewerage networks and sewerage treatment plants are virtually absent in Mozambique – sewerage systems have to be built from scratch. There are only two treatment plants active: in Beira and Maputo.
- Extending services rather than operational efficiency. Reuse and water quality will become important. In the coming years, focus will be more on extending services than on improving operational efficiency, as the challenge is increased coverage. Only once coverage has reached an acceptable level, may attention shift to operational efficiency. Reuse and water quality are not issues yet but will become important in the future.
- Decentralization of WSS services. Operational performance of WSS providers needs to be improved. It will be difficult to accomplish this without further decentralization of responsibilities. First steps have been the separation of strategies and policies functions from operational functions by the establishment of FIPAG and AIAS. Further regionalization of operational services are needed and expected.
- Increasing demand for water. Substantial growth is needed in water availability. Tourism is expected to grow: water services need to meet international standards. The new ports of Palma and Pemba and the extensions of other ports also bring increased water requirements.
- Increasing need for wastewater treatment. Process water is generally provided through FIPAG. Currently, industries generally do not have wastewater treatment. Only a few industries have treatment facilities. The main driver is internal CSR policies – not legal requirements. Large international companies are likely to improve wastewater treatment due to reputational risk and CSR objectives. Legally binding discharge standards or environmental requirements are not to be expected in the short run.

Maritime and coastal zone development: ports development

- Expansion of ports and transport. Increased PPP. Throughputs at ports are expected to increase substantially. Transport facilities to connect ports with their hinterland are expected to grow. Currently, some of the concessions for ports' operations or distinct terminals are handed out. CFM manages and operates transport and port facilities. Its strategy is to attract PPP financing and use knowledge of PPP parties to manage and operate such complex transport schemes. It is expected that more concessions will follow. By participating in joint ventures, CFM will increase its capacities in operational management.

2.2.1 Pressing needs

The geographical location and the low economic status result in a number of water related needs for the country:

WASH

1. Increased water supply and sanitation.
Despite strong economic growth in Mozambique, people are still very poor. A large percentage of the population has limited access to safe drinking water and sanitation – resulting in high child mortality. Increasing water supply in secondary cities is very important for the coming years. Sanitation is expected to become a more important issue as rural and urban areas get better access to water – in 2017 to 2019.
2. Extended water supply in secondary cities.
It appears more important to extend water supply services rather than improving the operational efficiency of the services. Coverage in larger cities may have reached 80% (piped onto premises and improved source, WHO, 2014) , but rural coverage is still far behind (35%). For the coming years, the priority will be on increasing coverage in the secondary cities.
3. Spatial planning, water services and wastewater treatment needed.
In coastal cities such as Maputo and Beira – and others such as Quelimane – spatial planning of the cities for drainage of water becomes more important as a result of rapid urbanization. Here, but also in more rural areas, drainage, on-site sanitation systems, sewerage and wastewater treatment, small scale dredging, are under developed and the need is increasing. Improved wastewater techniques are also highly relevant for industries, where this is mainly done from perspectives of CSR, reputation and risk and less due to government regulation.
4. Technology for finance.
Developments in WASH may be stimulated by IT applications, such as pay-by-phone and meter reading. Sanitation coverage in rural areas may be enhanced by innovative financing schemes and micro financing.

IWRM

5. Increasing droughts, floods, cyclones.
As a result of climate change, Mozambique needs to develop strategies to deal with an increasing number of droughts, floods and cyclones reducing water availability and posing threats for the population. National strategies give priority to water storage and flood early warning systems. There is an increasing need for models that can predict climatic circumstances and effects of climate change.
6. Emergency relief for flooding.
Mozambique has floods every year in the autumn. Emergency funds need to be in place for immediate relief. Currently such funds are not reserved and need to be found each year hampering quick response and aid.
7. Flood forecasting.
Tools for flooding such as flood forecasting or early warning systems are barely available.
8. Drainage management.
Infrastructures to protect against flooding – such as dikes, water reservoirs and drainage systems are under developed or ineffective due to lack of proper management and waste-clogged pipes. Particularly in urban areas drainage systems for flooding are needed – a result of rapid population growth and development. Improved planning of urban development is needed.
9. Coastal protection.
Coastal protection is not very high on the political agenda of Mozambique and will most probably not be a high priority in the coming years.
10. Community based approaches and small scale water harvesting.
More innovative climate adaptation policies such as community based approaches and small scale water harvesting are currently lacking in Mozambique.

11. (International) river management.
Integrated water management of the rivers is required. The country is highly dependent on the international rivers. Particular concerns are: pollution (in relation to drinking water and irrigation) and the availability of water. International committees do exist for trans-boundary issues; however the effectiveness of these organizations is unclear.
12. Efficient irrigation.
Particularly in the South there is an increasing demand for irrigation. Irrigation systems are rather inefficient: 25-50% for smallholders and 70% for large companies.

Cross-over water and energy: hydropower and dams

- The Cahora Bassa dam is a large dam providing water and energy. Water management for the dam is weak poorly organized. This is becoming more urgent as a result of population growth and climate change. It is expected that the country will soon face a shortage of electricity. Management of electricity production to meet demand needs to be improved. There is a need for small scale hydro dams – and there are a number of suitable locations. Hydrologic studies for hydro-dam planning could be regarded as an interesting niche.

2.2.2 Government plans and development agenda

The city of Beira is ready for a number of investments and developments.

The port of Beira is very well located for the hinterland: Zimbabwe, Malawi, DRC and Botswana. However, the capacity of the port is very limited and infrastructure is not well developed. In the near future, more southern African ports will be developed – e.g. Nacala and Walvis Bay (Namibia) – creating competition for Beira. This competition will be strengthened by the development of railways to other ports.

The port of Maputo has a master development plan for the next twenty years with especial focus on dredging activities due to the shallow access channel.

Smaller plans are being implemented for development of the ports of Nacala and Nacala a Velha and Techobanine.

The Ministry of Transport is developing several development corridors between ports and hinterland with improved infrastructural facilities such as railways, roads, and pipelines to support transport for import and export products (Royal Haskoning DHV, 2013). The government of Mozambique, together with the private sector and the international community has set up the Beira Agricultural Growth Corridor (BAGC). Through this corridor the agricultural productivity of the area should increase. This area is underdeveloped compared to other parts of the country in terms of infrastructure and water availability. 95% of the area is used by unproductive smallholders.

Finally, decentralization of water supply and sanitation is expected to speed up in the coming years, which means further development of operational performance of the water suppliers.

The government has distinguished three major agricultural growth corridors to stimulate agricultural production, see the figure below.

Figure 9 Agricultural growth corridors



Coastal zone management and coastal protection will become priorities. For example in Beira there is a need for coastal protection to protect vital infrastructure and the city. In IWRM salt intrusion of groundwater sources impacts coastal-zone management. However this is not yet high on the political agenda.

2.2.3 Plans and agenda of donors and funders

Donor funding is a major source of funding for the government of Mozambique (GoM) to invest in infrastructure and developments in the Water sector. Main donors are the World Bank, AfDB, AFD, EU, EIB, and others. Own budgetary resources are a small part of the annual capital investments in infrastructural sectors. General strategies of large international funders are:"

Netherlands

The Netherlands water activities are concentrated around the themes of institutional development, water safety, water availability and water productivity. Although development relations will be phased out in 2017, it is expected that water will remain one of the priorities for the other programs that remaining open to Mozambique (Water Mondiaal, DRR, DGGF, Niche, PvW, Via Water etc.). In total some € 32 million is allocated to water through these programs. Because part of the programs is demand driven, the size of the program depends on eligible proposals being received. Concrete support programs are:

13. Institutional support of the DNA and the Mozambican Water Platform (PLAMA)
14. Support for improved river basin management and safe delta technology on ARA-Zambezi and ARA Sul and International River Basin Organizations
15. Further development of the Beira Master Plan
16. Water and sanitation in urban areas
17. Water and agriculture as part of the Zambezi Valley Development Authority (ZVDA) program (see paragraph 1.3.4) and the Beira Agricultural Growth Corridor (BAGC).

World Bank

The World Bank is one of the main donors in the Water sector in Mozambique. Improved water supply and sanitation services are currently one of target areas for the Bank in order to enhance

" Sources: Country Strategy Papers of World Bank, AfDB, complemented with information of G. van Bork retrieved directly from these organizations

competition and employment in the productive sectors. Based on the current division of labor with other donors: the WB concentrates on the urban sector. It is expected that in the coming five years the focus will be more on secondary AIAS cities and less on the largest FIPAG cities. Discussions within the Bank shift focus to rural areas under the next Country Partnership Strategy. Besides rural water supply, rural sanitation could also be a priority for future activities. The Water and Sanitation Program of the World Bank is currently being redefined and should result in a new five-year plan for 2015-2020.

Focus for the Bank for the coming years will be the cities and climate change program – finance of individual projects to increase resilience and adaptation in three cities: Maputo, Beira and Nacala. There are six water-related projects in the current project pipeline (stage: expression of interest). The project pipeline makes it clear that the Bank will continue to be engaged in the productive sectors: mining, gas and hydropower. IWRM will remain a focus area for the Bank.

Lending (IBRD and IDA combined) showed a declining trend over the last four years: from USD 413 million in 2011 to USD 288 million in 2014. It is not clear whether this trend will continue in the coming years.

IFC, the private-sector arm of the World Bank, supports private-sector development. IFC has previously supported farming activities and is expected to continue do so. In 2013 IFC invested in vessels for Pando Mozambique. The implication is that IFC will not be involved in large infrastructure investments, but since IFC does not publish a project pipeline this cannot be checked. IFC is currently advising FIPAG on independent regional operating companies. IFC's involvement in water is now relatively limited. If government were to allow private sector involvement in water, this would greatly enhance the possibilities for IFC.

African Development Bank

The AfDB will reduce its portfolio orientation on northern Africa and shift more to other African countries. AfDB will move its headquarters from Tunis to Cote D'Ivoire. The focus of the AfDB is shifting to middle income countries to diversify portfolio risks away from politically risky North African countries.

For Mozambique the AfDB Country Strategy Paper focuses on two pillars:

- I. Enhanced private sector competitiveness through infrastructure development.
The aim is to increase agricultural and fisheries production and productivity by 10% for major crops in 2013. For water, the aim is to increase access to and use of drinking water supply services and of safe sanitation in rural and urban areas. Target for 2015: 300 boreholes, 70 wells rehabilitated, 4 small pipe systems built, 100.000 household latrines, and 200.000 people sensitized on sanitation.
- II. Pillar II: Governance in support of inclusive growth.

In Mozambique the focus of the AfDB is on:

- urban water supply projects, such as Quamba Limbicho and the Greater Maputo water supply project, and
- rural water supply, such as the PRONASAR project in Nampula and Zambézia provinces.

Sanitation is only present in the water and sanitation project in Niassa.

Other projects funded by the AfDB are the BAIXO Limpopo Irrigation and Climate Resilience Project (total value UAC 28 million).

AfDB has made money available for feasibility studies for flood management of the Limpopo River, hydropower and irrigation. Money was also granted to emergency aid relief after flooding.

There are two water-related projects of the African Development Bank in the project pipeline: one in rural water and one in irrigation.

Priority areas for the Bank's involvement are: human resources development, agriculture, water supply and sanitation, transport and energy and power. This will continue to be the priority until the end of fiscal year 2015 – the endpoint of the current country strategy. There may be shifts of focus after 2015.

The main instrument for water resources management is the African Water Facility. This facility is hosted and managed by the AfDB and is an initiative of the African Ministers Council on Water. Financial contributors are AfDB, EU, the Bill and Melinda Gates Foundation, and a number of countries, including France, Norway, Canada, Spain, and Australia. Other funds of the AfDB are the Africa50 Infrastructure Fund and the Africa Green Fund.

European Union and European Investment bank

The focus of the EU/EIB for 2014-2020 is on food security and energy. Food security could translate into access to markets and water security. There will be more focus on rural areas but no specific focus on water. Therefore the EU Water Facility will not be continued.

Energy focuses on improved access as well as upgrading and extension of the network. Small scale hydropower and solar energy will receive more attention. In general, the focus will shift from sector budget support to general budget support, with a total of € 700 million in the six-year period.

The EU is currently implementing a number of projects together with the EKN

- Maputo Water Supply project
- Strengthening Management Capacities of FIPAG in cities of Nampula and Angoche
- Technical assistance for strengthening water operator in Vilanculos. The project is implemented by Aqua del Campo in cooperation with University of Breggia.
- Water supply of four small towns delegated to UNICEF.

AFD and BADEA

L'Agence Française de Développement (AFD) has financed eight projects in Mozambique – one of them related to WASH (water distribution in Maputo) and one related to hydropower. The pipeline of projects is not published, nor are there specific policies for Mozambique.

The Arab Bank for the Economic Development of Africa (BADEA) has one project for Mozambique for a technical agricultural institute in the pipeline. Pipelines are presented twice or three times a year. No policy for Mozambique is published.

2.2.4 Macro developments in mining, industry, and other sectors

Opinions as to the development of coal production vary greatly.

Some consider coal an important product due to demand from China and India. IMF forecasts an increase from 8 million tons in 2013 to 12.5 million tons in 2015 and 20 million tons in 2017 (Royal HaskoningDHV, 2013).

Others see a peak for coal production in 2016.

Yet others are convinced that the peak days of coal production are over resulting in lower prices. The profitability of investing in coal production is questionable. A limiting factor is the poor infrastructure facilities of Mozambique.

Other growth potential industries are gas and aluminum. (KPMG, 2013)

The government of Mozambique has developed several multi-annual plans for agricultural expansion.

Corn production is planned to increase from 340,000 ton in 2014 to 830,000 ton in 2020.

Rice production is planned to expand from 24,400 ton in 2014 to 83,000 tons in 2020 (G4AW, 2014).

Until 2014, coal mining was the fastest growing industry. Significant reserves of coal have been discovered in Tete and in the Zambezi area, which attracted prominent mining companies, such as Vale and Rio Tinto. At that time, Mozambique was expected to reach a coal output of 41.8 million tons by 2017 from 6.3 million tons in 2011. The majority of coal is destined for export, mostly to China and India, which could make Mozambique one of the top 10 largest coal exporters in the world. However, from 2014, coal declined due to reduced demand and collapsing coal prices on the world market.

Besides coal, Mozambique produces gold and aluminum – about 1.2% of the global aluminum (Mozal aluminum smelter in Matola city) and 1.5% of global gold in 2012. Despite the modest share in global production, these are important revenue generators for Mozambique.

Commodities such as tantalum, limonite, rutile, zirconium and beryllium are also mined in the country. For instance, Mozambique produced about 34 percent of the global tantalum in 2012.

Since the decline in the coal market, the latest developments are:

- Rio Tinto sold its share to International Coal Ventures Private Limited (ICVL),
- Tata Steel Ltd, Beacon Hill Resources Plc, Vale S.A., Kenmare Resources are currently looking for a buyer,
- Jindal Steel and Power Limited (JSPL) mines thermal and metallurgic coal at Chirodzi mine, in Songo, Tete. This coal is used in their steel factories in India.

2.3 Opportunities

This section provides insight into concrete programs and projects that offer opportunities for the Dutch Water sector. By identifying examples of past and present opportunities and the way these opportunities have been financed, insights are provided into potential product market combinations.

2.3.1 Past and current opportunities

A number of large programs are currently running in Mozambique.

Large programs are: the Master Plan for Beira 2035, the Frysian Urban Sanitation Program (FUSP), PROIRRI, and the program for sustainable freshwater supply in Urbanizing Maputo.

More information about the programs can be found in Table A.5 in Appendix V.

The following table provides some examples of important projects with Dutch party involvement. It shows which organizations have already found opportunities.

Respondents of the web survey make use of different financing instruments. This is often a mix of Dutch and foreign finance or full Dutch finance. One organization does not make use of Dutch finance for its project. The main financial sources (apart from the Ministry of Foreign Affairs) are Partners for Water, the Millennium Project, and the World Bank.

A number of organizations is active in Mozambique, including:

Organization
Royal HaskoningDHV
Cornelder
Vitens Evides International
Van Oord

Boskalis
Arcadis
Witteveen+Bos
SNV
WASTE

Table A.6 (Appendix V) presents a number of Dutch Water sector companies that are active in Mozambique.

Other Dutch companies active in Mozambique are:

Boskalis, Hydrologic, Witteveen + Bos, Deltares, Schlumberger Water Services Netherlands BV, IRC, EARS Earth Environment Monitoring BV, Aqua Aero Water Systems, iD Consultancy, WEG-Wise, Commissie MER, Oveducon, and Mobile Water Management.

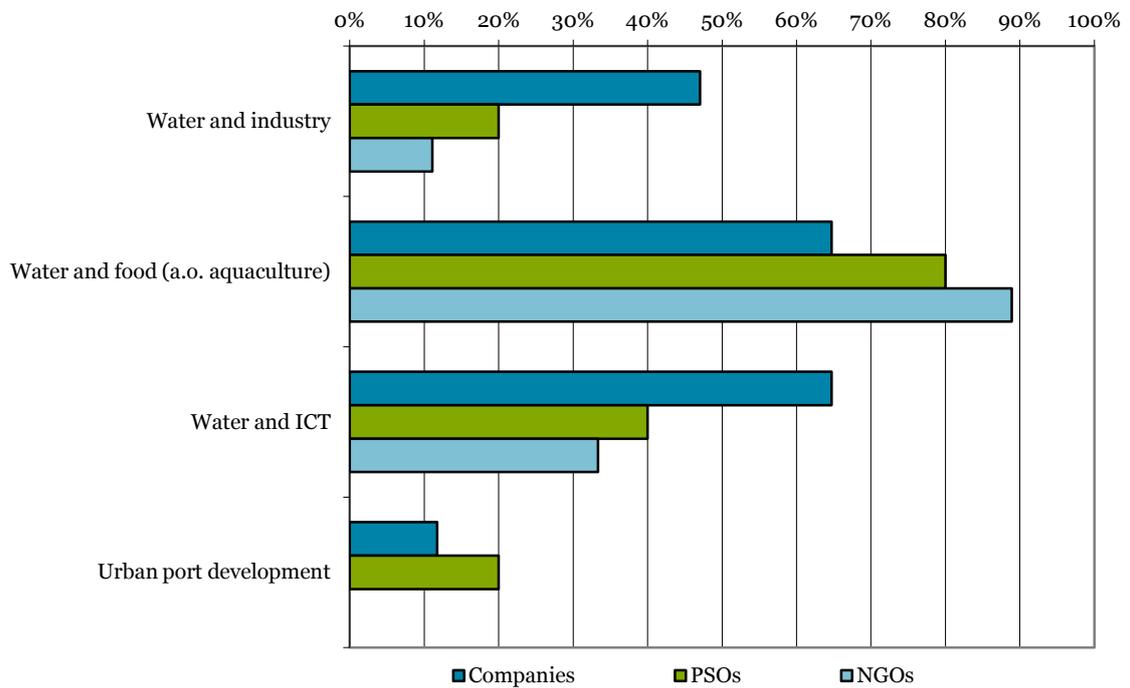
PSOs active in Mozambique are UNESCO-IHE, and the Dutch Water Authorities.

Table A.7 (Appendix V) gives a brief overview of Dutch NGOs active in Mozambique.

2.3.2 Future opportunities view of the Dutch Water sector

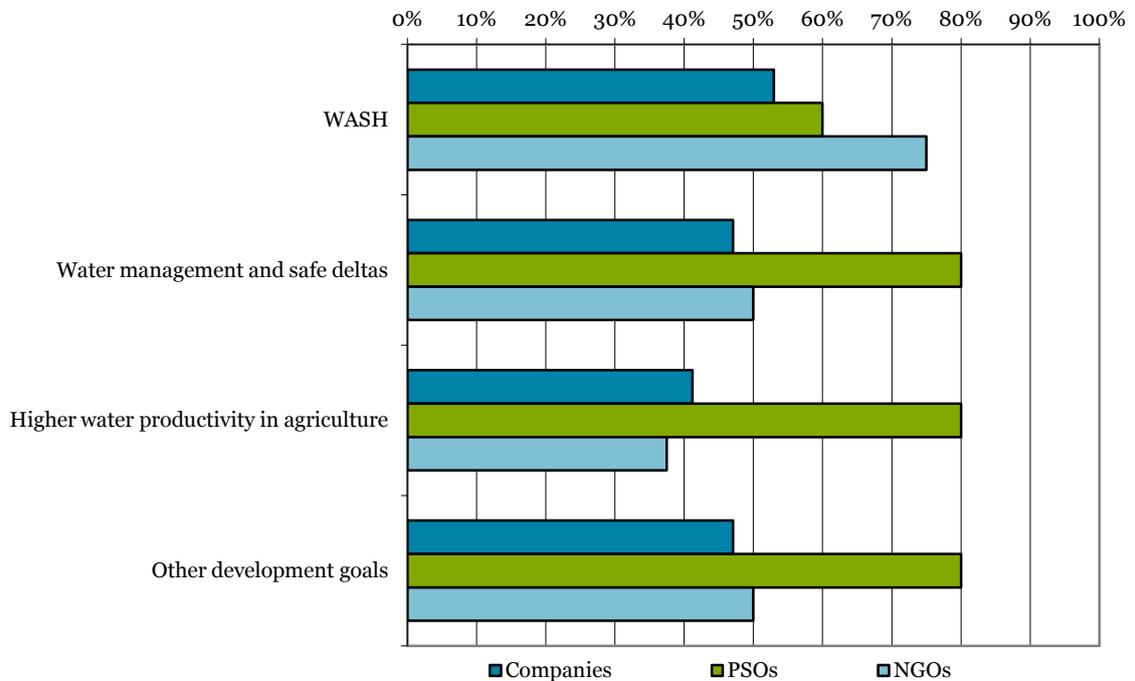
- Promising areas indicated by companies are: IWRM and urban water management. PSOs see the same promising areas – complemented with ground and surface water for water supply. NGOs see potential in IWRM, drinking water supply and treatment, and ground and surface water for water supply (see Figure A.3, appendix III).
- Companies, PSOs, and NGOs see most opportunities in the cross-over water and food (Figure 10).
- Development opportunities:
NGOs see most opportunities in WASH
PSOs see water management and safe deltas and water productivity in agriculture
Companies in general see less development opportunity and have no particular preference for a sector (see Figure 11).
- Organizations not yet active in Mozambique but interested: see much potential in IWRM and also water and agriculture.
- Potential sectors identified by Dutch Water sector players are not very different from the tender opportunities of the WB and AfDB. These banks have a strong focus for water supply and sanitation.
Individual countries, such as Germany, Italy, and Japan have a stronger focus on IWRM. The focus of the EIB/EU on energy is not in line with opportunities seen by Dutch players. Its focus on food security could be linked to opportunities for irrigation or IWRM could thus offer possibilities for Dutch players.
- At a business event organized for Dutch Water sector players, interest was shown in doing business in Mozambique (Appendix XII).

Figure 10 Promising cross-overs in Mozambique according to organizations active in this country, in % respondents (more than one answer possible). Companies (N=17), PSOs (N=5) and NGOs (N=9).



Source: Web survey Panteia, 2014/2015

Figure 11 Development opportunities in Mozambique according to organizations active in this country, in % respondents. Companies (N=17), PSOs (N=5) and NGOs (N=8)



Source: Web survey Panteia, 2014/2015

2.4 Potential Product-Market Combinations

Product-Market Combinations depend on demand in Mozambique and supply of the Dutch Water sector.

In Mozambique, demand lies in the following subsectors:

- WASH: water supply for rural and urban areas; sanitation in rural and urban areas; drainage in cities, and payment solutions for drinking water.
- IWRM: flood protection and flood forecasting
- Agriculture: irrigation
- Maritime: port development (in relation to infrastructure development in large coastal cities)
- Cross-over water and energy: hydropower and dams
- Development of the mining sector and industrial wastewater treatment.

The Dutch Water sector is mainly active and sees opportunities in the following sectors:

- Water management / IWRM
- Water supply and treatment
- Improvements in agricultural productivity

The sectors domestic wastewater collection and treatment are not marked as high potential, but could offer opportunities for the Dutch Water sector. Also the cross-over water and ICT is marked as potential, although this is less strong than the three sectors above.

Finally, organizations with interest in Mozambique see little potential in port development – in contrast to organizations already active in the country.

These sectors are mentioned separately here because a number of companies or organizations are active in these fields. Here are opportunities for the future.

For a number of interesting sub sectors a list of potential Product-Market-Combinations (PMCs) has been defined. These PMCs result from the supply and demand both in the Netherlands and Mozambique. It is a descriptive overview of the specific products (what can the Dutch Water sector deliver) and the market (who benefits and who is the client). Paragraph 3.5 goes deeper into a selection of these PMCs, including the partners that should be found, ways of financing and the strategy for exploiting the market.

The following sectors offer no or limited opportunities for the Dutch Water sector in Mozambique (although there is a need in the country):

- Collection and treatment of industrial wastewater (including the mining sector). This is not indicated as high potential by the Dutch Water sector players, and the Dutch sector is not active at the moment in this field in Mozambique.
- Mining. Dutch Water sector players have no specific knowledge, expertise or track record in the mining sector. In addition, the Netherlands has no large mining companies that would run concessions in Mozambique and which could opportunities for the Water sector.

WASH



Need:

For the coming years, the priorities for FIPAG and AIAS will be to reduce shortages in water by reducing leakages, finding additional water sources, extending networks, installing water meters, and increasing the productivity of treatment plants.

The last few years have seen a discussion on further regionalization of FIPAG. Options for regionalization in four major regional operating companies have been discussed with IFC. The current option being discussed is for four operating companies (Opco's) : Greater Maputo, South, centre and North. AdRM-concession will be considered in this package. The status of the discussions within Government and also with IFC is not known. The Opco's are said to be brought under private law to allow for private lease and management contracts, in line with the Delegated Management Framework. More private-sector involvement in the Water sector has been discussed for more than 15 years, but so far little has been materialized (PPIAF, 2009). FIPAG is still the 100% owner of all assets and also monitors 100% of the operations of the regional Opco's. There are performance contracts between FIPAG and the regional Opco's but performance is generally not measured, nor are Opco's held responsible for performance.

	Product	Market
1	Consultancy and design for water supply in urban areas. Includes services for planning, design, feasibility, and construction.	FIPAG and DNA
2	Provision of disposal and treatment technologies for solid and liquid waste.	AIAS
3	Consultancy in preparatory phases: feasibility studies for large, complex projects, hydrological studies, groundwater surveys, studies on climate change etc	Public
4	Design review and supervision for international contractors	Private
5	Consultancy services for financial and operational performance improvement, non-renewable water, leakage detection systems, and preventive maintenance systems, use of ICT	FIPAG, AIAS
6	Provision of support for water supply goods and services to rural areas and small towns. This includes provision of water technologies, capacity building and mobile payment systems using ICT.	AIAS, FIPAG, large NGOs such as UNICEF or WSP, private water supply operators

Because of the lack of coverage, priority for the coming years is expected to remain in extension of production capacities and networks rather than on quality improvement or efficiency improvement of operations. Operators will therefore be less interested in the latest state-of-the-art technologies to improve efficiencies. Issues such as reuse, zero emissions and energy efficiency are not yet high on the political agenda and do not receive attention of operators.

Sanitation may become more important in future years. However, sanitation in Mozambique is still in the early stages. Priority will first be for urban sanitation in cities that have sufficient water-supply and adequate service levels. It will take more time to get sanitation to smaller cities and rural areas. The challenges for urban sanitation are enormous. Presently, there are only two operational wastewater treatment plants, one in Maputo (based on stabilization pond system) and one in Beira. Sewerage systems are mostly rudimentary. The division of responsibility is ambiguous. There is no tariff system for charging for wastewater.

Given the Dutch expertise, in principle all projects in the project pipeline of AIAS, DNA, and FIPAG have potential. The total list of local tenders can be found in Table A.8 in Appendix VI.

The international donor community invests much in water supply and sanitation projects in both rural areas (e.g. Switzerland and UK) and urban areas (e.g. Italy) (Table A.13, Appendix VII). The number of projects that only focus on water supply is smaller than the number of WASH projects. Opportunities for the Dutch Water sector defined by the World Bank are related to water supply and sanitation. Opportunities could be wastewater treatment plant engineering, monitoring of water on physical-chemical parameters, and the development of water bill collection systems with the use of ICT. Also water distribution systems for support of WASIS and FIPAG could offer opportunities for the Dutch sector.¹²

For WASH, existing strongholds position Dutch companies and institutions very well. VEI has a long-standing and good relationship with FIPAG and AIAS. WereldWaternet has established contacts with AIAS offering entrance opportunities for launching customers. The network of alumni of UNESCO-IHE and NUFFIC alumni is a valuable asset that can be used in relationship development, since those students are now often in senior management positions. Additional drivers are the long development relationship between the Netherlands and Mozambique (also as donors in the Water sector) and the Dutch financing available for consultancy (e.g. EKN funds, Partners for Water) and for starting businesses (PSI, FDW, DGGF).

Competition is very strong. Most equipment comes from South Africa, Portugal, India, and China at very competitive prices. There are few Dutch suppliers in the Mozambican WASH sector, because of the disadvantages of long distance, high price of equipment, and the fact that state-of-the-art technologies and equipment are not a priority for FIPAG and AIAS. WASH construction activities are not interesting as the Dutch sector cannot compete with the above mentioned countries. Design-Build contracts are becoming more popular and in this combination Dutch contractors have no added value.

There might be possibilities linked to construction, e.g. design review and works supervision, as international expertise is needed there.

In Operations contracts the main candidate is VEI as, for instance, consultancy companies are not really interested in managing these kinds of contracts. VEI's capacity to engage in more management or lease contracts in Mozambique is, however, limited and it cannot compete on a commercial basis. For industrial wastewater the main operator is Vitens Industriewater. They do not see Mozambique as a priority.

As a result, we do not believe these latter two activities bring a competitive advantage.

All major consultants and some of the more dedicated consultants have a track record in these fields. Dutch companies may have extensive experience in these fields but they are not unique. In order to increase chances for Dutch companies, organizations should use the strongholds and the financing

¹² P. Hawking (World Bank) via G. van Bork (NWP)

opportunities, and team with other Dutch or foreign consultants. Finally, joining forces with Mozambican partners is strongly advised. Procurement regulations give preference to local firms.

Agriculture and irrigation



Need:

The priority for MINAG is in attracting investments for irrigation. As commercial farming is mostly irrigated, the focus of the government will be mainly on smallholders.

For specific knowledge and expertise in the agricultural sector, the Agrix report identifies the following agrifood sub-sectors to be the most appealing for Dutch companies. These are based on the competitive advantage deemed present in the agri-sector (measured by share of export):

1. Broilers and layers (poultry meat and eggs)
2. Animal feed (integrated)
3. Flowers (roses)
4. Vegetables (canning, labor intensive crops)
5. Cashew and groundnut
6. Starch (cassava)

	Product	Market
1	Consultancy for food security and agricultural development plans	
2	Forecasting models for crops, precipitation, evaporation and real-time data analysis including satellite images, including flood modeling and forecasting (related to IWRM)	
3	Consultancy on land and water productivity, water and soil research	

Competition is very strong – especially in equipment. The Netherlands does not have companies offering full-fledged irrigation techniques, only companies that produce dedicated equipment, such as sensors, metering devices, integrated monitoring systems and pumps. The potential market for these devices is large farms in exports. The drawback here is presence of Dutch farmers, making it more difficult for companies in the Dutch Water sector to engage in the agricultural sector.

Services could be provided both to the private and public market. Private farmers or companies will tender at their own discretion on their own conditions – often via hearsay or direct contacts. All projects in the public project pipelines are potentially interesting for Dutch firms and institutions. The upcoming COFAMOSA project of the AfDB would be of interest for Dutch companies. Other irrigation projects are funded Japan or the World Bank (PROIRRI).

From the EU perspective, possibilities for the Dutch Water sector are related to agriculture and food security, such as water security for agriculture and development of agriculture in the Zambezi River basin.¹³

Local tenders for agriculture and irrigation can be found in Table A.9 (Appendix VI).

¹³ Via G. van Bork (NWP)

An overview of current ODA projects for agriculture and irrigation are given in Table A.14 in Appendix VII.

The Dutch Water sector has a very strong reputation in agriculture (agricultural productivity, food security, green revolution, sustainability, seed enrichment) and applied sciences. Dutch financing is also available. Food security is one of the priorities of EKN and these projects are also financed through Dutch financing instruments such as PSI.

IFI financing is available for the agricultural sector.

Private financing will be available for the export sector (cash crops).

Dutch companies may have extensive experience in these fields but they are not unique; others have more or less the same experience. Dutch companies should build on strongholds and make use of financing opportunities. They could also team up either with Dutch consultants or foreign consultants. Finally, it as before, Mozambican partners are strongly advised, given the preference local firms enjoy in the procurement regulations.

IWRM



Need:

Issues (described elsewhere in this report) are: droughts, flooding, salt intrusion and increased water scarcity. Priorities, then, for the ARAs are twofold:

1. Improved governance through:
 - Capacity enhancement of management
 - Preparation of master plans
 - Stakeholder participation
2. Improved water system management on:
 - Flooding and early warning systems
 - Improvement of dikes
 - Water allocation issues (how to allocate to the different users)
 - Groundwater resources management
 - Salt intrusion in the coastal areas
 - Permits

For the integrated water resources management (IWRM) sector, the following products or services have been identified where Netherlands' companies have a strong name.

	Product	Market
1	Consultancy services on water systems: analysis, retention strategies, plans for water management, flood management and long term maintenance	ARA-Sul, ARA-Zambezi, municipalities, FIPAG, AIAS, Zambezi Valley Development Authority
2	Institutional strengthening and capacity enhancement: governance, stakeholder participation, strategy and business planning, setting water tariffs, financial sustainability	ARA-Sul, ARA-Zambezi, municipalities, FIPAG, AIAS, Zambezi Valley Development Authority
3	Flood forecasting, early warning systems and information management and monitoring.	ARA-Sul, ARA-Zambezi, municipalities, FIPAG, AIAS, Zambezi Valley Development Authority
4	Development of dike maintenance plans and capital investment planning	ARA-Sul, ARA-Zambezi, municipalities, FIPAG, AIAS, Zambezi Valley Development Authority

The strongholds in the IWRM sector are comparable to WASH. The long standing development relationship between the Dutch and Mozambican governments is essential and Dutch financing is available for both consultancy and starting businesses. The networks of alumni of UNESCO-IHE and NUFFIC are a valuable asset that can be used in relationship development. Besides Dutch financing sources there is sufficient other donor funding available. IWRM projects in relation to flood protection and disaster prevention are mainly funded by UK, Sweden, Denmark and Germany. Local tender opportunities can be found in Table A.10 in Appendix VI.

ODA programs are presented in Table A.15 in Appendix VII.

Competition is strong – also in IWRM. There are two types of services prevalent in IWRM:

- Consultancy – possibly in combination with data systems and IT solutions, and
- Construction of dikes, infrastructure, by passes etc.

There is no value added for Dutch contractors and the strong presence of South-African, Portuguese and Mozambican companies is very strong. Hence no Dutch contractors are interested in this market. If and when dredging is needed, within the long-term flood-management approach, or for the sake of inland water transport, this would of course, be an interesting field to consider for Dutch dredging companies.

As within the other sectors, the position of Dutch companies and institutions in IWRM is strong, but not unique. Teaming up with other Dutch or foreign firms could strengthen their position. Partnering with Mozambican companies or institutions could be valuable to strengthen relationship networks and market intelligence.

As previously mentioned, it is useful to first create a common understanding on the strategic vision on flood management and IWRM with the Mozambican counterparts. Once a common understanding is created and the views are agreed upon, it will be easier for companies and institutions to tender for projects.

For governance and strategy and policy development the newest insights will be needed to enhance the effectiveness and efficiency of operations. For example in IWRM, the newest ideas on stakeholder participation will have to be used and the newest strategies on integrated water resources and multiple land use should be shared.

Maritime and coastal zone development, ports development



Need:

For the next few years, priorities for Beira and its port will be:

- development of port infrastructure and transport infrastructure;
- development of the port lay-out including industrial zoning;
- navigation services and dredging;
- development of urban services, e.g. water supply.

Specific knowledge and expertise fields required are: urban planning, integrated urban development, dredging, logistics and transport operations and processes, development of water-supply services, coastal zone management and flood protection.

	Product	Market
1	<p>Port development – specifically for the port and the city of Beira.</p> <ul style="list-style-type: none"> • Consultancy on urban planning, port development, and maritime services • Dredging (maintenance and small scale) • Feasibility studies, design and construction of quays • Provision of equipment 	Ministries, municipality of Beira, FIPAG
2	<p>Other port development consultancy and engineering activities in Beira and for the ports of Nacala, Pemba, and Palma are:</p> <ul style="list-style-type: none"> • Consultancy services related to water service provision such as feasibility studies, master planning, and surveys on water sources • Consultancy services related to urban planning and land reclamation • Consultancy services related to sustainability: green-port development and climate neutrality (compare with the ports of Amsterdam and Rotterdam) • Consultancy services related to port planning, logistics, and operations management • Engineering and consultancy services for domestic waste water and sewerage (including solid and liquid waste treatment) • Provision of marine services such as pilot boats, tug boats, systems for night navigation. This can include training of staff and capacity building activities. 	CFM, Corredor de Desenvolvimento do Norte (CDN), Portos do Norte (PDN), municipalities, the Maputo Port Development Company (MPDC)
4	Coastal reinforcement. Dredging on small scale, feasibility studies.	DNA, municipalities and beach facility operators

Strongholds: the Dutch Water sector is very well positioned. There is a strong link between the Beira port and the Netherlands that goes back to the 1980s when Dutch companies were involved in

upgrading and extending the port. Cornelder is a Dutch operator active in Beira since the 1990s and the Dutch government financed the Urban Master Plan 2035.

There is financing available, from EKN and from other Dutch financing sources, both for consultancy (e.g.. SWF, Partners for Water) and for starting businesses (e.g. PSI, SWF, DGGF). But there is also financing available from IFIs and donors and from private sources.

A complete list of local tenders for maritime and coastal zone can be found in Table A.11 (Appendix VI).

Opportunities in Beira

CFM is responsible for port development strategy. CFM's approach is to attract private financing to boost investments in port development and also to improve operations and management through private sector involvement. Areas of operations considered strategic (e.g. operations of oil terminals) are not open to the private sector.

Private sector parties generate business opportunities, but plans are usually not published in advance nor systematically. Own market intelligence is necessary. Current donor programs may contain interesting components e.g. the Cities and Climate Change program of the World Bank started in 2012. Components of this program are tendered separately e.g. the feasibility study, detailed design and construction supervision of the storm-water drainage system in Beira in May 2013 and the rehabilitation of the drainage system in April 2014.

It is advisable to closely monitor the sites of the different donors for new opportunities.

The development of Beira port and municipality is potentially attractive for Dutch companies and institutions. Competition is strong, however, as many construction companies, suppliers and consultants are present and interested to bid. In equipment supply, the Dutch Water sector must be prepared to compete on price with previously mentioned countries. However, Cornelder has invited Dutch suppliers for the high quality. There is a market for suppliers in port development.

Dutch companies may have extensive experience in distinct areas of port development but they are not unique; others have more or less the same experience. Dutch companies should build on strongholds and financing opportunities. But they could also team either with other Dutch companies or foreign consultants. Finally, joining forces with Mozambican partners is strongly advised, given their local knowledge and network.

It could be useful to create a common strategic vision with Mozambican counterparts on ports and urban development. Once a common understanding is created and views are aligned, it will be easier to tender for implementation projects. The Beira Master plan is a good example: there is now a common understanding on integral urban development with attention for different, often competing, interests in spatial development. However, this could go further: the master plan is seen as an individual project rather than as a means to also involve Dutch companies and institutions in the follow-up phases. Earlier efforts have been made to involve these kinds of companies in the master plan, but apparently without success. There is a need for a more structural approach: *strategic vehicles* should be created, such as the Beira master plan but also a long-term IWRM plan or sustainable ports development plans. The Netherlands government together with the Dutch Water sector should develop a strategic approach to setting up these strategic vehicles.

Opportunities in Nacala, Pemba, and Palma

Priorities of these ports are:

- Nacala: reallocation of the oil terminal and improvement of logistical priorities

- Pemba: improvement of the logistical and transport processes within the port, including urban municipal services
- Palma: if Shell is granted a concession

JICA has been active over the last few years in Nacala with three projects for the improvement of the port and the Nacala corridor agricultural development. A pipeline of projects was, however, not available. Private sector parties generate business opportunities, but plans are usually not published in advance nor systematically. Own market intelligence is necessary.

The port of Palma is potentially attractive for Dutch organizations – especially if Shell is granted a concession or provides LNG services. Competition will be heavy because many construction companies, suppliers, and consultants will have an interest.

The discussion on competition in Beira applies equally Nacala, Pemba, and Palmas. However, the position of the Dutch companies and institutions is not as strong in these ports, as the strongholds are weaker, there are no Dutch launching customers, the relationship with EKN is weaker and other financiers, such as JICA, have a stronger position. The situation is not static and the position of Dutch companies and institutions could change quickly if a large contract is won or if a large Dutch company, with which one has close ties, decides to invest. Competition will be strong as many construction companies, supplier and consultants will be present and interested to bid.

Dutch companies may have extensive experience in distinct areas of port development but they are not unique; others have more or less the same experience. In order to increase opportunities they should build on strongholds and use financing opportunities. But they could also team either with other Dutch companies or foreign consultants. The need to team is stronger here than in Beira, because of the weaker position.

Anton Buijs (procurement officer at Cornelder): “I would very like to receive quotations from Dutch companies, since the offers that I receive are limited. Chinese equipment is often not of a good quality while that of the South Africans is often too expensive. Equipment to be supplied by Dutch firms could, for example, be:

- underground drainage materials
- manholes
- steel and plastic ramps
- various types of fences and barriers, pylons
- etc.

Of course, Dutch suppliers would have to bid normally, but Beira is booming and there are many things to be built”.

Cross-over water and energy: dams and hydropower



Need:

The country has potential for development of hydropower dams. Dams can be financed through public investment or through PPP's.

Recently, two PPP consortiums were established:

- Mozambique and Mauritius consortium for USD 2 billion to Boroma (~210 MW) and Lupada (~612 MW) dams in the Zambezi river, Zambezia Province;
- Mozambique and China consortium for Chemba (~1 GW) dam in the Zambezi River.

These dams have approximately 73% of the capacity of the largest dam, the Cahora-Bassa dam.

Other large dams that are expected to be constructed in a near future are:

- Mpanda Nkua dam in the Zambezi river, also expected to be a PPP contract in Zambezia Province;
- Nhacangara dam in the Pungwe River, Manica Province – business/funding model not yet defined;
- Moamba Major in the Incomati River, Maputo Province.

	Product	Market
1	Consultancy services in preparatory work such as feasibility studies, hydrological studies, safety studies	Public, private
2	Design review and supervisory work	Public, private

Generally, medium to large dams are not tendered via public tendering procedures. Mozambique would like to build and finance the dams under BOFT- contracts where the dams are designed, constructed, operated and financed by private parties. Mozambique wants PPP parties to express their interest. Prefeasibility studies of these dams are tendered according to the public tendering procedures; those studies are needed in order to find and negotiate the terms of the contract with the PPP investor. Small dams follow normal government procedures, because they are generally financed through government investments.

Local tender opportunities can be found in Table A.12 (Appendix VI).

Main international donors for dams and hydropower are Italy, Sweden, Germany, and France.

Increasingly there is also interest from Northern European countries such as Sweden.

Table A.16 in Appendix VII shows an overview of the current and planned ODA projects.

Priority of the government is to construct dams for water supply and smaller dams for irrigation and hydropower. These Dams could be financed either through public or donor funding or through PPP constructions. Chinese and Brazilian companies are particularly strong in construction and their governments provide attractive financing for PPP set-ups. Important parts of the work will be financed by the private sector directly. Therefore it is important not only to follow the tenders of donors but also to closely follow the activities of the private contractors engaged in dam construction.

The Netherlands does not provide financing for these kinds of PPP-activities. The Netherlands does not have the expertise for construction of these dams. There are no specific strongholds in these sectors.

Construction of dams can be sensitive. There can be severe environmental and social effects and severe downstream effects on delta areas. For this reason the World Bank has not been engaged in financing large dams, but more recently the Bank started to be involved in smaller dams again. It is necessary to consider environmental and sustainability issues carefully.

3. Market strategies

To convert market opportunities into business requires a plan: a market strategy. Strategic interviews and results from the web survey, supplemented with desk research on existing market studies provided valuable insight into market (entry) strategies.

The chapter starts by describing how Dutch organizations cooperate with parties, projects and programs. Section 2 describes how Dutch organizations operate in the market. Section 3 describes lessons learnt, while section 4 describes major bottlenecks and drivers.

The chapter ends by suggesting specific positioning strategies by potential product market combination (PMC).

3.1 Entering or re-entering the country

After a thorough assessment of the market and the feasibility of the business case/project, organizations have different ways to enter the country. Finding the right local partner and building up a relationship by working together is a first good step when entering the country. In general, starting from scratch is not recommended. This is expensive, due to large up-front investments. Interviewees indicated that it takes between 2 and 10 years to set up a profitable business – that can be hard to cover financially.¹⁴

General strategies for improving the competitive advantage of Dutch companies compared to other international companies may be a blend of:

1. being a reliable and trustworthy partner
2. offer strong components of capacity enhancement and training
3. joint and integrated planning with involvement of key stakeholders
4. focus on opportunities in which the Dutch Water sector has distinct added value
 - the Netherlands has strong experience in the Water sector
 - Dutch companies have good relationships with clients such as the AIS and FIPAG that can be used to further develop relationships between Netherlands and Mozambique.
 - The presence of knowledge institutions in the country can also be used as entrance for Dutch companies and knowledge institutes
5. have an efficient and effective business development structure that supports the Dutch sector engaging in Mozambique

General procurement policy and procedures in Mozambique

Projects in Mozambique are either financed from the national budget or by international donors. In most cases, donors finance via the central government and the procurement is delegated to the national agencies with the appropriate remit. Donors also finance projects directly when they execute tenders themselves. In the following table the various procurement agencies are listed.

Agency	Responsibility
DNA	IWRM, dams, storm-water drainage, rural water supply and sanitation, coastal protection
FIPAG	Urban water supply primary cities
AIAS	Urban water supply secondary cities and villages, sewerage and storm-water drainage for all cities

¹⁴ Different types of organizations have different views: interviewees referred to the first paid services, to cumulative profits over all activities, or to the economy taking off. The time lag is important rather than the absolute length of time.

ARAs	IWRM, flood management and protection
MINAG (via institutions)	Irrigation, agri-business
MICOA	Hygiene and environment, coastal protection
EDM	Dams and hydropower
FUNAE	Mini-hydropower dams
CFM	Railways and port infrastructure of connected ports

Annually

between June and August, government institutions develop an investment plan to be implemented in the following year, the PES (Economical and Social Plan). After the approval of the PES (between the months January and February of each year) projects can be implemented. Projects on the list have often already been negotiated and settled with the donors. PES information is usually – but not always – available publicly.

Some sectors are fully government managed and operated, while others are regulated by government but the business is run by private concession. For instance, the WASH sector and the IWRM sector are fully government managed, which means that the government determines policies and strategies and acts as owner of the assets. The government is also responsible for investments in infrastructure. Procurement is public procurement and delegated to the UGEAs (Acquisition Unit Manager). Tendering follows the public procurement rules.¹⁵

In other sectors, such as mining or ports development, the government develops strategies and policies, owns the assets, and issues concessions. Here, the private sector is responsible for operations and (some of the) investments. In these cases private-sector procurement rules apply. Private companies buy supplies and services following their own tendering rules.

Public procurement regulations

Mozambican Public Procurement legal framework is regulated by Decree no. 54/2005 of 13/12 and is updated by Decree 15/2010. All institutions that are financed under the national budget have to abide to these regulations. All institutions mentioned in the previous paragraph, including parastatals like CFM, follow the national procurement rules.

Decree 15/2010 places heavy local presence requirements on foreign companies. For projects with duration of more than six months, a foreign company must have a legal establishment or a local project partner in the consortium. A joint venture can only benefit from local advantages (such as applying for Mozambican contracts) when the foreign company has a minority share. Participation of local partners is important. Bids are generally assessed on price rather than quality.

Article 8 is important. This article can be invoked when a donor requires a different procurement procedure than stated in the MoU, agreement, or contract. Adopted procedures have to be communicated to the tenderer/interested parties. The World Bank, EU, AfDB, Danida, SDC, FINIDA, invoke this article in order to tender in line with their head office requirements and follow their own procurement process. Other bilateral donors, including the Netherlands, follow decree 15/2010.

The MoU (see article IV section 3) allows some variance from decree 15/2010, but the Netherlands cannot invoke article 8 for other acquisition agencies as the MoU refers only to DNA as contracting party.

¹⁵ A major part of the financing for public infrastructure comes from donors, so the tender rules have to be in line with the procurement rules of these financiers. According to the World Bank some 95% of all public investments in WASH is financed through bilateral and multilateral donors.

Appendix XIII shows the most important elements of the Decree.
Appendix XIV provides information on the tax regime.

Mozambican networks

Interviews show that the prerequisites for success are access to:

- an established relationship network
- a launching customer

There are two options: develop your own relationship network and your own launching customer or use the network and launching customer of a reliable local partner.

In the latter case, investments are needed to monitor the reliability and commitment of the partner when you are not present. Interviewees stated finding a reliable partner is a difficult process; there are many local partners – not all reliable.

The Mozambican Investment Promotion Agency (CPI) can support Dutch organizations with registration, taxes, and the selection of location if necessary.

In the future PLAMA could provide assistance to the Dutch Water sector through screening of opportunities and linking the Dutch Water sector to the Mozambican Water sector. PLAMA has been established to link the private sector of Mozambique (including local small and medium enterprises) to the international market. The aim is to strengthen local capacity through international partnership. For the Dutch Water sector a competitive advantage can be created through long term investments with the local partners. PLAMA is a network in Mozambique for the Water sector that has good connections with the Netherlands. Finally, the development of a hub in Maputo for the WASH sector with Dutch strategic partners (such as VEI and HKV) would improve the possibilities for entering the market.

Dutch financial support

Building your own network can also be done through obtaining financing from one of the Dutch financing instruments, such as PSI, PwW, FDW, DRIVE (ORIO), VIA Water and DGGF. This buys time to develop a position in the market, to find a launching customer and develop a network. Most of the instruments require an investment from the private-sector party applying for them.

World Bank and AfDB tenders

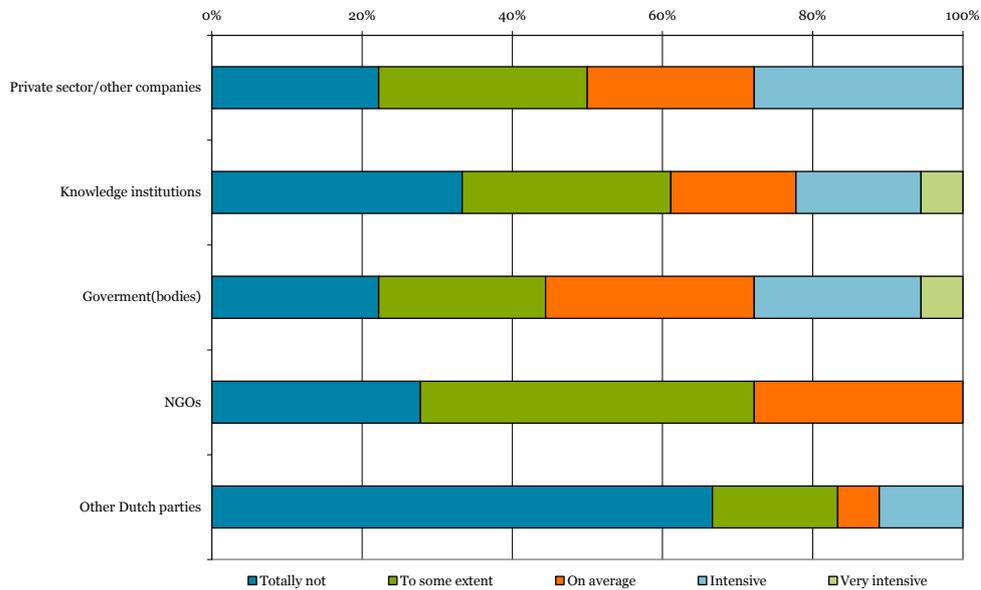
Programs of the World Bank and the African Development Bank are large programs that contain large investment projects and smaller projects for consultancy and the delivery of equipment. These smaller projects are tendered separately at distinct times during the execution of the program. For instance, the Cities and climate Change Program of the World Bank is a large program of USD 120 million. Currently one of the projects is in the tender list, but other projects will follow. It is not clear if and when these smaller components will be tendered. Notices are published on the website at short notice. It is advisable to closely monitor the tender pages of the World Bank¹⁶ and other donors. New projects of previously approved programs may be tendered. For instance, within the Greater Maputo Water Supply Expansion Project of the World Bank consulting services for investment planning and contract administration was tendered in November 2014. This tender is now closed but other components under the program may be tendered in the future. The same applies to programs such as the Water Resources Development Program.

Figure 12 provides an indication of the status and intensity of the cooperation of Dutch parties with various other parties in Mozambique, such as private sector/other companies, knowledge institutions and government (bodies). Cooperation with government and private sector/other companies appears

¹⁶ <http://www.worldbank.org/projects/procurement>

to be the most intense: 23% of the companies state that cooperation with these parties is (very) intense.

Figure 12 Intensity of cooperation of Dutch companies with various parties in projects and programs in Mozambique, in % of respondents (N=18)



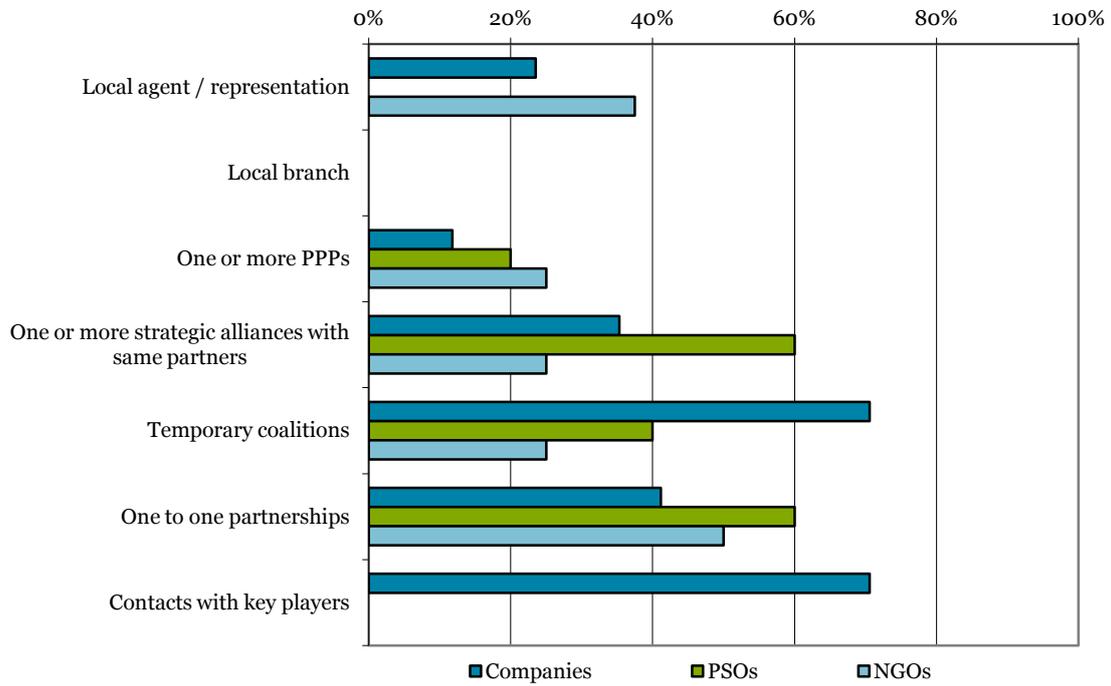
Source: Web survey Panteia, 2014/2015

3.2 Cooperation and business development alternatives

After finding the right local partner(s) and the appropriate financial means, Dutch organizations follow different strategies for representation in the country.

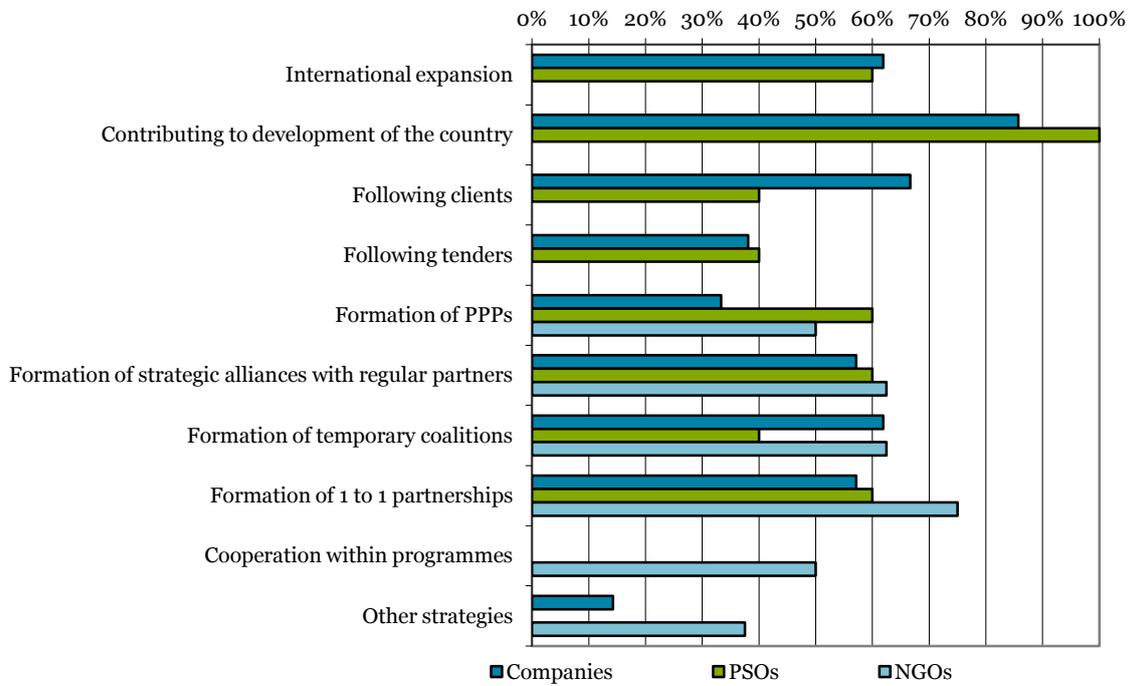
Figure 13 shows representation characteristics of companies, PSOs and NGOs in Mozambique. Companies are mainly represented through temporary coalitions and contacts with key players (together 71%). PSOs are represented by one to one partnerships and strategic alliances (together 60%). NGOs mainly work with one to one partnerships (50%) or a local agent representation (38%). Strategies how companies, PSOs and NGOs enter the country vary among the sector players. Companies and PSOs follow clients and tenders. NGOs on the other hand cooperate through programs and create more one to one partnerships. Other possibilities are formations of PPPs, strategic alliances or temporary coalitions (equally represented). See Figure 14.

Figure 13 Current representation characteristics of Dutch organizations in Mozambique, in % of respondents (more than one answer possible). Companies (N=17), PSOs (N=5) and NGOs (N=8)



Source: Web survey Panteia, 2014/2015

Figure 14 Current strategies of Dutch organizations in Mozambique, in % of respondents (more than one answer possible). Companies (N=21), PSOs (N=5) and NGOs (N=8)



Source: Web survey Panteia, 2014/2015

The main competitors and potential partners for Dutch consultancy companies are listed in Table A.20 in Appendix VIII. Companies sometimes act as competitors also as partners. Companies are willing to consider partnership if that would enhance their value proposition. Complementary services or a strong local presence might be reasons for partnership.

Competition and relative strength is not static but dynamic: it may change over time and for different clients. For example, when Dutch financing is involved the position of Dutch companies will be stronger than in the case of IFI or bilateral financing. Each tender will have to be assessed individually.

3.3 Successes and lessons learned

Through desk research and web survey, a list of best practices and important lessons learnt were identified and discussed during strategy interviews with relevant Dutch Water sector players. In this section we discuss a few of the best practices and lessons learned.

HKV consultancy currently supports DNA. The first time the company entered Mozambique was through a NUFFIC-funded training to ARA-Sul on flood forecasting. For this project HKV collaborated with a local consultant. Later a second training was given also in collaboration with a local consultant. Presence in Mozambique gave rise to more opportunities. Through their connections it became possible to follow tenders of the World Bank, including the tender for support of DNA. A consortium of Dutch and Mozambican partners won the tender.⁷ In this example, HKV found it necessary to enter with local partners. Once present in Mozambique it became possible to expand the network.

A second good example of an organization that has entered Mozambique successfully is Vitens Evides International. VEI has a long history in Mozambique and has created a respected position in the country. The company has shown its commitment to the Mozambican market.

Respondents of the survey mentioned the Water for Life program and the self supply rope pump as successful projects. The smart center in Nampula was mentioned as less successful (web survey Panteia 2014/2015).

One company has been active in Mozambique since the 1990's in both public and private sectors. This Dutch company works successfully with local teams and their office in South Africa. The company has built up a strong local presence in the form of a Mozambique consultancy and engineering company. Economic growth in Mozambique drives growth of opportunities. The local company is well integrated with their branch in South Africa giving them a solid regional basis. Most projects are funded by IFIs and Dutch finance instruments.⁸

⁷ After presentation of Job Udo (HKV) at the workshop "Business opportunities and business development water sector Mozambique" 28 January 2015

⁸ Interview No. 2

3.4 Strengths and weaknesses, drivers and bottlenecks

A number of companies and organizations have found their way to the market of Mozambique. This shows the attractiveness of Mozambique for Dutch Water sector players. However, there are some strengths and weaknesses from the Dutch Water sector for doing business in Mozambique

Strengths

- Dutch organizations already active in Mozambique have a good reputation – in particular knowledge institutes such as TU Delft, Deltares and NUFFIC, or other PSOs such as VEI, and the Water Boards. It is the long-term commitment and the solid base that results in being perceived as a reliable and trustworthy party.
- Dutch organizations consider sustainability important in their production process. This creates a distinctive value proposition. Integrated planning with involvement of stakeholders is also considered a typical strength of Dutch planning.

Weaknesses

- Dutch companies do not have much experience in commercial activities in Mozambique. Few Dutch companies own large production plants, which creates a gap between Dutch suppliers and the Mozambican market. Collaboration with South African companies active in Mozambique can help.
- The Dutch WASH sector is fragmented. Businesses tend to sell their own products and services rather than look for integrated solutions providing different kinds of services. Businesses tend to operate on a stand-alone basis rather than seek for cooperation and consortia. There is no ‘natural leader’ within the WASH sector that is large enough to take the lead in international activities.
- The Dutch WASH-sector does not have much experience in running concessions or in management and operations. Dutch operators both in water resources management and in water supply and sanitation are limited by their statutes and shareholders from engaging in commercial activities abroad. They may be involved in technical assistance on a non-commercial basis but with no responsibility for operations and management of local service providers.
- The entrance barrier for new Dutch suppliers is relatively high because they do not have a network. Staff is not always willing to go abroad for lengthy periods of time, which can result in a lack of local representation.
- The genuine entrepreneurial spirit seems to be less pronounced in the Dutch Water sector. In Mozambique many international companies take on alien activities in order to sustain business. For example, a Portuguese operator, Visaqua, would like to be engaged as a concessionaire in operations but is, for the time being, engaged in running non-water related activities to sustain presence. For those companies, the prime focus seems to be the presence in the country. Dutch companies tend to work the other way around: first sell your products/services and then establish presence on the ground.

Drivers

- The Netherlands and Mozambique have a long term governmental and support relationship. An MoU has been signed between the Netherlands and DNA, FIPAG, and AIAS. Education of Mozambican government officials in the Netherlands at UNESCO/IHE or NUFFIC has strengthened the alumni network in Mozambique.
- Mozambican counterparts are very familiar with Dutch thinking and knowledge in water. The government appreciates the focus of the Dutch Water sector on capacity enhancement and governance – not just the delivery of equipment.

Bottlenecks

- Demand in the Mozambican market is not synchronized with Dutch supply. Mozambique focuses on extending services and coverage over the country – quality will follow but this is still too soon for Mozambican service providers. Dutch companies and organizations put more focus on efficiency and sustainability.
- There are some restrictions and requirements on Dutch organizations doing business in Mozambique. For instance, companies are allowed to own buildings, but are not allowed to own land. In addition, foreign organizations are required to have a service network to be able to act as supplier for industries.
- Competition in Mozambique is strong – particularly the WASH sector for construction engineering, and from other countries such as Portugal, Brazil, South Africa, China, and India. Each has its competitive advantages:
 - South-African companies are close to their home market
 - Portuguese and Brazilian companies have the language
 - Portuguese – the former colonial power – know the country very well and are familiar with its administration and laws that are based on the Portuguese system
 - Chinese and Indian companies produce cheaply and China also brings cheap finance.
- Corruption at all levels of government and business remains a large barrier for doing business in Mozambique. This does not affect Dutch organizations more than others.
- A practical barrier is the language. Portuguese is often a requirement in tender procedures. Distance can also be a barrier. Mozambique has a relatively heavy bureaucracy compared to other countries and it can be difficult to process or transfer money abroad. Lack of transparency in tender procedures and poorly developed Terms of References do not contribute to the ease of doing business. Finally, tender opportunities in the private sector are limited.

Jan van Montfoort (tenders2go): “There are no virgin markets in Mozambique. There is strong competition in every market. Reliable partners are therefore necessary to develop business. But reliable partners are hard to find. In the agricultural sector there are maybe 40 – 50 partners that are reliable and that can be trusted.

The survey outcomes show that the main bottleneck for OS countries is finding good and reliable partners, followed by finding financial support (see Figure A.9, Appendix III).

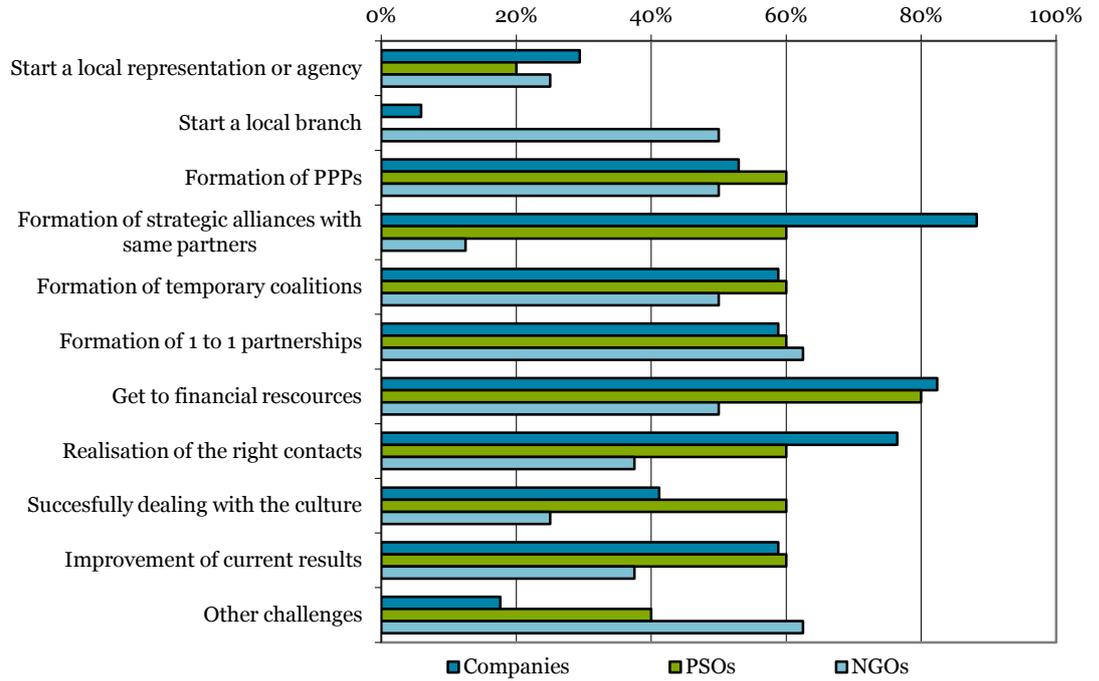
For companies the challenge is reliable partners, financing and building the right contacts.

For PSOs the main challenge is to find financial resources (Figure 15).

The Dutch Water sector sees opportunities for entering Mozambique, but this is not a priority country. To a lesser extent parties see opportunities but have no means to exploit them.

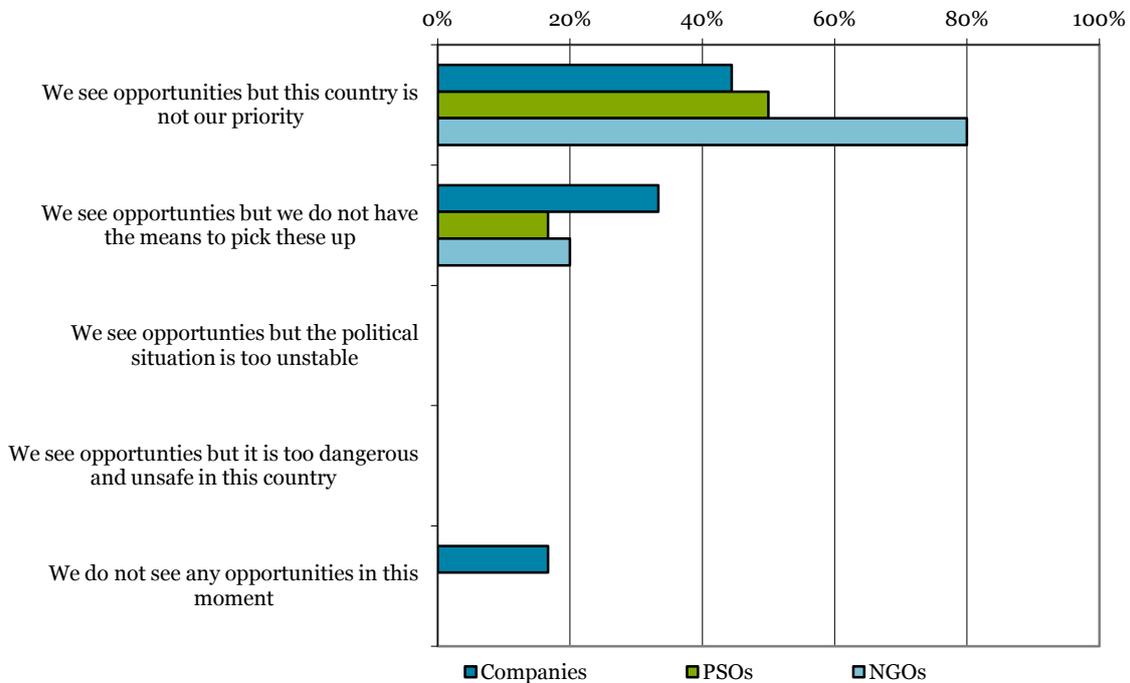
The political situation and safety in the country is not a reason for respondents not to enter the country (Figure 16).

Figure 15 Top 5 challenges for scaling up activities in Mozambique in % of respondents. Companies (N=17), PSOs (N=5) and NGOs (N=8).



Source: Web survey Panteia, 2014/2015

Figure 16 Reasons why organizations are not active in Mozambique, in % of respondents. Companies (N=18), PSOs (N=6) and NGOs (N=5)



Source: Web survey Panteia, 2014/2015

Respondents in the web survey indicated that they are willing to do business in Mozambique, preferably by finding a local partner (33%), participation in trade mission (22%) or by approaching

local partners to build up network contacts (22%). Other routes to invest in the country are via realization of trade representations, starting a local branch, or waiting for specific assignment opportunities (web survey Panteia 2014/2015).

The companies interviewed all see good chances in Mozambique and also see themselves on a growth path. They acknowledge the difficult business environment but also refer to the large business opportunities. The proof for good business prospects is the high level of competition and the large number of international firms present. Only a few firms were negative on business opportunities and mostly that had to do with corruption.

3.5 Possible strategies for selection of PMCs

Based on secondary market research and the outcome of the web survey, demand and potential supply have been matched. The following Product Market Combinations were identified as being 'high potential'. These PMCs are a selection of the PMCs defined in chapter 2.4. The PMCs for WASH and IWRM were chosen because they offer opportunities for companies, PSOs, and NGOs – who also see the potential of the sector. A number of organizations are already active in these sectors. The PMC for port development was scored as lower potential by NGOs, PSOs and companies (especially the ones that are not active in the country). However, in the development of the Beira master plan and given the number of companies already involved, there are opportunities for the Dutch sector.

Theme: WASH

Need

WASH services in Mozambique are developing but the number of people with access to safe water supply and sanitation services is still low. In Mozambican cities an average of 64% of inhabitants have sustainable access to improved drinking water facilities and 51% has access to and use of improved sanitation facilities. Production capacity of water supply for urban areas needs to be extended to provide more inhabitants with WASH services. Despite the current system not operating perfectly, the government prefers extension of services to improving the existing network.

Product

Consultancy and design for water supply in urban areas. For companies: services for planning, design, feasibility, and construction. NGOs and PSOs could provide services such as capacity building, research and advice.

Market

Municipality of Maputo, DNA and FIPAG.

Strategy

Through its long term presence in the country, VEI has created a trusted position in the WASH sector of Mozambique. This can generate opportunities for other Dutch organizations in entering the market. Interested organizations should actively follow international tenders of the World Bank, and locally tendered projects. Having local partners or being present in the country is necessary to respond quickly to tenders and to remain competitive. Collaboration with local partners offers a competitive advantage because of the preference of local companies in consortia.

Finance

IFIs, through local tendering

Partners

Companies: e.g. Sizabantu, FandL, Collins, Aquarel, Bluezone, Consultec, EGC
Knowledge institutes: Faculty of engineering of Eduardo Mondlane University

Theme: IWRM

Need

Mozambique is a country prone to climate change effects: increased drought, flooding and cyclones. The frequent occurrence of these natural disasters requires a more structural solution (improved management) or response mechanisms (flood forecasting, emergency relief funds). There is a need for flood prediction systems, better water infrastructure such as dikes and drainage and better maintenance of infrastructure. In large cities drainage is particularly important role because of the rapid population growth and development of the areas.

Product

In a number of large river basins, such as the Limpopo River, Maputo River and the Zambezi River, the Dutch Water sector can provide consultancy services and construction of water and infrastructure management, maintenance, and monitoring. Tools for rain and flood forecasting can be developed and implementation can be supported. Opportunities can also be found in small scale dredging of rivers.

Market

DNA, ARA-Sul, ARA-Zambezi, ARA Centro, municipalities, FIPAG, AIAS, Zambezi Development Authority.

Strategy

Collaboration with local or international partners to strengthen competitive position. The recent collaboration between HKV and DNA is an example but could also be an entry point. (See paragraph 3.3).

Finance

IFIs and innovative financing mechanisms e.g with mining companies.

Partners

Dutch partners can be:

Water Boards present in Mozambique, such as Wetterskyp Fryslan, Waterschap Velt en Vecht, Dommel or Groot Salland, or Hunze en Aa's.

Local partners can be:

- Consultancy organizations: Aqualogus, Coba, Engidro, Impacto or Salomon.
- Knowledge institutes: Laboratório Nacional de Engenharia Civil
- ICT companies: HIDROMOD

Foreign partners:

- Danish Hydraulics Institute
- International Consultancies: COWI, NIRAS, Euroconsult Mott MacDonald

Theme: Maritime and coastal zone development

Need

Mozambique has a number of ports – Beira is one of the largest. Beira is well situated for transport within Mozambique and to other countries. Development of the port can contribute to the economic growth of the country and this goes beyond the port only. Development focus is on the entire city with its infrastructure, climate change adaptation and living conditions of the urban population. The Netherlands supported Mozambique in the development of the Beira Master plan 2035.

Product

Port development of the city of Beira. Services can be:

- Consultancy on urban planning, port development, and maritime infrastructure
- Dredging (maintenance and small scale)
- Feasibility studies, design and construction of quays
- Provision of equipment

Market

CFM, municipality of Beira, terminal operators such as Cornelder, FIPAG

Strategy

Follow outcomes and suggestions of the Beira Master plan 2035 and international tenders of donors

Finance

IFIs, private sector

Partners

International port consultants or engineering companies: A possible partner could be EsorFranki (South Africa) for design and supervision of development of the port.

4. Strengthening business opportunities

There are sufficient interesting business opportunities for the Dutch Water sector but it is also clear that business development needs to be better structured to increase opportunities.

It is important to set up a structure to assist interested companies and institutions in Mozambique. The assistance could for example be in the following fields:

- Legal establishment, registration and other chamber-of-commerce type of services;
- Linking with trustworthy local partners;
- Acquisition and tendering;
- General Promotion of the sector (Holland promotion)

Experience elsewhere shows the need for structural business support. However, it could be difficult to establish a full-fledged office, such as a Holland Water House or a Platform that could be operated on a sustainable basis in the long run. In the first years of their existence such houses or platforms are supported by Dutch funding, such as TF funds (transition funds) or PvW funds. Financial sector support based on membership fees is more difficult. Firms have difficulties in seeing a clear link between results for their company or services provided and membership fee. Hence, most of these initiatives are soon stopped or marginalized.

Develop business support building on existing organizations

For Mozambique a *'light version'* of business support is recommended. This does not involve the set up of a new organization but, rather, building on existing organizations for business support. Ideally, the business support would be a 'one-stop-shop' where Dutch organizations can retrieve all their support services. For now it would be sufficient to set up a system that makes use of the strengths of existing means.

Alvarinho (director regulatory authority and director Aquashare) is a strong advocate of setting up a Dutch house which could act as a business incubator for Dutch businesses. It could be used as a contact point and to retrieve business information for Dutch enterprises. Large companies could also be used as a platform for creating business for the SME sector.

Support from PLAMA and EKN

There are currently two organizations that could play a role in business development.

1. PLAMA, Plataforma Moçambicana da Agua.
PLAMA is the network organization of the Mozambique Water sector. PLAMA is a water partnership of Mozambican water companies, along the lines of NWP. It was set up with assistance of NWP and financed by the Water Mondiaal Programme. Its objective is to strengthen the Mozambican Water sector and to create an active business development connection that could link the Mozambican and the Netherlands Water sectors. Dialogue and information sharing are its principal instruments that PLAMA.¹⁹
2. The Embassy of the Kingdom of The Netherlands (EKN) in Maputo.
EKN's role is to assist Dutch businesses in introducing and connecting them with the government or other interested parties ('economic diplomacy'). It is proposed that the EKN

¹⁹ See proPLAMA Project Document, 2013

takes the role as *facilitator* for Dutch organizations that want to engage in Mozambique. This could be a temporary support function in terms of provision of working space. The EKN can provide working space for the start up phase of an organization. For Dutch organizations it might be convenient to start working in a Dutch environment, such as in the office of the Embassy. Experience elsewhere²⁰ shows that firms like to have a central location where they can rent office space, get information, enjoy good internet connection and share experiences. Office space is very expensive in Maputo and since there is idle office space at EKN, this could be rented to businesses. Financing available for such initiatives through the MOP-facility ('Maatwerk Ondersteuning Posten'). The Embassy can provide services and advice on official registration, legal procedures, obtaining first information etc.

Build on the expertise of Dutch organizations present in Mozambique

In addition to PLAMA and EKN, other Dutch organizations active in Mozambique could play a role. The group of Dutch organizations could create connections with launching customers. Those firms have proven to be successful and other Dutch firms could tap into that experience.

There are two generic models for tendering and acquisition support:

1. Dutch firms forming a group.
This could be a formal consortium in order to tender jointly (e.g. the consortium tendering for the Beira Master Plan) or a more informal group for knowledge exchange and enhancing the profiles of Dutch organizations (e.g. the Round Table for the Oil and Gas Sector²¹).
2. Centre of expertise.
Here a Dutch organization with a good connection to a launching customer can introduce new Dutch knowledge and expertise. In South Africa, VEI successfully operates such a centre and is paid for these services. It has close links to Durban Water and, for instance, provides assistance to Durban Water in setting tender specifications and for introductions to Dutch companies. It assists Dutch companies in establishing locally.

Develop a Center of Expertise

The first model would be most appropriate with large programs with long lasting processes, such as ports development. It is less suitable for smaller distinct projects and smaller Dutch SME-companies. Consequently, the model of the centre of expertise as used in South Africa is recommended.

In selecting the right firms or organizations, it is crucial to have good connections to launching customers and decision makers. Since no firms or institutions have good entrances in all sectors, identification of one organization per sector is proposed that could operate a centre of expertise.

The company or institution running the centre must be seen the launching customer as a neutral and independent party – serving the interests of the launching customer. It is the 'honest broker' for other Dutch firms. This can only be achieved if the firm that runs the centre does not promote its own activities under the umbrella of the centre of expertise. Given the importance of consultancy services in initial projects, a consultant would not be the first preference for operating a center. The line between serving the interests of the launching customer and promoting the interests of the Dutch sector is a very delicate one. Any real or perceived conflict of interest should be avoided. It is important is to be open and transparent in communications on intentions and objectives.

In the following table, different roles are proposed. Suggestions are made for companies and organizations that could run the centres of expertise.

²⁰ For instance in Colombia with the German Chamber of Commerce, see Business Plan Holland Water House, PGH Vos, March 2013

²¹ Boskalis, SHELL, Van Oord, Dockwise, Fugro, Damen, Heerema, Mammoet

Table 5 business assistance and responsibilities

Business support function	Sector	Responsibility and launching customer	Suggested organization for leverage
Chamber of commerce type of activities (registration, legal establishment tax payments) and market scans	All water related	Not applicable	EKN
Facilitator function, creating a framework for exchange of experiences	All water related	Not applicable.	EKN
Economic diplomacy	All water related	Not applicable	EKN
Identifying and connecting with reliable local partners	All water related	Not applicable	PLAMA
Matchmaking platform	All water related	Not applicable	PLAMA
Tendering and acquisition	Urban Water supply and urban sanitation	DNA, FIPAG and AIAS	VEI International
Tendering and acquisition	Rural water and sanitation	Municipalities, districts and villages	SNV ²²
Tendering and acquisition	IWRM and flood protection	ARA's	Hunze and Aa, Wetterskip Fryslan or De Dommel
Tendering and acquisition	Commercial farming	Private sector	Dutch company active in agriculture but not in water, such as Dadtco
Tendering and acquisition	Ports and urban development	CFM, Respective municipalities, and commercial operators	NABC (organiser of Roundtable Group of Dutch firms for oil and gas)

A timeframe for implementation should be agreed by the parties involved. NWP should take the lead in this process.

²² The disadvantage is that SNV would be one of the interesting parties and is therefore not neutral. But, there are not many alternatives. Arrangements are required to ensure the involvement of other parties.

4.1 Recommendations to improve business opportunities

Based on the analysis of previous chapters, several distinct activities are recommended to increase opportunities for Dutch companies and institutions.

Gather structured tender information early

The Netherlands' Embassy's endeavors should be focused on retrieving tender information from important donors in an early stage and providing structure. Early information on upcoming tenders is an absolute necessity for Dutch companies and institutions to prepare themselves properly. Some international donors, such as WB, AfDB, EIB and DFID, present their pipeline of projects on their websites, while others, such as KfW, do not. Project pipelines are not always transparent. For example, the WB programs listed provide no insight into the tendering process. If a Dutch company depends solely on the website for its information, it will be too late in forming consortia or meeting with the client.

Early information on tenders will not provide a competitive advantage as donors are bound to share information equally amongst all parties, but establishing good personal contacts with donors will certainly help with more background information.

Next to the endeavors of EKN, Dutch parties also need to be proactive in building relations with clients and linking with Mozambican firms and institutions in an early stage.

Develop strategic vehicles

The Netherlands' government, together with the Dutch Water sector, should develop strategic vehicles for business development. Current focus of the sector and the government is often oriented to individual projects which are considered in isolation – without taking into account possible future business opportunities. Creation of a common strategic vision in key sectors with Mozambican counterparts is recommended. Once a common understanding is created and the views are agreed upon, it will be easier for Dutch companies and institutions to tender for projects implementing the shared vision. To this end, it is important to select and finance programs that are strategically important (*'strategic vehicles'*) and to involve Dutch companies and institutions that are interested in the follow-up phases.

Hence, strategic vehicles should be selected and financed in key sectors and knowledge fields such as governance, river-basin management, IWRM, water reuse, urban development and sustainable ports development (green ports, climate neutrality). Financing integrated programs in those fields, incorporating knowledge, business and government would significantly improve the chances of success for the Dutch Water sector.

An opportunity for a new strategic vehicle would be IWRM: Dutch Water Boards are currently active in the ARAs. This vehicle would promote the Dutch IWRM approach, flood-forecast models and FUSE interface used in the Netherlands by the water boards. It would enhance the position of Dutch firms and institutions.

Strengthen the capacity and services of PLAMA

There is a need to further strengthen the capacity and services of PLAMA in order for them to be able to play a role in business development and act as a linking pin between the Dutch and the Mozambican Water sector. The network of PLAMA needs to become stronger. Current PLAMA members are sometimes minor players. The larger consultants (Consultec, Tecnica, Salomon, EGC) are not members – but should become part of PLAMA in order to give substance to the network and for it to be of real interest for the Dutch Water sector.

Limit procurement regulations

In the MoU signed between the Government of Mozambique and the Minister for European Affairs and International Cooperation of the Netherlands reference is made to procurement and the restrictions for Dutch and Mozambican firms (Article IV section 3). However, since DNA still acts as a contracting agency, this reference is not applicable to other acquisition agencies. In order for this article be applied (to all procurement agencies) reference should be made to the Government of Mozambique instead of DNA.

Promote quality over price

The Dutch government should continue to lobby donors such as the World Bank to put more emphasis on quality in the selection process of tenders. Now, the most important selection criterion is price. Ample experience shows that cheapest is not always the best. Chinese water meters at €7 each do not work, but it will be difficult not to select them if price remains the main selection criterion.

Monitor the execution of tenders

EKN should monitor closely the execution of tenders in which Dutch parties are involved. It appears that regulations are sometimes not properly applied but it was not possible to establish if this was incidental or structural. Either way it is advisable to closely monitor the tender process – for instance by attending pre-bid meetings or opening of bids. If procurement agencies feel closely monitored they will be more likely to follow tender procedures. On the other hand, Dutch companies also mention that acquisition agencies seem to be afraid of making mistakes that approval procedures can become very lengthy and cumbersome.