Water security for all?

The financing crisis in water resource management which threatens our sustainable growth

Water Sector Equity Report 2016

Tanzania Water and Sanitation Network (TAWASANET)

November 2016

The **Tanzania Water and Sanitation Network** (TAWASANET) is the network of Tanzanian civil society organisations working in the water and sanitation sector. The network works to increasing sharing between civil society organisations, promote partnerships between civil society and other sector stakeholders, build the capacity of civil society in the water and sanitation sector, and to strengthen the voice of civil society in national policy debates.

WWF was established in 1961, has a presence in more than 100 countries, including Tanzania. WWF envisages a future where humans live in harmony with nature by conserving the world's biological diversity, ensuring the sustainable use of renewable natural resources and promoting the reduction of pollution and wasteful consumption. WWF Tanzania's Freshwater Programme is focused on *making catchment governance work for all* and works with government agencies, the private sector, civil societies and with community groups to protect and conserve water and natural resources to maintain environmental integrity, ensure equity in water allocation and efficiency in its use.

Shahidi wa Maji is a Tanzanian NGO working with government, communities and the private sector towards sustainable and equitable water resource management for a fair water future. Shahidi leads the Uhakika wa Maji programme in Tanzania which uses social accountability monitoring with citizens, evidence-based advocacy with civil society, water stewardship with private sector and capacity building with government to improve the responsiveness and performance of water governance.

This is Tanzania's ninth annual report on equity in water and sanitation. TAWASANET has committed to prepare such a report on an annual basis. The report is prepared independently, though mandated by the 2008 Joint Water Sector Review.

Cover photograph: KPL rice farm, Kilombero, SwM 2014

Acknowledgements

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Executive summary

The Water Sector Equity Report 2016 focuses on the ability of the sector to ensure **water security for all** in Tanzania. Specifically, we examine whether current performance in water resource management is likely to undermine or contribute to our shared prosperity and goal of middle income economic status by 2025.

To explore this question, we draw on secondary data to review the status of water security in key sectors, consider the impacts of climate change, and examine evidence of case studies alongside that in water sector status reports. We then trace the root causes of the widespread water insecurity observed to inadequate financing for the water resource management through a budget analysis of the sub-sector. We draw key messages from this analysis and urge the uptake of our four recommendations within the Joint Water Sector Review's formal undertakings for 2016.

Why are we prioritising water security, water resource management and financing?

Whilst progress in water supply and sanitation remains vitally important, the Equity Report 2016 focuses primarily on the adequacy of financing for water resource management. Our reasoning is that effective water resource management underpins water security and progress not only in supply and sanitation, but across all sectors of the economy. Adequate and reliable water resources of good quality, and coordinated use of the resource between agriculture, energy, industry, cities and ecosystems is the linchpin of shared growth. Achieving water security for all Tanzanians requires financing and strong leadership by the sector.

TAWASANETs aim is to ensure that equity is at the heart of progress in the sector. Our logic on this year's focus from an equity perspective is that - as evidence from case studies will show - a lack of adequate and sustainable sector financing will unduly impact on the poor and vulnerable communities, through conflict over depleted resources, insecure tenure over water, degraded ecosystems and pollution. At the same time, we see that a lack of water security for Tanzania will hold back the economic growth through which social progress and poverty reduction will be delivered. Ultimately, water security is a shared concern for both economic growth and social equity.

How water secure is our economy?

Work to deliver our development Vision 2025 is well underway, and in all our key sectors this has implications through dramatically increased water use.

Agriculture and farming is a key sector of Tanzania's economy. The sector goal is to quadruple the current area of irrigated land to 1.5 million hectares in just 9 years by 2025. However, irrigation already accounts for 90% of all abstractions, but as little as 15% of this is used effectively and fewer than half of all irrigation schemes allow dry season farming, and many are mired in environmental impacts and conflicts with downstream users.

According to the Minister's Budget Speech to Parliament (2016) levels of access to **water supply** in Tanzania are as high as 72% in rural areas against a target of 85% by 2020; and 86% in large cities against a target of 95% by 2020. According to the Joint Monitoring Program (2015) 16% of the population have access to improved **sanitation** and 6.3 million people practice open defecation. As a combined result 18,500 children under 5 years die each year unnecessarily because of waterborne disease. Poor sanitation alone costs Tanzania USD $206 million each year and 1 % of GDP, equivalent of $5 dollars per every Tanzanian. Meeting commitments to improve drinking water supply and sanitation in order to deliver water security will require a massive increase in water abstraction and treatment, investment in pollution control and coordination with competing demands.

Vision 2025 identifies increased access to energy as the pillar for socio-economic transformation. At present 24 % of the population are connected with electricity, with plans to increase connectivity to 50% by 2025. **Hydro-power** provides approximately half of the country's current electricity needs and under the Power System Masterplan hydro-power production is planned to increase 6 fold by 2025. Hydro-power production requires reliable flows to deliver dependable energy supplies. Low flows have reduced generation capacity by over half, resulting in load shedding, blackouts and significant forgone economic production and growth. The toll on livelihoods, education, health and economic development inflicted by water insecure hydro-power is immense. The World Bank puts the figure at least at 4% of lost GDP.

Tanzania needs to sustain high growth rates through **industry, business investment and commerce** of not less 10% year-on-year over the next decade. This will require massive investment and growth in manufacturing and industrial production, agricultural processing, mining and extractives, oil and gas and tourism sectors. The private sector and investors now recognize water risks as a primary risk facing business and this is reflected in the World Economic Forum's ranking of water crisis as the leading risk to the global economy in 2015. Global assessments of water risk facing business highlight Tanzania as being 'high risk', not because of a lack of water but because of a lack of good water governance.

Forests, fisheries, livestock and wildlife are all highly water dependent sectors and vitally important for the economy and livelihoods. **Tourism** alone brings in 13.2% of our GDP but there are many examples, where poor management of water resources creates conflict with these sectors and threatens their survival.

All of this increased water use takes place in the face of a variable and **changing climate**. 57% of GDP is already produced by climate sensitive sectors and weather related impacts cost agriculture at least USD$ 200 million each year. 70% of all disasters are weather related and climate change will cost 2% of GDP by 2030 unless we take action through better water resource management and preparation for floods and droughts

This sectoral analysis suggests that water security will be the determining factor in whether each sector is able to meet its growth ambitions. The ability of the WRM sub-sector to manage these competing needs will be vital. However case study analysis from across Tanzania suggests that WRM is struggling to perform:

- Pollution control is ineffective, and this results in serious impacts on people, the environment and economic water use;
- Water users, particularly communities and small farmers, have been unable to obtain water use permits from the Basin Water Boards and this undermines their water security and economic opportunities;
- Water is not being allocated based on reliable knowledge about the water availability and this is resulting in lost investment and jobs, conflict and serious environmental and social damage;
- Whilst we desperately need new water storage, infrastructure and irrigation development, in the absence of adequate control and coordination, such schemes can fail, and impose unacceptable impacts on communities and ecosystems.

Are we investing enough in WRM?

When the root causes of limited implementation of WRM are explored, the common theme which emerges is a lack of sustainable and adequate finance. An analysis of financing for the sector based on data from the MoWI, Parliament budget votes and CAG reveals that:

- Over the last 3 years the government has approved allocations of on average only 20% of the planned requirement as expressed in WSDP II: the amount allocated to WRM does not match the planned financing requirement, with a shortfall of 89% in 2016/17;
- Of this allocation, typically less than 50% is dispersed and spent. According to the CAG (2015), the under spend is normally caused by notable delays in release of funds from the Treasury and from development partners.
- BWBs typically collect only between 3% to 5% of the total approved budget for WRM whilst the MoWI goal is for up to 30% of the basins' budgetary needs to be collected from fees.
- Based on planned requirements set out in the WSDP II, the WRM component is expected to receive about 25% of the water sector budget, but it over the past 3 years it has received 10% or less.
- Budget allocations for both recurrent investment and development fluctuate significantly year on year.

Few reliable benchmarks are available to show what we should be spending on water security, however, the World Bank (2010) proposes that countries in sub-Saharan Africa need to invest at least 3% of their GDP into WRM to guarantee water security in the face of climate change. The Water Sector Development Program II sets out a budget requirement of around 0.3% of GDP for WRM. In 2016/17 the budget approved by parliament for WRM was only 0.03% of GDP. This analysis implies that we may be spending as little as 1% of what is actually needed to ensure a water secure economy for Tanzania.

Key messages and recommendations: Overcoming obstacles to water security for all

In conclusion, this analysis suggests that a financing crisis is at the heart of restricted WRM performance in Tanzania, and that this is an important cause for the growing water insecurity which threatens our economic growth and shared prosperity.

While it is acknowledged that Tanzania has good policy and legislation to effectively manage water resources, without adequate financing for implementation, policy and legislation are meaningless. If policy implementation on WRM is not adequately financed now, then the impacts to our economy, environment and our people are likely to lock us into a cycle of water risks, poverty and insecurity. Already we are seeing signs of water stress and growing conflict between competing demands as the country strives to achieve economic growth alongside rapid demographic change and climate variability.

The equity focus of TAWASANET demands that, as a matter of urgency, we prioritise the crisis in financing the WRM sub-sector. The continued drought of financial resources will affect all Tanzanians, but it is the poor and vulnerable who will be hit the hardest. If we invest now, the benefits of a water secure economy will provide rapid and substantial returns.

Unless we provide sustainable and adequate finance for WRM, growing water insecurity and pollution, conflict and degraded resources will impact on growth and prosperity and will undermine our goal to become a middle-income economy by 2025.

Recommended actions:

1. Based on our analysis **we recommend that the financing required to manage water resources, and the value of WRM to the national economy be more clearly understood and articulated**. The sector urgently needs to:
    - Calculate the value of effective water resource management's contribution to the livelihoods of people, and the national economy.

- Develop and apply clear planning instruments, such as formula or guidelines for establishing the funding needs of WRM, and equitable investment across BWBs.
- Understand what can realistically be raised through fees and charges on water users.
- To use this data to argue strongly for adequate, sustained and consistent financing for water security.

2. The sector requires **timely disbursement of funds** to effectively implement core functions of water resource management. Given the sustained need for time sensitive activities such as monitoring and enforcement, we call for a consistent protocol which ensures quick transfer of budgetary needs each financial year.
3. We call for **the development and use of more meaningful and consistently reported Key Performance Indicators** for WRM which track outcomes for water security as a result of sector financing. Current measures and status reporting tends to be inward looking, output based and disconnected from the needs of water users. The absence of proper performance measures is likely to threaten financial and political support for WRM, and the accountability of WRM institutions for improved water security. The sector needs to show value for money to justify increased financing.
4. In order to embed shared responsibility and increase investment for integrated water resource management, we call for a **cross-sectoral accountability framework**. This will improve coordination, operationalise IWRM plans and generate more resources for the subsector by requiring sectors to engage on WRM at catchment and national level, and to demonstrate full compliance with the WRMA 2009. For example, it will require explicit recognition in sector plans, role descriptions, and Key Performance Indicators to coordinate, comply and contribute finance.

TAWASANET looks forward to working alongside the Ministry of water and Irrigation, and all stakeholders in future to deliver the water security we all need to prosper.

Contents

Acronyms and abbreviations

BWBs	Basin Water Boards
BWOs	Basin Water Offices
CAG	Controller Auditor General
CBHCC	Community Based Health Care Council
CCI	Centre for Community Initiative
DAWASA	Dar es Salaam Water Supply and Sanitation Authority
DAWASCO	Dar Es Salaam Water Supply Company
EMEDO	Environmental Management and Economic Development Organisation
GoT	Government of Tanzania
JMP	Joint Programme Programme
LGAs	Local Government Authorities
MAMADO	Maji Maendeleo Dodoma
MKUKUTA	National Strategy for Growth and Poverty Alleviation
MoFEA	Ministry of Finance and Economic Affairs
MOHSW	Ministry of Health & Social Welfare
MOWI	Ministry of water and Irrigation
NWB	National Water Board
PEVODE	People's Voice for Development
PMO-RALG	Prime Minister's Office, Regional Administration and Local Government
RWSS	Rural Water Supply and Sanitation
SWA	Sanitation and Water for All
SWAP	Sector Wider Approach to Planning
SWAUM	Sustainable Water Access Use and Management
SwM	Shahidi wa Maji
TAWASANET	Tanzania Water and Sanitation Network
USD	United States Dollars
UWSAs	Urban Water Supply and Sanitation Authorities
WASH	Water and Sanitation Hygiene
WRM	Water Resource Management
WSDP	Water Sector Development Program
WWI	Water Witness International

1. Introduction

1.1 Background and objectives

The Government of Tanzania's (GoT) ambitious 20-year Water Sector Development Program (WSDP), is designed to strengthen the sector's institutions for integrated water resource management and improved access to water supply and sanitation services. Through the WSDP's dialogue process, the Tanzania Water and Sanitation Network (TAWASANET), a network of 59 Civil Society Organizations (CSOs) from across the country has a mandate to produce an annual Water Sector Equity Report, to ensure that issues of inclusiveness, equity and sustainability are embedded throughout program implementation. Since 2008, when TAWASANET's first equity report was published, the sector has evolved rapidly, and important achievements have been made. A sector-wide approach has been adopted, funding has increased and new legislation passed. There have been improvements in national level planning, budgeting and procurement, and institutions and performance monitoring systems have been strengthened. This is to be commended.

At the same time, the sector is faced with new challenges. A growing population, and the rapid expansion of towns and cities, rapidly growing need for water to support economic growth in key sectors such as agriculture, mining, energy, tourism and industrial processing, alongside our changing climate are placing new demands on our water resources, water infrastructure and water institutions. If we are to meet our shared national development goal of reaching middle income status by 2025, we must meet these demands in ways which are equitable, sustainable, efficient and above all effective. Water security through effective water resource management and universal access to water supply and sanitation is without doubt the key to our shared prosperity, now and in the future.

Achieving water security for all Tanzanians requires strong leadership and financial investment. This year's Equity Report therefore focuses on the adequacy of financing for water security. We aim to ensure that equity is at the heart of progress in the sector. Our fear – based on evidence from rigorous case studies – is that a lack of adequate sector financing will unduly impact on poor and vulnerable communities. At the same time, we see that a lack of water security for Tanzania will hold back the economic growth through which social progress and poverty reduction will be delivered. Ultimately, water security is a shared concern for both economic growth and social equity.

The overall objective of this report is to raise awareness of and promote open debate on how well the water and sanitation sector is performing, and the equity implications of this performance for Tanzania. The specific objectives are as follows:

- To report on the status of water security for key sectors of the economy (Section 2)
- To demonstrate key delivery challenges for water security, and their implications for equity and economic growth through illustrative case studies (Section 3)
- To plot the links between water security challenges, sector financing and institutional performance through rigorous analysis of planned, allocated and dispersed budgets (Section 4)
- To propose specific measures to improve sector performance which will deliver water security for all (Section 5)

The report presents data in both user friendly formats to encourage general debate as well as more technical formats for use by specialists, and works with authoritative data and clear evidence as far as possible.

1.2 Understanding water security: the focus of the 2016 Report

Water security is the reliable availability of an acceptable quantity and quality of water for production, livelihoods, health and ecosystems, coupled with an acceptable level of risk from hazards including droughts, floods, pollution and conflicts[1]

Water security for all is the end goal of water resource management. The concept emphasises the fundamental role of water management in delivering social and economic benefits and avoiding harm for all people and nations. Not only does the water sector serve communities through the provision of water supply and sanitation services and infrastructure, but it plays a key role in planning, coordinating and controlling water use and water related activities to ensure that water resources are used for economic benefit, in ways which avoid conflict between users and degradation of ecosystems. Water security must be **shared,** and **water justice** and the needs of vulnerable communities must be prioritised, particularly in rapidly growing economies such as Tanzania's, where water continues to determine life or death for the poor, alongside acting as the engine for growth.

The foundational role of water security for social and economic progress is set out in Figure 1 which illustrates how water management, and effective and accountable water institutions is at the root of delivery of all Sustainable Development Goals.

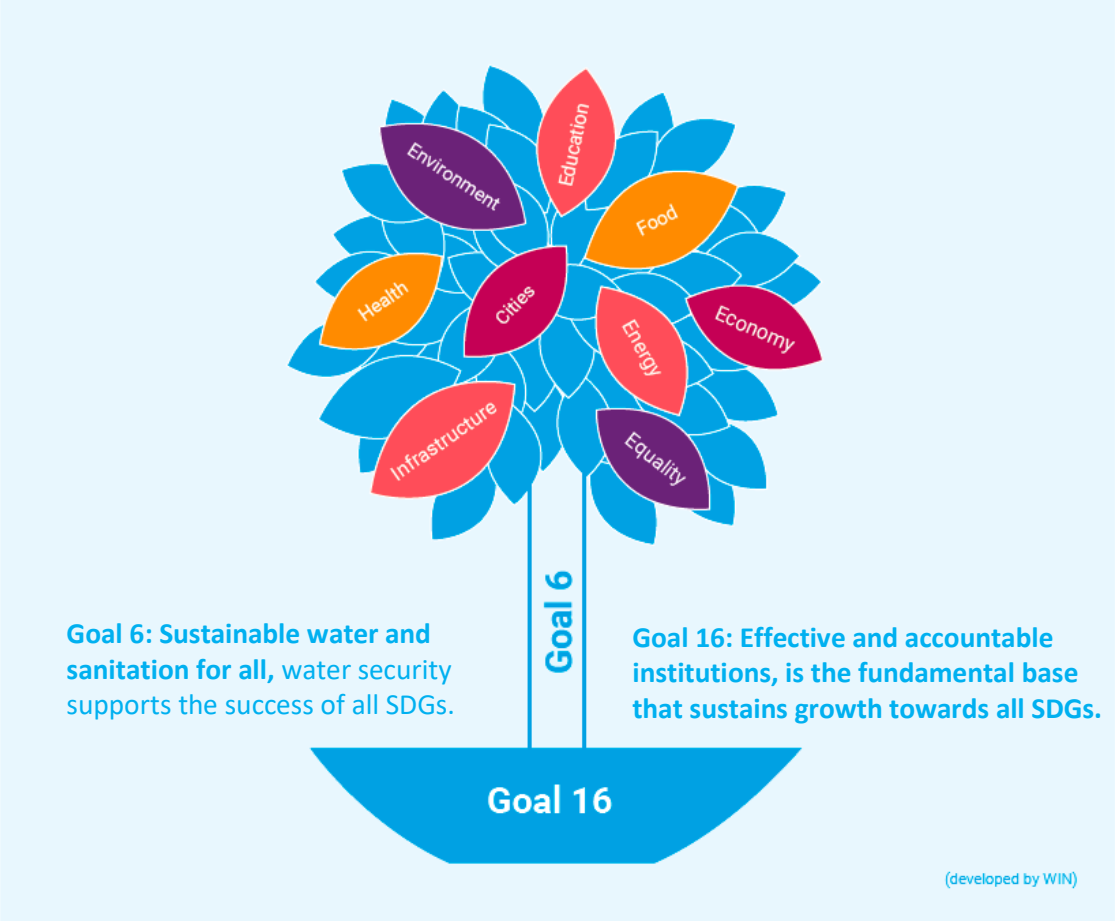


Figure 1: Effective and accountable institutions for water security are the roots of sustainable growth in all sectors.

[1] *Grey and Sadoff, 2005*

Whilst progress in rural and urban water supply and sanitation remains critical to delivering water security, the Water Sector Equity Report 2016 will focus primarily on water resource management. Our reasoning for this priority in 2016 is that effective water resource management underpins water security and progress not only in supply and sanitation, but across all sectors of the economy. Adequate and reliable water resources of good quality, and coordinated use of the resource between agriculture, energy, industry, cities and ecosystems It is the linchpin of shared growth.

As will be explored in the report, Tanzania experiences shortages in its surface and groundwater in many areas. The water shortages result from factors including reduced and untimely rains; increasing demands; degradation of water catchments due to pollution; over abstraction; poor land use practices and encroachment of land for agriculture; urbanization and industrial development. Growing concerns include inadequate water storage infrastructure that is impeding the nation's ability to deal with climate variability and its impact to food, energy, water and environmental security. Climate change is going to further stress the nation's water resources (see Figure 2.)

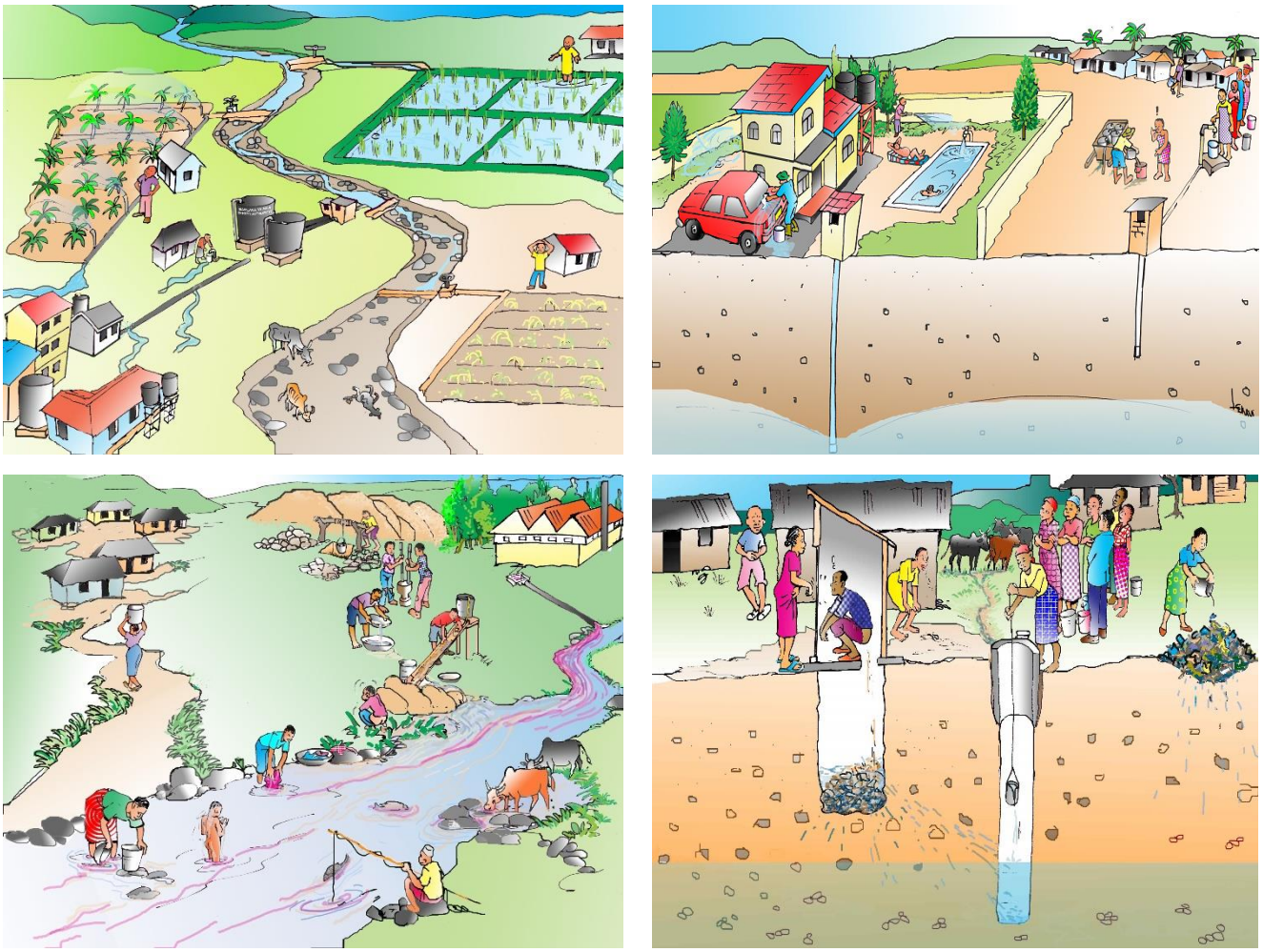


Figure 2. Depictions of the water insecurity scenarios of degraded and depleted water resources facing water users in Tanzania.

It is widely recognised that Tanzania has excellent water policy and law in place to deliver water security through water resource management. The **National Water Policy of 2002** (NAWAPO) sets the framework for

how water should be managed, and the **Water Resource Management Act 2009** and its five 'daughter' regulations provide powers to the nine Basin Water Boards (BWBs) to implement integrated water resource management. The Basin Water Boards have a vitally important job. Their role is not to directly build water infrastructure, dams or irrigation schemes. Instead, they have the following important responsibilities:

- **Data collection, water resource assessment and planning:** measuring rainfall and water flows, working out where water is available, and how much there is to use, and matching this to current and future demand for water from different sectors.
- **Equitable allocation of water and permitting of use:** ensuring that water is shared fairly between competing uses, making sure that water use upstream doesn't take away from important uses downstream, create conflicts or drain all the water from a resource. This is done through issuing 'permits' to water users which set out legal conditions for when, where and how much water they can use. Abstracting water without a permit is an offence.
- **Water quality monitoring and pollution control:** Keeping our water clean and safe, free from pollution, human sewage, industrial and agricultural chemicals. This is done through restricting what can be discharged to water via licences which set limits on wastewater so that it is properly treated to protect human health, fish, ecosystems and future uses.
- **Water source protection programmes:** by controlling the types of activities which can be carried out near water courses, the BWBs protect rivers springs and make sure they flow long into the future. They prevent erosion, dumping of rubbish, building and farming in river channels and work to prevent flooding problems.
- **Support Water User Associations and Sub-Catchment committees:** helping groups of water users to work together to protect and manage the resource, prevent and resolve conflicts and maximise the value of water.

Both under WSDP II and through several parallel programs, the government, donor partners and other stakeholders have launched a range of initiatives to improve WRM for the water security of the country. These initiatives include:

- preparation and implementation of Integrated Water Resources Management and Development (IWRMD) plans;
- strengthening of Basin Water Boards BWBs to carry out their mandated tasks through provision of equipment for data collection and monitoring for informed decision making;
- rehabilitation and building of Basins' and Laboratory offices;
- implementation of water pollution control strategy;
- strengthening of water resources management institutions and formation of catchment committees and Water User Associations in line with the Water Resources Management Act No. 11, 2009.

NAWAPO 2002 rightly insists that, '*it is clear that integrated water resources management is needed to ensure that water does not become a constraint to national development. We need a new vision of a country where there is equitable and sustainable use and management of water resources for socio-economic development, and for maintenance of the environment*'

However, to transfer policy visions into reality on the grounds requires financial investment. There is a need for accurate knowledge of the finances needed and available, the priority uses to which it should be put, and appropriate balance with competing demands for finance, along with measures and processes to evaluate the

value of and progress delivered by investment.

We therefore propose that analysis of the adequacy of financing for the WRM sub-sector within the WSDP be this year's priority. Our analysis explores how the WRM budget is planned, utilized and accounted and this provides policy messages that if heeded, will enhance both equity and prosperity for the people of Tanzania.

1.3 A note on methodology, data and challenges

Our analysis draws on the work of Shahidi wa Maji's Uhakika wa Maji Programme and WWF's SWAUM Initiative.

Uhakika wa Maji uses social accountability monitoring to help vulnerable communities to realize their rights, and improve their access to resources and services, and make institutions more responsive to their needs. Through rigorously documented case studies this work brings evidence from the field about water security and undertakes root cause analysis to trace bottlenecks in WRM performance. In all case studies the problems identified have root causes in a lack of operational budget for Basin Water Boards to undertake their statutory duties. Shahidi wa Maji therefore undertook a comprehensive budget analysis of the WRM sub-sector to develop insights into how budgets are planned, allocated and spent within the Directorate of Water Resources and the nine Basin Water Boards. The work explores whether adequate resources are provided, where these come from, and whether they are used in the most effective way to improve water security.

SWAUM, the *Sustainable Water Access, Use and Management* programme (2011-16), is a multi-stakeholder process (MSP) (catchment/social learning) pilot that has been supported by funds from WWF-UK's Programme Partnership Arrangements (PPA) with the UK's Department for International Development (DfID), and been facilitated by WWF Tanzania in collaboration with RBWB. Its inclusive approach has enabled it to turn the principles enshrined in national water policy and legislation into action. SWAUM is premised on catchment governance being both complex and polycentric (i.e. many formal and informal stakeholders making decisions with respect to WAUM), and has been carried out in two focal sub-catchments, Ndembera and Mbarali, together with the downstream area to Mtera dam. With its diverse stakeholders SWAUM has identified systemic shortcomings in various aspects of integration critical to the governance system.

In collating the evidence presented in this report the following methodologies were used:

i. **Literature and document review:** to ensure reliable data upon which to base analysis and conclusions primary and secondary data sources were reviewed including:

- Water Sector Status Report 2016. (MoWI draft report)
- Record of speech of Minister of Water and Irrigation presenting the proposed budget to the Parliament of Tanzania 2016/2017.
- Water Security for Growth and Prosperity, A call to action for water secure Tanzania by 2025. Shahidi wa Maji, 2016
- WWF reports
- Managing Water Resources for Sustainable Growth: has Tanzania been doing enough? Shahidi wa Maji, 2016. This Budget analysis references the following sources:
    - URT - Budget Memoranda for vote 49, 2013/14, 2014/15 - 2016/17
    - URT – Budget Estimates for Public Expenditure volume II, III & IV, 2014/15 – 2016/17
    - URT – Ministry of Water, Water Sector Development Programme Phase II, (2014/2015 – 2018/2019)

- URT – Ministry of Water, Water Sector Development Programme "the Water Sector Status Report 2014" Marking the end of WSDP phase-I October 2001
- URT - Ministry of Water, Water Sector Status Report, 2012
- URT – Ministry of Water, Sector Program Management Information System - User Manual
- EU Water Initiative - Financing of water resources management: Experiences from sub-Saharan Africa, 2012
- Acteon, Notes on financing water resources management, Background report for the OECD Expert Meeting on Water Economics and Financing, March 2010
- Ankomah Asante F. and Asuming Boakye A, Financing water resources management: An analysis of how financing of water resources management take place, current experiences and emerging challenges in Ghana. November 2011

ii) **Case study research** was drawn on, which used multiple methods to triangulate evidence on impacts and causes of water insecurity across Tanzania (Shahidi wa Maji and WWF).

iii) **Validation meeting.** The report contents were validated through a meeting of sector experts and stakeholders on 25th November 2016. (see SwM PAC minutes).

Challenges facing the research included limited availability of financial resources for this work which prevented TAWASANET from conducting new original research to supplement secondary data.

Despite requests, there was limited data available from the MoWI and the BWBs and this limited the depth and breadth of the analysis. Improved co-operation between civil society and the government in sharing and analyzing budget and performance data would support greater insight, evidence and constructive contribution in future.

Our insights about water security in the field are based on inter-disciplinary case study research. These seek to represent some of the key issues facing water users across the country, and compliment knowledge based on quantitative sampling and monitoring. In the absence of widespread monitoring of water security, they form reliable insights and snap-shots about what is happening and why[2]. It is important to understand that case study research is not concerned with statistical representation of data from a probabilistic sample; rather case study research treats cases as individual 'experiments', so that multiple case studies provide for reliable analytic rather than statistical generalisations.

[2] Inquiry into 'what?', 'how?' and 'why?' questions about complex contemporary social phenomena are ideally suited to investigation through a multiple case-study approach (Yin 2003). Case study research as a methodology in has made important contributions by allowing the investigator to retain the holistic and meaningful characteristics of real-life events which alternative research strategies don't permit (see for example, Whyte 1955, Blau 1955, Szanton 1981, Schorr 1997, Crane 1998, Allison and Zelikow 1999).

2. The importance of water security for equity, growth and prosperity in Tanzania

2.1 Tanzania's Development Vision 2025

Tanzania's aspirations as described in its Vision 2025 are to:

- Achieve middle income status and a semi-industrialized character, where all people enjoy peace, stability and unity;
- Increase access to water supply in urban areas to provide universal coverage of 100% and water supply coverage in rural areas to at least 90%;
- Ensure that water resources are available in a sustainable manner to serve as a driver to both social and economic needs.

Typically, one would expect the National Strategy for Growth and Reduction of Poverty (MKUKUTA), which seeks to translate the Tanzania Development Vision into practice, to set target indicators against which to track achievements over the five-year plans. However, whilst the Vision 2025 is explicit on the importance of water security, the MKUKUTA document sets no goals, target or indicators for water resource management and this hinders assessment of progress against the Development Vision. In the absence of centrally led and coordinated measures of national water security, we analyse key sectors below.

2.2 Water security in key sectors

Agriculture and farming:

Agriculture is the key sector of Tanzania's economy and is vital for our food security. It provides livelihoods to over 80% of the population, generates about 24% of GDP, contributes 30 % of export earnings and employs 75% of the total labor force. Over 90% of active women in Tanzania are engaged in agricultural activities, producing about 70% of the country's food requirements (URT, 2013).

The Ministry of Agriculture and Food Security has developed a Strategic Climate Smart Agriculture Programme for 2015-2025 which sets out an intention to develop 1.5 million ha of irrigation areas by 2025 to benefit 2.3 million households and to increase productivity by 25 percent.

Efforts are underway to improve this productivity through large scale expansion of irrigation.

- Plans are aiming to quadruple the current area of irrigated land to 1.5 million hectares in just 9 years by 2025.
- Irrigation requires reliable access to water in the dry season, and unless we understand where water is available and coordinate use there will be chaos.
- Irrigation already accounts for 90% of all abstractions, but as little as 15% of this is used effectively (MAFC ACRP 2014).
- Fewer than half of all irrigation schemes allow dry season farming and many are mired in environmental impacts and conflicts with downstream users. For example irrigation in the Usangu plains uses 74% of dry season flow in the Great Ruaha resulting in impacts on tourism and wildlife in the Ruaha National Park and power generation at Mtera Dam (World Bank Water Resources Mission 2014 Final Report).

Water supply and sanitation:

According to the Minister's Budget Speech to Parliament (2016) levels of access to water supply in Tanzania are:

- 72% in rural areas against a target of 85% by 2020;
- 86% in large cities against a target of 95% by 2020;
- 60% in small cities against a target of 90% by 2020;
- 72% in Dar es Salaam against a target of 95% by 2020.

According to the Joint Monitoring Program of UNICEF and WHO (2015):

- 31% of the urban population have access to improved sanitation.
- 8% of the rural population have access to imporved sanitation.
- 16% of the total population have access to improved sanitation.
- 12% of the population, 6.3 million people practice open defecation.

They conclude that 'little or no progress' has been made against the sanitation MDG, with only 12% of the population gaining new access to better sanitation in 25 years.

On school WASH, according to the most recently available data (UNICEF 2010), 38% of primary schools have no water supply on their premises, and 84% have no functional hand washing facilities.

As a combined result of this sector status there are on average 5800 cholera cases each year, and 18,500 children under 5 years die each year uneccessarily because of diarheal disease. Poor sanitation alone costs Tanzania USD $206 million each year and 1 % of GDP, equivalent of $5 dollars per every Tanzanian (Water and Sanitation Programme 2015).

Meeting commitments to improve drinking water supply and sanitation in order to deliver water security will require a massive increase in water abstraction and treatment, investment in pollution control and coordination with competing demands.

Hydro-power:

Vision 2025, identifies increased access to energy as the pillar for socio-economic transformation, and the National Energy Policy 2015 establishes the critical role in the socio-economic development of the country.

- All productive sectors of the economy require adequate, reliable, affordable and sustainable energy supply.
- At present 24 % of the population are connected with electricity, with plans to increase connectivity to 30% by 2015, 50% by 2025, and at least 75% by 2033 (National Energy Policy 2015).
- Hydro-power provides approximately half of the country's current electricity needs.
- Under the Power System Masterplan hydro-power production is planned to increase 6 fold by 2025.
- Hydropower potential is 2.5 times the entire generated power in 2008.
- Hydro-power production requires reliable flows to deliver dependable energy supplies.
- Low flows in 2011 and 2015 have reduced generation capacity by over half, resulting in load shedding, blackouts and significant forgone economic production and growth (GCAP 2013).
- The toll on livelihoods, education, health and economic development inflicted by water insecure hydro-power is immense. The World Bank puts the figure at least at 4% of lost GDP each year. (GCAP),

Industry and business investment

In order to reach Vision 2025's goal of middle income status, starting from the current GDP of US $ 50 billion as the base, Tanzania needs to sustain high growth rates of not less 10% year-on-year over the next decade.

- This will require massive investment and growth in manufacturing and industrial production, agricultural processing, mining and extractives, oil and gas and tourism sectors.
- Each of these sectors rely heavily on water resources and we need to ensure that their development doesn't impact on the environment and people through pollution and over-use.
- There are many examples across the country of where ineffective controls and decision making on water resources are sparking conflicts, threatening local people and businesses themselves. The private sector and investors now recognize water risks as a primary risk facing business and this is reflected in the World Economic Forum's ranking of water crisis as the leading risk to the global economy in 2015.
- Global assessments of water risk facing business highlight Tanzania as being 'high risk' (see WWFs Water Risk Filter 2016), not because of a lack of water but because of a lack of good water governance. There is anecdotal evidence that businesses are choosing not to invest in Tanzania because of these risks, and evidence from case studies that investments fail because of weak water resource management.

Wildlife, natural resources and tourism:

Forests, fisheries, livestock and wildlife are all highly water dependent sectors and vitally important for the economy and livelihoods. Tourism alone brings in 13.2% of our GDP but there are many examples, such as the Great Ruaha, Kilombero Valley and Lake Manyara where poor management of water resources creates conflict with these sectors and threatens their survival**.**

Climate variability, extreme flooding and drought:

Temperatres and erratic rainfall are on the rise in Tanzania because of climate change. 57% of GDP is produced by climate sensitive sectors and weather releated impacts cost agriculture at least USD$ 200 milion each year. The recent tragedies in Shinyanga and Dar es Salaam show the human impact of flooding in particular. 70% of all disasters are weather related and climate change will cost 2% of GDP by 2030. Better water resource management and preparation for floods, droughts and changes in water availability will reduce the negative impacts on the poor and the economy.

3. How water secure are we?

3.1 Evidence from the field: Case studies

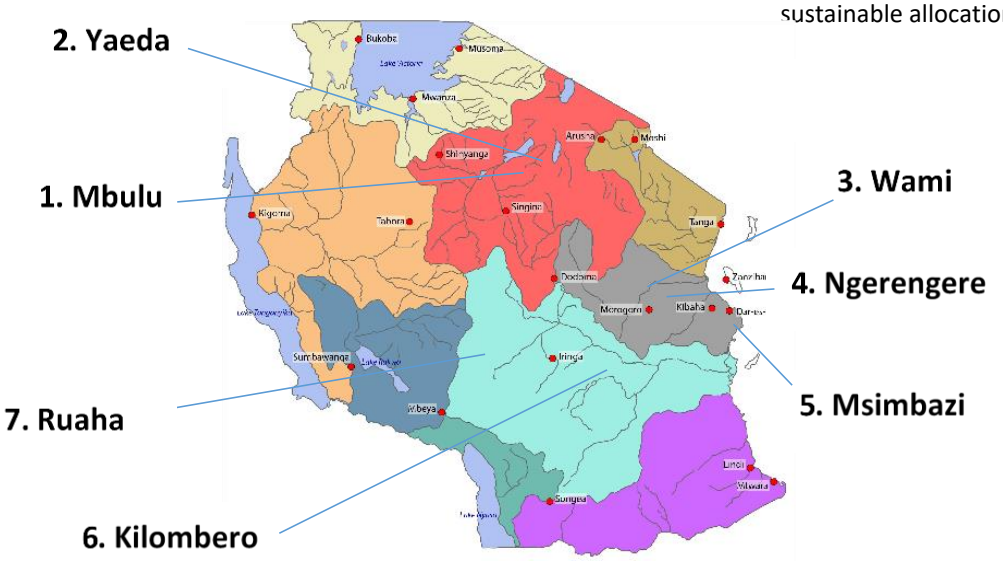
1. Mbulu - *why can't we get a permit?*

The Water Use Permit system is the foundation for sustainable water use and protects users from competing claims. This case study in Mbulu shows that the Basin Water Boards are struggling to administer the water use permit process because of a lack of resources and an overly bureaucratic system. This is directly undermining the water security of vulnerable communities. Many communities - in Mbulu over 8000 people – aware of the importance of a permit, have applied to the Basin Water Board to have their water use legally recognised. The Basin Office was unable to process these applications for over 5 years because of a lack of budget. Large investors tend to get permits more quickly than communities. If the system continues to fail then Tanzania's water will soon be in the exclusive hands of the rich and powerful, coordinated use will be impossible, and chaos and conflict will be the norm.

4. Yaeda – *Who stole our water?*

The Yaeda River in Mbulu provides a tragic example of how poor water resource management can cause conflict, negative impacts on livelihoods and health, and undermine sustainable growth. In the 2000s dams were built to provide for irrigation, but little effort was made to understand how much water was actually available, who was already using the water, or to plan for equitable use.

Since the dam was built, water use for irrigation prevents downstream communities from obtaining their domestic water needs. This is in direct contravention of national water policy and has resulted in armed conflict. The absence of a Water User Association means that irrigators are now in conflict among themselves and the absence of any water use permitting or enforcement raises big questions the ability of the Internal Drainage Basin Water Board to ensure fair and sustainable allocation of water.



3. River Wami – *a false promise of water and lost investment*

In 2016 the Tanzanian government shelved the $620 Million investment in the EcoEnergy sugar-biofuel farm on the Wami River near Bagamoyo. Swedish investors had been granted land to develop irrigated agriculture on 20,000 hectares of land which would bring millions of dollars of foreign direct investment and export revenues, and create thousands of jobs. As well as land disputes, the problem was that there was never enough water for this irrigation. Hundreds of small farmers already use the Wami's water, using any more would have damaged Saadani National Park and revenue from tourism. There are many areas of Tanzania where water is available - improved water resource management could match land investment to available water and avoid such a tragically lost opportunity for growth.

5. Msimbazi – *'the river of death'*

Dar es Salaam's Msimbazi is horrendously polluted and imposes health risks for at least quarter of a million citizens. It serves as an open sewer carrying a toxic mixture of industrial effluent, chemicals, and human sewage. The Msimbazi has been shown to have:

- pH levels as high as 12 which causes severe burns to skin. The Tanzanian legal limit is 8.5.
- Chromium VI at 75 times the legal limit. Chromium is very toxic: long-term exposure causes cancer and birth defects.
- Faecal contamination far above the World Health Organisation limits for safe use of wastewater in agriculture.

Health professionals report that this pollution has profound health impacts especially for children. The pollution has obvious sources, for example, from Waste Stabilisation Ponds operated by DAWASCO and from NIDA Textiles Ltd. These polluting discharges are in contravention of the Water Resources Management Act 2009. Flooding and pollution by solid waste are also a major problem for communities along the river.

Complaints have finally lead to fines of TSh 20 million for some of the polluting industries, though pollution from these sites continues. There are reports that local government officers who have complained on citizens' behalf have been relocated for trying to do their job.

4.Ngerengere – *Pollution tragedy*

Pollution from Morogoro town and its industries is severely contaminating the Ngerengere River which is an important source of water for downstream communities and for drinking water in Dar es Salaam.

A survey in 2013 found dangerous bacteria at 8000 times safe levels set by the World Health Organisation because of the pollution. Those living downstream have no choice but to use the polluted water for household purposes, for irrigation, gardening and watering livestock.

Evidence shows the severe impacts of this industrial and sewage pollution on health, economic activity and the environment. Tanzania's National Water Policy and Water Resources Management Act 2009 clearly establish water pollution as a serious offence and provide significant powers to the Wami Ruvu Basin Water Board to take action. Whilst action has been taken to improve water treatment, pollution continues but the Basin Water Board has 'no budget' to invstigate or act. The ongoing use of rivers as a dumping ground for solid and liquid waste, and the attendant health, economic and flood risk impacts which this causes is a tragic indictment of Tanzania's water security status

6. Kilombero – *water allocation and permitting 'in the dark'*

Rapid investment in irrigation expansion across the valley is underway, but, estimates suggest that there is only enough water to supply a fraction of planned demand. Risks have been recognised in the SAGCOT Strategic Regional Environmental and Social Assessment (SRESA):

> *Because of the risks of significant, irreversible negative impacts to critical habitats, ecosystems and downstream users as already demonstrated on the Great Ruaha River, large-scale irrigation development in the Kilombero Valley should be postponed until there is: better understanding of water availability; the water requirements of the floodplain ecosystem and downstream users; and an effective sub-basin water management organisation.*
>
> ***Executive Summary, SAGCOT SRESA 2013***

Despite this proposed moratorium, large scale irrigation development schemes are underway. Under the Water Resource Management Act 2009 irrigators also need a Water Use Permit from the Basin Water Board (BWB) which aims to maintain water use within the limits of sustainable supply. Only one scheme is known to possess as a water use permit (WUP) from the Rufiji BWB. Even the existence of a permit doesn't guarantee sustainability because the system for processing, issuing and monitoring compliance against WUPs is not currently effective. The Kilombero, like many of Tanzania's rivers, has great potential to be developed for irrigation, but the Rufiji BWB need the resources, and systems to ensure that its development is based on available flow. Without the ability to set and enforce sustainable levels of use, our rivers and economic potential will be bled dry.

7. Water Security & the Great Ruaha

The Great Ruaha River Catchment (GRRC) is critical to the social and economic development of the 2 million people living in the catchment. Their wellbeing and that of people further afield, are dependent on the GRRC's ecosystem services. Economic activity includes extensive agricultural, timber and fishing enterprises, hydropower providing almost half the country's electricity, plus the tourist attraction of the Ruaha National Park with its huge revenue-generating potential.

Rapid, uncontrolled and inefficient expansion of the irrigated sector has led to the drying up of the once perennial GRR. The river now ceases to flow for up to 5 months in the dry-season.

A 'Wicked' Problem

Water governance in the GRRC is characterised by widespread disagreements and conflict between sectors and stakeholders, knowledge gaps, climate-wrought and other uncertainties, and capacity and resource constraints amongst the authorities.

The Basin Water Office has been unable to establish fair and sustainable allocation rates, having been thwarted not only by the absence of data, but also by chronic under-staffing and disbursement constraints[3]. Staff selected against hydrological tasks are not necessarily suited to addressing weak governance.

Despite water security being foundational to the food and energy security nexus – and now sharing joint billing in SDG 6[4] – there have been few systematic or coherent initiatives to engage stakeholders in mediating fair and sustainable access, use and management of water resources in the GRRC.

Stakeholders' Diagnoses

SWAUM' approach is central to the Water Resources Management Act No 11, 2009, whose *principles* advocate '*stakeholder involvement at all levels*' and '*public participation in the development of policies, plans and processes*'. Work with stakeholders from Ndembera, Mbarali and downstream sub-catchments has revealed:

- Many formal stakeholders, local to national, have overlapping mandates, duplicating roles, & compete for resources;
- Different administrative/political and hydrological boundaries, and upstream-downstream dynamics, undermine decision-making processes and actions;
- Weak coordination and cooperation within & between sectors;
- No systematised meeting or shared strategizing, planning or implementation between RBWO/B and LGAs;
- Constrained relations within the hierarchy of water institutions (i.e. RBWO, catchment & sub-catchment committees, WUAs);
- Claims of political interference from officials & technical staff, and allegations of corrupt practices by local people;
- Significant gaps in the devolution of national Climate Change Adaptation strategies into district-level planning processes;
- Limited engagement by service providers with local people, including poorer women & other hard to reach groups;
- Conflict between customary norms & practices and private sector practices with official laws & regulations.

All of these shortcomings involve significant costs – of duplication and impaired effectiveness, of wasted time and opportunity costs. In addition there are longer term costs, associated for example with poorer health and disease, reduced production levels, pollution of freshwater ecosystems, missed tourist revenues, and lower power generation.

3 "*..the human resource gap is reported as more than double the number of current staff at the Basin, while more staff continue to retire*"; "*During this review period, financial disbursement remains a major obstacle to the full realisation of some of the targets*". (DFID Annual Review, 2016).

4 Sustainable Development Goal 6: *Ensure availability and sustainable management of water and sanitation for all.*

3.2 Evidence from the field: Case study summary

Despite the central importance of water resource management by the Basin Water Boards for our national water security they are struggling to deliver their roles. Uhakika wa Maji and SWAUM have worked with communities across Tanzania to document the water insecurity challenges facing people and the economy. These provide strong evidence for why urgent action is needed. They show that:

a. **Pollution control is ineffective, and this results in serious impacts on people, the environment and economic water use.** (See Case study 4 and 5);

b. **Water users, particularly communities and small farmers, have been unable to obtain water use permits from the Basin Water Boards and this undermines their water security and economic opportunities** (See Case study 1 and 6);

c. **Water is not being allocated based on reliable knowledge about the water availability and this is resulting in lost investment and jobs, conflict and serious environmental and social damage** (See Case 2,3, 6 and 7);

d. **Whilst we desperately need new water storage, infrastructure and irrigation development, in the absence adequate control and coordination, such schemes can fail, and impose unacceptable impacts on communities and ecosystems** (See Case 2, 3, 6, 7);

3.3 Evidence from the Water Sector Status Reports

Based on a review of the WRM component of the MoWI Water Sector Status Reports, progress is to be commended in some important areas:

- Measurement of groundwater and river levels against long-term average;
- Construction and rehabilitation of MoWI and BWB buildings, laboratories and hydrometric stations;
- Conflict resolution;
- Establishment of WUAs, Catchment committees and WUAs capacitated;
- Board meetings of BWBs;
- Water sources identified;
- Pump tests supervised and drilling licences issued;
- Progress on IWRMD plans
- Meetings regarding transboundary water matters;
- Numbers of water samples analysed and percentage failing drinking water and effluent standards

Whilst progress is to be commended, many of the achievements reported annually are output based and it is difficult to trace if and how these translate into greater water security for water users and the economy. For example:

- it would be of value to report how many o non-compliances in effluent discharges were resolved, and what enforcement and compliance action was taken to protect downstream users;
- we note the absence of data on water use permits issued and inspected against and in compliance, although this is likely to be a key determinant of water security;

- conflicts reported and resolved are only reported sporadically, despite a conflict register being a statutory requirement under WRMA 2009.
- Reporting of daily river flows with no reference to a historical baseline has little utility in the status report, and rather annual and forecast flow and levels referenced to standardised drought return periods (Q80, Q95) at strategic stations could be more useful.
- Finances generated through collection of fees and charges by the BWBs are not reported despite the importance of this data to sustainable financing. Neither is there reporting of progress on the 'financing study for the sector' despite this being a formal undertaking in previous JWSRs.
- Numbers of meetings are a useful measure but are not an objectively reliable indicator of progress in the sub-sector.

We observe overall an absence of meaningful and consistently reported performance measures (or Key Performance Indicators) for WRM and the BWBs and devolved institutions of WUAs and CMCs which can demonstrate the value of WRM activity to stakeholders. Measures used seem to be inward looking. The absence of outward facing and outcome focused performance measures is likely to threaten financial and political support for WRM, and accountability of WRM institutions for delivery of water security.

4. Budget analysis on WRM: are we investing enough?

Based on analysis of the case studies, a common causal factor and root cause of Tanzania's water insecurity appears to be inadequate financing for WRM. For the sub-sector to deliver its core statutory obligations of data collection, assessment and planning, allocation of water, control of pollution, monitoring and compliance, and cross-sectoral coordination it requires adequate and sustainable financing. The following analysis was undertaken by Shahidi wa Maji in 2016, to explore the currents status of WRM funding.

4.1 How do financing requirements compare to approved budget allocations and actual disbursements?

The financing needs of the WRM sub-sector are based on figures provided in the Water Sector Development Plan II (2014/15 – 2018/19) (see Table 1).

Table 1: WSDP II Components and Sub-components Financial Requirements

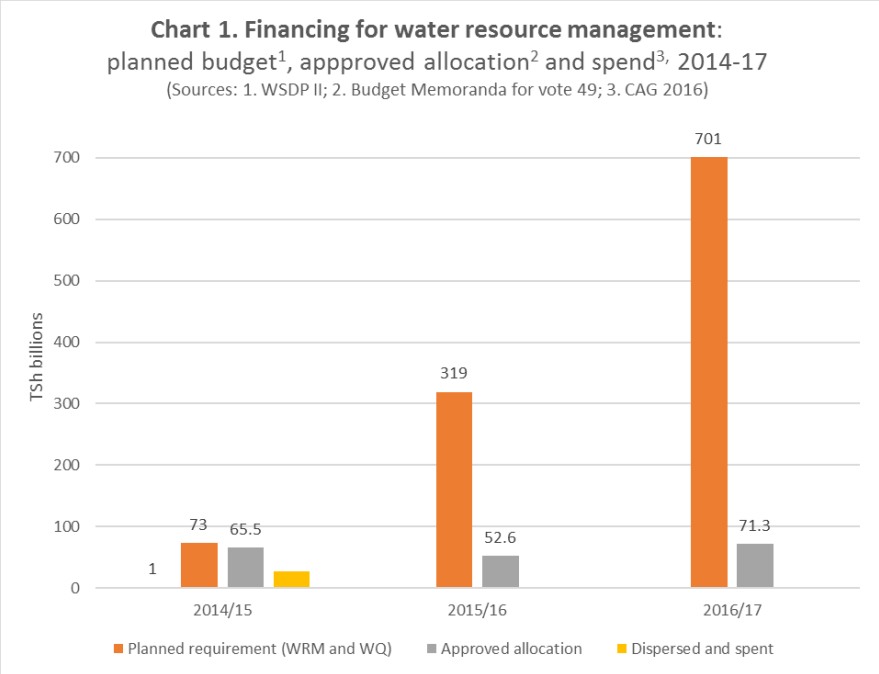
Component	Sub Component	Financial Requirements (in, 000 USD)					TOTAL
		2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	
1. WRM	Water Resources Management	33,250	145,113	318,461	184,803	107,518	**789,145**
	Water Quality Management and Pollution Control	5,287	3,244	2,495	1,701	1,728	**14,455**

Table 1 sets out the annual requirements for Component1 which includes WRM and pollution control, which combine to represent a total of steadily increasing needs to total 803,601 Million USD. (TSH. 1,767 billion).

These figures are compared to actual approved budget by parliament (Budget Memoranda for vote 49) each year for the past 3 years – since the start of the WSDP II, and figures of actual disbursement (from the CAG 2016, 2014/15 data only is available) in Chart 1.

The chart illustrates how:

- the amount allocated to WRM does not match the planned financing requirement, with a shortfall of 89% in 2016/17
- Over the last 3 years the government has approved allocations of an average of only 20% of the planned requirement.
- Of this allocation, typically less than 50% is dispersed and spent.



According to CAG report (2015) the under spend is normally caused by notable delays in release of funds from the Treasury and from development partners for implementation of development projects. In other words the limited disbursement and spend against approved budgets is largely explained by administrative delays.

> *"...failure of releasing funds as per approved budget especially development funds has an impact on increasing implementation cost due to interest that may accrue to unpaid transactions and has always led to increase in expenditure arrears as well as having huge amounts of unspent balances at the yearend"* says the CAG in his 2015 central government report.

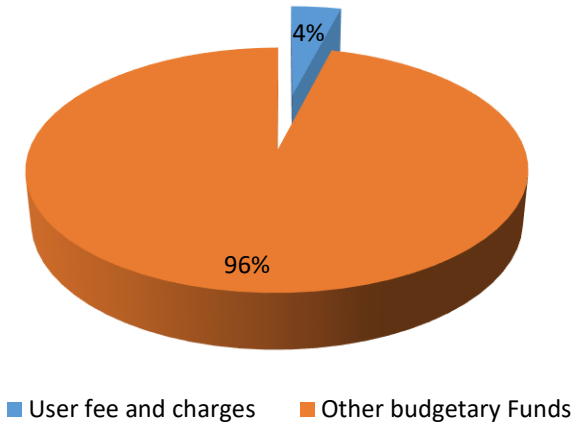
Although few reliable benchmarks are available to show what we should be spending on water security, the World Bank[5] (2010) propose that countries in sub-Saharan Africa need to invest at least 3% of their GDP to WRM to guarantee water security for its development goals in the face of climate change.

In the Water Sector Development Strategy II sets out a budget requirement of around 0.3% of GDP for WRM. In 2016/17 the budget approved by parliament for WRM was only 0.03% of GDP. This analysis implies that we may be spending as little as 1% of what is actually needed to ensure a water secure economy.

4.2 How much does WRM raise in fees and charges?

In addition to government allocated funds for managing water resources, the Basin Water Boards continue to collect funds from water users fees and charges. In the last three years the BWB continued to mobilize these funds and have performed reasonably well against annual targets. For example, in 2013/14 the BWBs estimated to collect Tsh. 1.8 billion but managed to collect 86% of the estimate while collecting 78% of the estimates Tsh. 2.6 billion in 2014/15 (*Source*: *Budget Memoranda for vote 49, 2013/14, 2014/15 & 2015/16*).

Chart 2: Typical contribution of BWB fees and charges to the WRM budget



When compared to the overall approved budget, the BWBs typically collect only between 3% to 5% of the total (see Chart 2). For example, in 2014/15 when the approved WRM budget was 65.5 billion, BWB collected Tsh 2.01 billion which is 3% of the budget. The Ministry's stated goal is to collect up to 30% of the basins' budgetary needs from fees which appears ambitious according to their capacities illustrated by this analysis.

(*Source*: *Budget Memoranda for vote 49, 2013/14, 2014/15 & 2015/16*)

4.3 How much does WRM receive in comparison to other components?

Again, based on planned requirements set out in the WSDP II, the WRM component should typically receive about 25% of the water sector budget (see Table 2). However, based on analysis, the WRM component

[5] World Bank [The World Bank. (2010). The Cost to Developing Countries of Adapting to Climate Change. New Methods and Estimates, The Global Report of the Economics of Adaptation to Climate Change Study. Consultation Draft.]

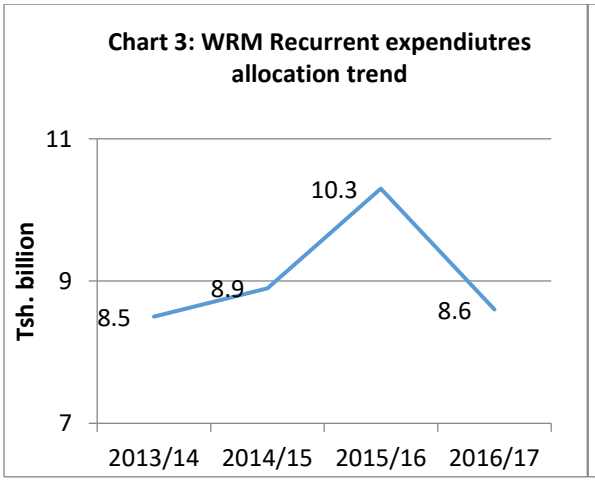
consistently receives 10% or less. It is unclear if this amount is essential and desirable and upon which criteria the share of the budget is based upon.

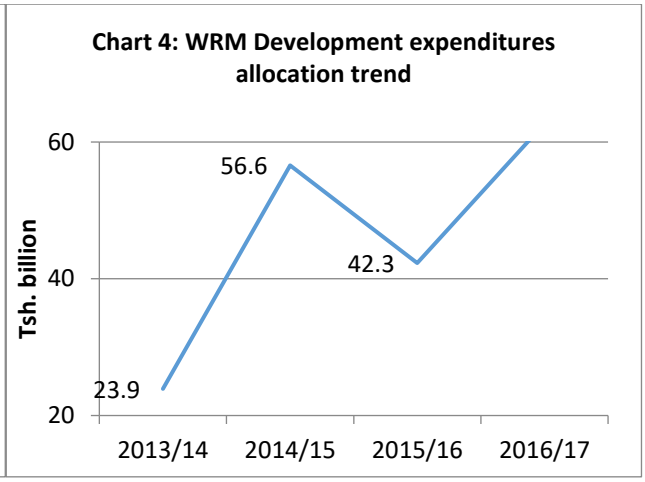
Table 2. Percentage of Financial Requirements by components

Component	Proposed WSDP II Allocation (in '000 USD)	Percentage of Total Requirement
WRM	803,601	25%
RWSS	862,394	26%
UWSS	1,348,103	41%
Sanitation and Hygiene	150,000	5%
Programme Delivery Support	111,289	3%
Total	**3,275,386**	**100%**

(Source; WSDP II report, 2014)

4.4 How consistent are budget allocations to WRM?





(Source: Budget Memoranda for vote 49, 2013/14, 2014/15 & 2015/16)

Charts 3 and 4 above provide an insight into the apparent inconsistencies in planning and allocation for both recurrent and development WRM expenditures. According to the planned financial need in the WSDP II report, funds allocated should be increasing year after year, but what we see in these two graphs is a significant fluctuation in budget.

Perhaps the important questions here are: 1) why are the allocation trends so inconsistent – particularly for recurrent, and presumably predictable expenditures?, and 2) what are the implications of these fluctuations for effective planning and performance of WRM duties, plans and functions?

4.5 A financing crisis in WRM?

In conclusion, this analysis suggests that a financing crisis is at the heart of restricted WRM performance in Tanzania and that this is an important cause for the growing water insecurity which threatens our economic growth. The analysis identifies:

- very significant shortfalls in funds disbursed when compared to planned requirements;
- that late financial disbursal restricts the amount actually received for WRM;
- that the ability of the BWBs to collect funds is restricted, particularly in terms of the long-term target for self-financing;

- that the proportional share of sector funding falls well short of that which is planned, and
- regular fluctuation of allocated budgets is likely to present difficulties for effective WRM delivery.

5. Key messages and recommendations: Overcoming obstacles to water security for all

In a country like ours, where one of our greatest problems is water, we must manage what we have effectively. Unless this is done we can involve ourselves in a great deal of trouble in the future.

Julius K Nyerere, 34th Session, Water Bill, 17th October 1958, Hansard

While its acknowledged Tanzania has very good policy and legislation to effectively manage water resources, we need to 'put our money where our mouth is', if we are to heed the prescient warning of Mwalimu Julius Nyerere of almost 50 years ago. If policy implementation on WRM is not adequately financed now, then the impacts to our economy, environment and our people – as illustrated by the case studies in section 3 - are likely to lock us into a cycle of water risks, poverty and insecurity. Already we are seeing signs of water stress and growing conflict between competing demands as the country strives to achieve economic growth alongside rapid demographic change and climate variability.

The equity focus of Tawasanet demands that, as a matter of urgency, we prioritise the crisis in financing the WRM sub-sector. The continued drought of financial resources will affect all Tanzanians but it is the poor and vulnerable who will be hit the hardest. If we invest relatively modest amounts now the benefits of a water secure economy will provide rapid and substantial returns.

Unless we provide adequate finance for WRM, growing water insecurity and pollution, conflict and degraded resources will impact on growth and prosperity and will undermine our goal to become a middle-income economy by 2025.

Recommended actions:

Recommended actions:

1. Based on our analysis **we recommend that the financing required to manage water resources, and the value of WRM to the national economy be more clearly understood and articulated**. The sector urgently needs to:
    - Calculate the value of effective water resource management's contribution to the livelihoods of people, and the national economy.
    - Develop and apply clear planning instruments, such as formula or guidelines for establishing the funding needs of WRM, and equitable investment across BWBs.
    - Understand what can realistically be raised through fees and charges on water users.
    - To use this data to argue strongly for adequate, sustained and consistent financing for water security.
2. The sector requires **timely disbursement of funds** to effectively implement core functions of water resource management. Given the sustained need for time sensitive activities such as monitoring and enforcement, we call for a consistent protocol which ensures quick transfer of budgetary needs each financial year.

3. We call for **the development and use of more meaningful and consistently reported Key Performance Indicators** for WRM which track outcomes for water security as a result of sector financing. Current measures and status reporting tends to be inward looking, output based and disconnected from the needs of water users. The absence of proper performance measures is likely to threaten financial and political support for WRM, and the accountability of WRM institutions for improved water security. The sector needs to show value for money to justify increased financing.
4. In order to embed shared responsibility and increase investment for integrated water resource management, we call for a **cross-sectoral accountability framework**. This will improve coordination, operationalise IWRM plans and generate more resources for the subsector by requiring sectors to engage on WRM at catchment and national level, and to demonstrate full compliance with the WRMA 2009. For example, it will require explicit recognition in sector plans, role descriptions, and Key Performance Indicators to coordinate, comply and contribute finance.

TAWASANET looks forward to working alongside the Ministry of water and Irrigation, and all stakeholders in future to deliver the water security we all need to prosper.

…and a note on process

Given the importance of sector performance to the national economy and our key economic sectors, we are concerned about levels of attendance and engagement in the sector dialogue process. For example we wonder why the private sector and key sector Ministries (Agriculture, Finance, Energy, Natural Resources) are consistently under-represented at the Joint Water Sector Review. We urge the MoWI to reach out to its stakeholders and partners to improve participation in sector development.

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