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WATER SECTOR STATUS REPORT 2015 20

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Statement by Minister

I am glad to report that since 2015, the sector has recorded much success as many key objectives and plans have been realized. As the sector Ministry, we have improved on efficiency by resolving major implementation challenges and cumulatively improved in water governance in the country. The legislative aspects of the provision of water supply and sanitation services have been made clearer following the enactment of Act No 5 for Water Supply and Sanitation in 2019. The new Act provides for the establishment of the Rural Water Supply and Sanitation Agency (RUWASA) and repeals the Water Supply and Sanitation Act (Act No 12 of 2009).

Sector reforms which now dates two decades cumulatively have continued to improve effectiveness. The 2002 National Water Policy, while still relevant is being reviewed to align and optimize its direction in achieving the country's development initiatives and enable the sector respond to current and future global demands. The 2002 Policy continues to provide the general direction to attain the aspirations of the National Development Vision by 2025; through implementation of the Water Sector Development Programme (WSDP). The policy review process is on track so far and has made tremendous progress.

Investments in the water sector specifically the Water Sector Development Programme are hefty and the main thrust during the period has been directed at increasing access to water supply services to meet the growing demand. As Tanzania's population grows, it becomes essential to carefully plan allocations for the competing sectoral demands by balancing the allocations and priorities in an equitable manner.

Our state of water resources is still intact standing at 2.3 Mil liters per year for each person counted in Tanzania. During the period, we have increased supervision of projects to ensure their completion is within agreed timelines, budget and quality. As a result, an additional 1,143 projects have been implemented in rural areas since the onset of the current government led by H.E. John Pombe Joseph Magufuli. This translates to coverage increase of 70% by end of 2019 from 48% in 2015 in rural areas and a coverage in urban centers from 70% (June 2015) to 85% in December 2019. It is rewarding to note that many people have gained access to water from improved sources in rural and urban sub-sectors. The Government's commitment in caring and improving people's lives remains very high and un-wavered. Sector plans to positively contribute in the country's development aspirations and delivering on citizens' expectations remains very high.

I express my profound appreciation to the participation of all stakeholders specifically Development Partners, Private sector, Civil Society Organizations and the community. I extend this appreciation to my staff at the Ministry of water, Line Ministries and the Government as a whole for their commitment, diligence and overall collaboration that has led to the sector's success. I render my gratitude for the moral support and financial contribution of all Partners and hereby call for continued support of every stakeholder in fulfilment of a joint common goal and target.

Hon. Prof. Makame Mbarawa (MP)
Minister of Water

Statement by Permanent Secretary

I am both pleased and privileged to send a message to the people of Tanzania and international community that access to water supply and sanitation is a prerequisite for achieving the desired economic success of Tanzania. On the way to achieving the goal of an emerging economy status, a rapid growth and expansion of economic activities both in urban and rural areas are expected. Availability of sustainable and efficient water supply and sanitation services at all levels is vital to keep up the pace of development in a strategically driven economic environment in the country. As Tanzania grows into the middle economic development so are the demands for improved water supply services and resources in terms of quantity, quality and reliability.

Although Tanzania is not considered as water resources scarce country, the utilization of water as a sustainably managed resource is a priority for national development. Thus the approaches to address the challenges of water resources management and water supply in providing sustainable solutions must be comprehensive and integrated. It is in this context that the WSDP has to inform and address the challenges and mitigations of water resources management, water supply, health and sanitation, institutional and environmental management.

It is my conviction that the Government of Tanzania and our esteemed development partners through the water sector development programme will provide valuable insights into water investments required to develop this valuable and priority area. The challenging issues outlined in the report will also attract the right attention of water users, policy makers and development partners to provide the comprehensive and sustainable solutions.

It is thus my sincere appreciation to the President of United Republic of Tanzania, Minister of Water and all authoritative ranks in Tanzania for their continued support in nurturing social, economic and industrial achievements through sustainable and environmental utilization of this valuable water resource.

I once again wish to congratulate the ministry of water, Development partners and individual members who have together contributed in bringing out this valuable report.

I acknowledge and welcome all stakeholders into reading, capturing and using the report for sustainable development of Tanzania.

Prof. Kitila Mkumbo
Permanent secretary
Ministry of Water

Executive Summary

This Water Sector Status Report covers a period of five years from 2015 to 2020. It consolidates the progress and issues on the components constituting the water sector. The report addresses the challenges and sustainable solutions of water resources management, water supply and sanitation, institutional strengthening and performance monitoring in comprehensive and integrated manners. It encompasses the historical context and reforms on the sector from pre-independence building on a horst of knowledge up to the current status. The core appraisal of the sector is mainly covering the period of 2014/15 to 2019/20. It is in this context that the WSDP has to inform and address the challenges and mitigations of water resources management, water supply, hygiene and sanitation, institutional and environmental management

In the reporting time the ministry has continued to transform itself and advanced legislations that would fit the current sector challenges. Key transformations include the establishment of the National Water Fund that mobilizes resources for mainly rural water supply. In addition, the government has initiated review of NAWAPO which steered the sector since 2002 and passed the new water supply and sanitation act no 5 of 2019. Amongst many, the act has introduced RUWASA, merging of underperforming utilities to major ones like DAWASA, merging of DDCA and MCS to RUWASA and many other reforms. At operational level, several units/departments have been merged to have a lean and effective structure. Furthermore, the ministry now fully operates from the capital city of Dodoma which means ease of doing business for peripheral regions that are now commanded from the central part of Tanzania as was envisaged right after independence.

Status of national water resources is one of the areas studied at a great length during the reporting time. Reports indicates that, based on the aggregation of data from IWRMD Planning process, the current annual renewable water resources amount to 126,262 Million Cubic Meters (MCM) per year - equivalent to an average of 2,330 m^3 per capita per year. This is above the globally agreed Water Stress Indicator of 1700 m^3 per capita per year. However, it is recognized that, this value is a physical water sufficiency not economic one i.e. may not mean all waters are readily accessed based on our economic status. In this realization, the Government and stakeholder are implementing several projects[1] to actualize this sufficiency to the needy. MoW is conisant of the reported data by others which indicates a discrepancy on water availability. At the time of this report, efforts were still underway to reconcile the discrepancy.

On service delivery for rural areas – water coverage has been improved from 48% in June 2015 to 70% by December 2019. In the same category for urban centers, coverage increased from 72% in June 2015 to 85% December 2019. In terms of water points generally, the target was to increase water points from 77,584 in June 2015 to 153,918 water points by June 2019; these would serve for 38,475,697 beneficiaries. Cummulately, there are 138,987 WPs of which

[1] One of exemplary projects is to transfer Lake Victoria waters to central regions of Tanzania.

42,035 WPs represeting 30% are none functioning. This entails the need for a strategy to make sure O&M and social issues are budgeted appropriately.

On the same category, urban water supply data indicates that DAWASA targets from WSDP II was to rise from 70% (1,750,000 beneficiaries) in December 2013 to 95% (6,100,000 beneficiaries) by 2019 and reduce Non-Revenue Water from 55% to 25%. EWURA data shows that, the utility efforts on water access has been growing steadily each year at 5% which means it will achieve 90% target by June 2020 if things continue the same. NRW for DAWASA has dropped from 56.7 in 2014/15 to 48.37 December 2019.

Other Regional Centers utilities' target was to reach to 98% coverage (2,000,000 new HH connections) in 2019 from 80% coverage by December 2013. The same were required to reduce NRW from 37% to 25% by the same time. EWURA data shows coverage growth to 84.7% by December 2019 which is somewhat wavering growth. National Projects, District HQs and Small Towns were set to raise service coverage from 53% in 2013 to 65% by June 2019 and lower NRW from 53% to xx%. Attributed to overwhelming population growth in District HQ and Small Towns, the December 2019 EWURA data shows a staggering growth on these entities which stands at 71% and 62% for National Projects and District HQ projects respectively. NRW has also worsened from 20.1% in 2014 to 30.2% by December 2019. The NRW reduction is seems is not improving, what are innovative solutions to solve this. (i.e. use of private sector, and application of result-based contracts, use of appropriate pipe materials, allocation of budget, water demand management strategies etc.

On sanitation front, the broad objectives of WSSA are to have sewerage systems as part of overall sanitation strategy for each town by increasing sewerage systems service coverage from 17% by June 2007 to 30% by June 2010. Currently, only 10 towns/cities have sewerage which is equivalent to coverage of 20% of total urban population. It is the view of the Ministry that sanitation services need special attention especially after improving water services. Very little improvement is recorded, such that as of 30th June 2015, it is estimated that only 526,895 people used about 43,295 sewerage connections.

In the five years of reporting the ministry has conducted screening of ghost workers which was the initiative of the whole government. This laid off a number of individuals and meant the ministry had to fill this gap totalling to 798 excluding the screened individuals (existing staff as per HR Audit report are 6,476 Individuals). In the reporting period 1769 staff have been employed (from 4,707 individuals in 2016), progressive shift to e-government has been instituted and capacity building of staff has been key undertaking. On the later a total of 610 sat for certificates, 302 diploma and 128 degrees (remarkably 53 individuals are taking masters and 2 PhDs are at different stages).

To achieve all these, the ministry has mobilized resources from internal coffers - commitment of US$ 343,124,890 (about 11% of total commitments) and donors US$ 2,866,132,001 (which is some 89%) which doesn't include others who implement numerous projects directly across

different parts of the country that are impactful to the sector but not2 recorded through ministry books. Looking at CAG audit books, it shows that generally the ministry has instituted stronger systems that have seen better improvements on audited accounts since 2015. This agrees well with monitoring of physical progress which has shown that performance of most projects is satisfactory although a unified monitoring framework seems to be missing and recorded here to be paramount for the whole picture to be seen.

It is encouraging that programme monitoring data have been used to inform planning and decision making at national level. The discussion has been through the established sector dialogue mechanism which includes annual Joint Sector Reviews and Ministerial Missions and reports. The water sector has started performance monitoring using M&E frameworks but still suffer some deficiencies in using most of performance monitoring tools. It is emphasized with this report that the use of unified monitoring framework for WSDP based on a SMART set of key indicators will remain operational and a priority. Key WSDP context, functional, governance indicators are monitored and evaluated in linkage with the key indicators of National 5 Year Plan (2015 – 2020) which carries the theme of "Nurturing Industrialization for Economic Transformation and Human Development". In this context, the Key Performance Indicators (KPIs) of the water sector have been prepared covering aspects which enable the national and regional institutions to review the performance of the sector in wide perceptive and identify where support or improved management is required. The 5-year Plan acknowledges that meeting these targets calls for huge investments in water supply infrastructure in both rural and urban areas. Therefore, aspirations of increasing water supply services for domestic, industrial, irrigation and other socio-economic needs have to be accompanied by increased management and investments in order to ensure that water resources are available and utilized in an environmentally sustainable manner.

2 Private sector, NGOs and CBOs are implementing numerous projects that the MoW is planning to document them as part of acknowledging their much needed support

List of Acronyms

No.	Acronym	Long Form
1	AfDB	African Development Bank
2	AFD	Agence Française de Dévelopement (French development Bank)
3	AMCOW	African Ministers' Council on Water
4	BADEA	Arab Bank for Economic Development
	BWB	Basin Water Board
5	BWO's	Basin Water Office
6	CAG	Controller & Auditor General
7	CBWSO	Community Based Water Supply Organizations
8	CCTV	Closed Circuit Television
9	CDMT	Central Data Management Team
10	COWSO	Community Owned Water Supply Organization
11	CRS	Catholic Relief Services
12	CSO	Civil Society Organization
13	DAWASA	Dar es Salaam Water Supply and Sanitation Authority
14	DAWASCO	Dar es Salaam Water Supply and Sewerage Company
15	DDCA	Drilling and Dam Construction Agency
16	DFID	Department for International Development (UK government)
17	DP's	Development Partner
18	DPG	Development Partners Group
19	DSS	Decision Support System
20	EIA	Environmental Impact Assessment
21	EIB	European Investment Bank
22	ESIA	Environmental and Social Impact Assessment
23	ESMF	Environmental and Social Management Framework
24	EWURA	Energy and Water Regulatory Authority
25	EWURA CCC	EWURA Consumers Consultative Council
26	FAO	Food and Agricultural Organization
27	GGESP	Guidelines of Good Environmental and Social Practices
28	GGM	Geita Gold Mine
	GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
29	GMI	Groundwater Management Institute
30	GSPP	Government Salary Payment Platform
31	ICT	Information Communication and Technology
32	IIYDP's	Second Year Development Plans
33	IRWR	Internally Renewable Water Resources
34	IWRMDP	Integrated Water Resources Management and Development Plans
35	JICA	Japan International Cooperation Agency
36	KfW	Kreditanstalt für Wiederaufbau (German Development Bank)
37	KOICA	Korea International Cooperation Agency
38	KPI's	Key Performance Indicator
39	LGA	Local Government Authority
40	LIMS	Laboratory Information Management System
41	LVB	Lake Victoria Basin
42	MCC	Millennium Challenge Cooperation

43	MDG's	Millennium Development Goals
44	MoEST	Ministry of Education Science and Technology
45	NACTE	National Council for Technical Education
46	NAWAPO	National Water Policy
47	NBI	Nile Basin Initiative
48	NBS	National Bureau of Statistics
49	NEMC	National Environmental Management Council
50	NRW	Non-Revenue Water
51	NSGRP	National Strategy for Growth and Reduction of Poverty
52	NUWA	National Urban Water Supply Agency
53	NWF	National Water Fund
54	NWSDS	National Water Sector Development Strategy
55	NWSSP	National Water Supply and Sanitation Project
56	PAF	Performance Assessment Framework
57	PBWB	Pangani Basin Water Board
58	PCDU	Project Coordination and Delivery Unit
59	PER	Public Expenditure Reviews
60	PDO	Project Development Objective
61	PMO-RALG	Prime Minister Office Regional Administrative and Local Government
62	PO-RALG	President's Office- RALG
63	RMF	Resettlement Management Framework
64	RUWASA	Rural Water Supply and Sanitation Authority
65	RWE	Regional Water Engineer
66	RWRI	Rwegarulila Water Resources Institute
67	RWSS	Rural Water Supply and Sanitation
68	SADCAS	Southern African Development Accreditation Service
69	SDG's	Sustainable Development Goals
70	SIDA	Swedish International Development Cooperation Agency
71	SMART	Specific, Measurable, Attainable, Realistic and Timely
72	SWAP	Sector Wide Approach to Planning
73	TAWASANET	Tanzania Water and Sanitation Network
74	TSF	Tailings Storage Facility
75	TTCL	Tanzania Telecommunication Company Limited
76	TWG	Thematic Working Group
77	UNICEF	The United Nations Children's Fund
78	USAID	United States Agency for International Development
79	WASH	Water Sanitation and Hygiene
80	WI	Water Institute
81	WPMS	Water Point Mapping System
82	WRMA	Water Resources Management Act
83	WSDP	Water Sector Development Programme
84	WSSA's	Water Supply and Sanitation Authority
85	WSSCC	Water Supply and Sanitation Collaborative Council
86	WUA's	Water Users Associations
87	WWF	World Wildlife Fund for Nature
88	ZAMCOM	Zambezi Watercourse Commission

Snapshot

Area	Item	2010 status	2015 status	2019 status
Essential Facts	Mainland Area	881,289 Km^2 (plus lakes 59,100 Km^2)	881,289 Km^2 (plus lakes 59,100 Km^2)	881,289 Km^2 (plus lakes 59,100 Km^2)
	Total Population	41.9 Million (estimated July 2010)	47.4 Million (estimated from 2012 census)	54.2 Million (estimated 2018)
	Urban Population	25% (estimated 2008)	31% (estimated 2015)	33% (estimated. Dec. 2019)
	Life Expectancy(years)	52.5	64.9	66.7
	Living in Extremely Poverty	31.3%	17.7%	Not available
The Economy	GDP Growth	6% (2009)	7.0%	7.0% (2018)
	GDP Per Capita (PPP)	USD 1,400 (2009)	USD 967	USD 1097 (2018)
	Headline Inflation	9.4% (2009)	4.8%	3.6% (October 2019 NBS)
	National Development Budget	TZS 3,819 Billion (FY 2010/2011)	TZS 5,919 Billion (FY 2015/2016)	TZS 12,240 Billion (FY 2019/2020)
	Water Sector Development	9% of National Development Budget (FY 2010/2011)	8% of National Development Budget (FY 2015/2016)	5% of National Development Budget (FY 2019/2020)
	MOWI Development Budget	TZS 216,201,709,000 (excludes irrigation)	TZS 488,878,252,000	TZS 610,469,888,530
	Foreign Contribution	86% (FY 2010/2011) of the MOWI Development Budget	36% (FY 2014/2015) of the MOW Development Budget	43% (FY 2019/2020) of the MOW Development Budget
Vital Statistics	Urban Coverage Rate (source: EWURA)	84% (MoWI, 2009)	DAWASA 68% (Dec 2013); RWSS 72% (20014/15)	DAWASA 85 (Dec, 2019) RWSS 84% (2018/19)

	Rural Coverage Rates	Unavailable	48% June 2015 (MoWI)	70% Dec 2019 (RUWASA)
	Irrigated Land	1,840 Km^2	3,810 km^2 (By 2014)	Not available
	Sewerage Connections	17,843 (for Regional WSSAs) plus 17,682 (for Dar es Salaam)	43,295 connections (June 2015)	49, 864 connections (June 2019)
	School Sanitation (access to improved latrines)	38% (MOHSW, 2009)	Unavailable	90% (MESVT, 2018)
DPG	Water Basket	AFD (France), KfW (Germany), Netherlands Embassy and World Bank	AFD (France), DfID (UK)	AFD (France), DfID (UK)
	Earmarked Projects	African Development Bank, AFD, BADEA, Belgium TC, DED, EDCF, EIB, Embassy of Norway, European Union, Gov of China, GTZ, Italian Aid, IUCN, JICA, KOICA, MCC, SNV, SECO, UNICEF, USAid, WaterAid, WSP, WWF	African Development Bank, AFD, BADEA, Belgium TC, CRS, EDCF Korea, EIB, Embassy of Switzerland, European Union, Germany (KfW & GIZ), India, KOICA, US Gov (MCC & USAid), SNV, OFID, UNICEF, WaterAid, World Bank, WSSCC, WWF	African Development Bank, AFD, BADEA, Belgium ENABEL, CRS, EDCF Korea, EIB, European Union, Germany (KfW & GIZ), India, KOICA, US Gov (USAid), SNV, OFID, UNICEF, WaterAid, World Bank, WSSCC, WWF

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1 CHAPTER ONE | HISTORICAL CONTEXT ON WATER SECTOR

Since 1961 when Tanzania gained its independence, the Water Sector has been under various Ministries. To date, a total of 20 Ministries that were formed at different times have managed the sector. Inherently, this has had implications on various sectoral transformations and resolutions. Originally after Independence, water sector mandates fell under the Department of Water and Irrigation in the Ministry of Lands, Survey and Water, and later in 1961 was transferred to the Ministry of Agriculture. In 1970, the water sector made history by being given the status of a Ministry and ceasing to be a Department. Thus, in November 5, 1970, a new Ministry of Water and Electricity was created. Various changes made to the structure of the ministry coincided with the change of leadership - especially Ministers and Permanent Secretaries (Appendix 1-1). The sectoral transformation is further summarised below with the time of independence as a reference.

CHAPTER SYNOPSIS

- The chapter summarizes water sector reforms during pre and post-independence (the pre independence period is captured from 1930s)
- Ministry of Water was established in 5th November 1970 as Ministry of Water Development and Power. A total of 20 Ministries to date have managed water sector
- First Minister and Principle Secretary are Dr. W. Chagula and Mr. Fredrick Rwegarulila respectively,
- Water Resource Institute was established in 1974 and started with 30 students,
- 1st long term (20 years) program was launched in 1971 concentrating on water supply for all
- 1st National Water Policy launched in 1991 and current one which is under review was launched in 2002
- Tanzania launched and is implementing a wide sector development program WSDP 2006 – 2025.

1.1 Pre independence environment

During colonial period (pre 1930), water development for domestic and agricultural purposes was not a priority. The priority was on in-land water navigational studies whereas public investments in water supply improvement started after 1930. During the first 15 years, some water supply systems were constructed in townships, trading centres, minor settlements, mission and large estates. The Public Works Department was responsible for all water developments up to 1946 when the Water Development Department was created. After 1946 the Public Works Department was responsible for the water supply in townships and major settlements, while the new Water Development Department took over all responsibilities for construction of new water supply schemes in minor settlement, trading and administrative

centres, water resources development for multipurpose use including provision of water to the rural areas for human and livestock. Construction of water supply in rural areas started at the end of 1950s financed partly by Government funds and beneficiaries or local authorities. The Government policy for development of rural water supply was that; 70% capital cost was shouldered by the Government. The remaining investments of 30% capital cost was to be contributed by the beneficiaries or local authority or owners of the project.

From 1959 to 1960 there was a shift in the Department to the Ministry of Natural Resources and then under the new Ministry of Lands, Surveys and Water; where it managed to accomplish some water development projects among which was the construction of a Provincial Water Division office in Bukoba. In the same year, the Department was again shifted to the Ministry of Agriculture, where it became a Division, with five (5) main responsibilities including; provision of rural domestic water for Humans and Animal, Conservation of water to improve river flows and prevention of floods, execution of irrigation schemes, hydrological investigations and long term planning of major water development works. Throughout the territory, there was an increasing pressure for general development and as the demand grew following attainment of higher living standards.

Following gaining of independence in 1961, there was a massive exodus of foreign experts and this hampered severely the work of the Division at a time when the magnitude of these works was increasing. However, the Division launched strenuous efforts to accelerate the technical training programmes that were already established for local people and also regarding recruitment of some more technical experts from within and outside the country to fill the vacant posts.

1.2 Post-Independence Environment

In 1963 the country was divided into 17 regions instead of the 9 which existed before Independence. At this time there were 12 regional water offices. This necessitated some of the Regional Water Engineers (RWE) to be responsible for more than one region.

In 1964, the Water Development and Irrigation Division was once again shifted to the Ministry of Lands, Settlement and Water Development. The number of staff at the professional level was not enough despite the Division's effort to bridge the staff gap. However, Mr. F.K Rwegarulila, a Tanzanian who held the post of senior Executive Engineer, was promoted to the post of Assistant Director and in January 1965 he was appointed Director of the Division and thus became the first Tanzanian to hold that post.

In 1966, the Department showed some improvement in the overall staff position with additional recruitments at professional level. This was done through training of water sector personnel at the Dar es Salaam Technical College. In 1967 the Division opened up two more regional offices in Singida and Shinyanga and this increased operational offices to 14.

In 1969 the Division was once again shifted Ministries from the Ministry of Lands, Settlement and Water Development to the Ministry of Agriculture, Food and Cooperatives. After this, deliberate decision was made to raise awareness of various Government bodies on the importance of developing the country's water resources. An emphasis of water resources development was in Rural Water Supplies and the formation of Ujamaa villages as well as the formulation of the 2nd Five-Year Development Plan which brought about an unprecedented load of work to the field staff. It was in the light of this awareness that, a new regional office was established in Mara region which had previously been administered from Mwanza. The opening of the Mara Regional Water Office brought the total number of regional water offices to 15. Inherently, since 1965, all investment costs were financed by Government funds. From 1st January 1970 the cost of operation and maintenance were taken by the Government as well up to early 1980s, when beneficiary's contribution started.

The year 1970 was historic for the Water Development and Irrigation Division. In November 5 that year, the Ministry of Water Development and Power was created under Minister Dr. W. Chagula while Mr. Rwegarulila was appointed as the Principal Secretary. The four Divisions of Water and Drainage, Water Supply, National Water Resources Council and Water Development and Irrigation were brought together to form this new Ministry. The Ministry became responsible for all aspects of water resources management and development in rural and urban areas and also for the development of hydropower for the whole country.

After announcement of Arusha Declaration[3], a long-term sub programme for water supply development in mainland Tanzania was established by the Parliament in 1971, under a major rural development programme. Establishment of the 20 years water development programme was in line with the Nation's primary development objective of rising rural living standard as per directives of the Arusha Declaration. The target formulated under the sub programme stated that; "***a piped water supply will be provided to the rural areas so that by 1991 all Tanzanians will have ease of access to domestic water point."*** The term "*ease of access"* implied within a distance of 400 meters. Thus, with this target in mind, heavy responsibility laid within the Ministry and this could only be achieved with great determination and hard work (WM 2011).

1.2.1 Water Supply Development Programme 1971

The objective as stated by the TANU Party in 1971 was to provide water in all areas so that everyone would be within easy reach of a domestic water point by 1991. To ensure this achievement, new actions were introduced to impart on developmental processes. The

[3] The **Arusha Declaration**, which was passed on January 29, 1967, summarized Tanzania's commitment to socialism and the significant role that it was to play in the country's development. The document was originally written by Julius K. Nyerere, who served as the first president of Tanzania between 1964 and 1985.

actions were addressing Planning and Project Selection, Project design, Construction, Operation and maintenance, Performance control, Manpower, Financing, and Institutional arrangement. The Programme implementation saw a number of ambitious plans maturing including establishment of regional water master plans, the Water Resources Institute started in 1974 for human resource capacity building (The Institute started with 30 students which increased to 60 in 1975), water engineering training in Roorkee University India for 129 students under Swedish Government sponsorship in collaboration with Government of India and Tanzania (WM 2011). However, challenges in the programme progress led to undertaking two program review initiatives in 1976 and 1979.

1.2.2 1976 Review of Water Supply Development Programme 1971

A study of the rural water supply sector was undertaken during the period 1st to 26th August 1976. The mission composed of participant from the Government, the WHO/IBRD Cooperative Programme, WHO country staff and UNICEF. The study findings laid bare a number of shortfalls for which recommendations were provided. These included: inadequate database for planning; lack of effective coordination of regional water master plan studies; inappropriate planning and project selection procedures at regional level; disorganized procurement and supply procedures; imbalance between targets and actual financial allocation; inefficiency in use of plants and equipment; inadequate attention to operation and maintenance; no generation of revenue within the sector; imbalance between development and recurrent allocation; and inadequate financial control.

In 1977, the Government increased the funds for operation and maintenance for running the schemes, but the new fund was not efficiently utilized. In 1981, the National Urban Water Authority (NUWA) was established, aiming at being responsible for development, operation and maintenance of all urban water supplies in mainland Tanzania starting with Dar es Salaam. NUWA faced various challenges and failed to meet requirements for urban water service delivery countrywide. Henceforth, it was terminated and left to manage only Dar es Salaam, while Regional Water Engineers continued to manage water supply services in their respective cities and regional and district headquarters (WM 2011).

1.2.3 1979 Review of Water Supply Development Programme 1971

The prevalence of a negative trend of the programme outputs, made the Government to consider reviewing the water sector organizational set up, especially at the Ministry level. In March 1979 the Ministry approached the Swedish International Development Authority (SIDA) with a request of reviewing the Water Sector Organizational set-up and operations particularly in the rural water supply sector. SIDA contracted a Swedish consulting firm, Allmänna Ingenjörsbyrå AB (AIB) to carry out the review. From July 1979 to April 1980 the appointed firm conducted a number of studies aiming at obtaining the actual situation of programme implementation process and it observed the following among several other things;

- Lack of data on number of people accessing acceptable water within given reach,
- Incomplete information on design capacities for existing schemes,
- Extension of construction period of RWE's schemes by up to 5 or 6 years instead of 6 months, and
- After decentralization, limited funds were distributed amongst several schemes in all Districts.

From the observations; there were distinct problems in project implementation in the following areas: Planning and project selection; Materials supply; Transportation; Operation and maintenance of water supply projects; Plant and equipment; Imbalance of resource components; and absence of performance controls.

1.3 The Introduction of formal water policies

1.3.1 National Water Policy 1991

Following the trend of the unsatisfactory implementation of the 1971 water sector programme which was observed by then ruling party 'CCM' Leaders, in 1987 the party decided to prepare another political programme for the Party which was meant to direct the Government on what to do regarding the development of the water sector in the country in order to rescue the sector from unsatisfactory implementation of its projects.

Beside a rise of the rural water supply coverage from 8% in 1970 to 44% by December 1988, the party, in her 1987-2002 programme directed the Government to provide clean and safe water to all people nearby their residential areas. In addition, the party directed the Government to prepare a comprehensive policy for water sector development for rural and urban areas so that all people would have clean and safe water supply services by 2002. The ruling party directed the Government that, the policy should also emphasize on enough supply of clean and safe water for livestock and industries while taking care of protection and development of water sources for effective production.

The 1991 National Water Policy set a goal of providing clean and safe water to the population within 400 meters from their households. The policy aimed at addressing challenges in water sources protection, various water use demands, implementation of water projects, wastewater and sanitation, operation and maintenance, water quality and source pollution, flood control, staff development and coordination of development partners participation in the water sector. Overall, the Government was responsible for designing, construction and managing water projects in the country as well as the management of water resources.

However, during implementation of the 1991 policy, despite the achievements recorded, the following shortfalls were identified:

(i) Limited participation of the private sector, citizens, and various community groups in planning, implementation, ownership, and management of water supply projects in urban and rural areas,
(ii) Greater emphasis was placed in water supply than in conservation, development and management of water resources,
(iii) The use of water resources under estimated the importance of preserving the environment,
(iv) Existing institutional systems and laws didn't meet requirements for water service management and development,
(v) Lack of specific strategy for policy implementation.
(vi) Increase in water use conflicts among sectors/users

1.3.2 National Water Policy 2002

By the year 2002, only about 50% of the rural population had access to reliable water supply service. This was due to poor operational and maintenance arrangements; over 30% of the rural water schemes were not functioning properly. The coverage for urban areas was on average 73%, but most urban water supplies were inadequately treated due to malfunctioning treatment plants and others had no such facilities.

Henceforth, a new national water policy was drafted to lay foundation for sustainable development and management of water resources under the changing roles of the Government from service provider to that of coordination, policy and guidelines formulation and regulation. The policy was divided into sections, namely water resources management, urban water supply and sewerage; and rural water supply; to address identified policy issues as illustrated in Appendix 1-2. The policy has been operational for nearly 18 years now and the Government has launched its review considering the significant changes that have taken place in the water and sanitation sector nationally and globally (ref also to section 2.3.1 below).

1.4 Legal Reforms Pre- and Post-Independence

From 1961 to 1974 colonial Water Ordinances of 1959 continue being used for water resources management, and Water Works Ordinances of 1949 were in use even after independence for water supply service provision (WM 2011). In 1981 National Urban Water Authority Act was established which later in 2001 was revised to Dar es Salaam Water Supply and Sewerage Authority Act serving Dar es Salaam city and parts of Coast region. Simultaneously Water Works ordinance continue to serve for other regions. In 1974 Water Resources Utilization (Control and Regulation) Act was established, and this was amended by Act No. 10 of 1981, No. 17 of 1989, No.8 of 1997, No. 1 of 1999 and No. 20 of 2001. Act No. 10 of 1981 amended Act No. 42 of 1974 by introducing River and Lake Basins for water resources management (WM 2011, WRD 2019). This was later repealed by Water Resources Management Act No.11 of 2009. Contrarily, Water works ordinance Cap. 272 was amended

by Act No. 5 of 1966, No. 7 of 1981, No. 8 of 1997, this Act was used in all regions except Dar es Salaam. The Act was repealed by introduction of Water Supply and Sanitation Act No. 12 of 2009 (WM 2011), which has been recently repealed the Water Supply and Sanitation Act No. 5 of 2019. Benefits of recent Acts are further elaborated in chapter 2. Subsequent regulations include that of, groundwater of 2013, dam safety of 2013, and national water fund of 2019.

1.5 Strategies Influencing the Status of the Water Sector

1.5.1 National strategy for growth and reduction of poverty (MKUKUTA)

Tanzania's National Development Vision 2025, the Poverty Reduction Strategy Paper (2000), and the National Strategy for Growth and Reduction of Poverty (NSGRP/MKUKUTA) aimed at achieving an absence of abject poverty and attaining a high quality of life for all Tanzanians. These documents outlined the objectives and strategies for political, social and economic reforms to assist in combating poverty and promoting economic growth in Tanzania.

Cognizance of the important role that water plays in both maintaining local livelihoods and fueling economic growth and development, MKUKUTA committed Tanzania to achieving the Millennium Development Goals (MDGs) for access to safe water, sanitation and a healthy environment. In order to meet its MDG targets, the Ministry of Water embarked on the wide-ranging water sector reform processes, including: policy review, sector-wide approach, decentralization of service provision, full cost recovery, enhancement of the private sector participation and wise use and equitable allocation of resources in all the nine basins in Tanzania.

1.5.2 The National Water Sector Development Strategy (NWSDS, 2006)

This was conceived as a blueprint for prioritized, timely and appropriate interventions to address the water sector challenges in the process of achieving all the targets narrated in MKUKUTA by 2010, the Millennium Development Goals by 2015 and contribute towards achieving the Tanzania Development Vision 2025. With NWSDS (2006) the following specific actions were identified for ensuring that water and sanitation investments contribute effectively to poverty alleviation:

(i) Ensure that consideration of disparities of access to water supply and poverty levels is embedded in the criteria that determine capital investment priorities;
(ii) Promote hygiene education and good sanitary practices to reduce health risks and losses of productive time;
(iii) Promote awareness of various opportunities for using water resources as a means of reducing poverty; and

(iv) Ensure water resources are conserved, protected and made available for alternative uses.

Practically, the actions required the Ministry to collaborate with other Ministries, especially the Prime Minister's Office for Regional Administration and Local Government (PMO-RALG, the Ministry of Health and Social Welfare, and the Ministry of Agriculture and Food Security). Furthermore, the strategy aimed at reshaping and increasing sector financing through a smooth and manageable institutional arrangement. National water sector implementation plan was established for implementing objectives of NWSDS within five-year timeframe. The concept of the National Water Sector Strategic Implementation Plan had in practice been eclipsed by the Water Sector Development Program (which was essentially a framework to implement multiple stand-alone water supply projects).

1.5.3 Water Sector Development Program (WSDP)

The Government of Tanzania, through the MoW is implementing the Water Sector Development Programme (WSDP), for the period 2006–2025. The development objective of the WSDP was to strengthen sector institutions for integrated water resources management and improve access to water supply and sanitation services. It is expected that by the end of the Programme, the Government would have met the National Development Vision of 2025, and according to the Five Year Development Plan phase II (2016/17-20/21), access to safe water is targeted to increase up to 85% in rural areas and 95% in urban areas by 2021. Status of current coverage of water supply services for rural and urban areas is covered in chapter 4.

The first phase of WSDP began in July 2007 and it had four components: water resources management; rural water supply and sanitation; urban water supply and sanitation; and institutional strengthening and capacity development. It was planned to end in June 2012, but progress proved to be slower than was anticipated at the formulation stage and as a result the programme was extended twice, first to June 2014 then again to the end of June 2016. It was expected that WSDP would support Government to meet its 2010 MKUKUTA sector targets and be well on the way to meeting the MDGs for improved water supply and sanitation coverage across all segments of the population, as well as having in place a sustainable regulatory framework for comprehensive water resources management and development.

The scope of WSDP II framework focused to complement the targets of WSDP in the fact that it is the second phase of WSDP 2006-2025 implementation. It was not a new Programme due to this fact, the Programme Development Objective (PDO), to strengthen sector institutions for integrated water resources management and improve access to water supply and sanitation services did not change. Both the evaluation of WSDP phase I and the scan report on experiences and lessons from WSDP I found that the PDO and its Programme design in general were still relevant in the next immediate future. However, for the purposes of sharpening its implementation drive and results; the layout of WSDP II components,

component objectives, specific objectives, key performance indicators (KPIs) and targets were reviewed.

Building on the experience gained under WSDP I, the programme was re-configured for phase two, the principal changes being that sanitation and hygiene was made a component in its own right; water quality management was relocated to become part of water resources management; and capacity building was mainstreamed into each of the four technical components, though the organisation and reporting of it remained the responsibility of component five, renamed as Programme Delivery Support. WSDP II began in July 2016 with the intention to run for five years (up to June 2021) in all Local Government Authorities (LGAs), Basin Water Offices (BWOs) and Water Supply and Sanitation Authorities (WSSAs) in the country. Achievements to date are summarised in Appendix 1-3.

Moreover, midterm review of WSDPII in 2018 led to a number of restructuring to the programme, and main ones being change of sector dialogue to adoption of thematic approach among others, and programme implementation aiming at strengthening the MoW's programme management capacity through engagement of technical assistant. On the other hand, a special audit report on implementation of rural water supply projects identified major bottlenecks including insufficient supervision funds provision, inadequate contract management and infrastructural design skills, evidence of availability of poor-quality pipes in the local market, lack of correlation between increase in investment and rural water service coverage (SAR 2018).

1.5.4 Related Sector Strategies and Programmes

Available cross cutting policies include: National Health Policy, Environment Policy, National Agriculture and Livestock Policy and Agriculture Sector Development Strategy, Energy Policy and Strategy, Rural Development Policy and Strategy, National Land Policy and National Human Settlement Development Policy, Forestry Policy, Industrial Policy, SADC Regional Water Policy, National HIV/AIDS Policy, National Policy on Non-Governmental Organisations. For the five years, the MoW has observed and been involved in operations of a number of related sector strategies, campaigns and programmes.

Rainwater harvesting technology promotion

The GoT has been putting more emphasis on Rainwater Harvesting (RWH) promotion as an alternative water supply technology. A goal of the current national water policy of 2002 for rural water supply is to increase water availability through RWH technologies (MWLD 2002). Emphasis is on the promotion of RWH through raising awareness and training and research enhancement. Moreover, the national strategy for growth and reduction of poverty for 2006 – 2015 in its strategies on water resources management, acknowledged RWH as one among the suitable alternative resources and a viable option to meet increasing water demands

(MoWI 2008). It stated that RWH needs development and promotion at household level, and for rural development.

Under WSDPI RWH demonstration projects were a pre-requisite in social service centers such as schools, dispensaries, and hospitals. Contractors were directed to build three storage tanks (5000 L, 3000 L, and 1000 L) as a way of promoting RWH to local citizens with respect to their economic potential. The types of tanks being promoted included ferro-cement, mortar jars, and plastic tanks. By March 2014, 675 tanks had been constructed. By April 2015, 1,862 RWH tanks had been built in 931 villages.

Prior that, in 2011 LGAs had been mandated to pass by-laws that ensure incorporation of RWH infrastructures in new houses, and by May 2015, only 29 out of 168 LGAs had implemented it. The pace is still slow. With all these constraints, a guideline for RWH technology is underway for which the department of Water Resources is the custodian, to ensure consistency and safety in RWH management and utilization.

Sanitation Campaigns

National sanitation campaign with a slogan of 'Nyumba ni Choo' is responding to the challenges such as poor sanitation practices. In this campaign, the Ministry of Water is working alongside the Ministry of Health and Social Welfare.

1.5.5 Sustainable Development Goals

In the mid of WSDP implementation, the water sector targets were domesticated to Sustainable Development Goals' (SDGs) targets of SDG 6 on ensuring availability and sustainable management of water and sanitation for all in Tanzania by 2030. This is meant to provide a tremendous opportunity of leap frogging progress towards attainment of the 2030 Agenda, given the water sector's central role in human rights, poverty reduction, inequality elimination, peace and justice, and the environment. This is in line with the national development vision of universal access to water. As a roadmap, the indicators are domesticated as displayed in Appendix 1-4. For successful implementation, the sector calls for effective collaboration with all interested parties.

Table 1-1: Key dates in the reform of the water sector in Tanzania (After WSP, 2011; WM 2011)

Years	Events
1930 - 1946	Public Works Department was responsible for all water developments
1946 - 1950	In addition, Water Development Department was established
1963 – 1970's	Regional Water Offices reached 12 for serving 17 regions
1970s	Ministry of Water Development and Power was created
1971– 1991	Establishment of the 20 years Water Supply Development Programme
1974	Water Utilization Act established Water Resources Institute established
1987	A Ministry solely for Water was established
1988	Introduction of Annual Water Week celebrations
1991	First National Water Policy, introducing user charges
1998	Urban Water Supply and Sanitation Authorities were established Rural water supply pilot projects were undertaken in Mpwapwa, Rufiji and Kilosa councils
2001	Legislation for an independent utility regulator passed
2002	National Water Policy adopted, and Basin level management of water resources introduced
2003	Leasing of Dar es Salaam water supply to private sector company
2005	Renationalization of Dar es Salaam water supply
	National Water Sector Development Strategy (NWSDS) developed
2007	Launch of the Water Sector Development Program for the period 2006 - 2025
2009	Water Resources Management Act No. 11, and Water Supply and Sanitation Act No.12 established
2015	National Water Fund became operational
2016	Water Sector Development Program phase I ended lasting for the period 2007 – 2016; Phase II was initiated
2019	Water Supply and Sanitation Act No.5 established repealing act No.12 of 2009 Rural Water Supply and Sanitation Agency established Community Based Water Supply Organization was established

2 CHAPTER TWO | DEVELOPMENT FRAMEWORK

This section summarizes the development context of the water supply and sanitation sector and the supporting plans, visions, legal and institutional framework.

2.1 National Development Vision 2025

The National Development Vision 2025 aims at: - achieving high quality livelihoods for its people (characterized by sustainable and shared growth and freedom from abject poverty in a democratic environment); attain good governance (through the rule of law); and develop a strong and competitive economy (with sustainable growth and shared benefits). The more specific target of universal access to safe water is implementable through the involvement of the private sector, by empowering local government and communities, and the promotion of broad-based grass root participation in the mobilisation of resources, knowledge and experiences, with a view to stimulating initiatives at all levels of the society. The National Water Policy (2002), the National Water Sector Development Strategy (2006), the Water Resources Management Act No. 11 (2009), the Water Supply and Sanitation Act No. 12 (2009), the Water Supply and Sanitation Act No. 5 (2019), the subsequent preparation of regulations and the strengthening of the institutional framework and structures were all aimed at attainment of the Vision 2025 target of universal access to safe water, as well as to provide a platform for national social and economic development.

2.2 Government 5 years development plans II (2016/17 – 2020/21)

For the first five years i.e. 2015 to 2019, the sector has attained commendable gains; much is needed to ensure majority of Tanzania have access to clean and safe water in close distance and for the shortest time possible. In 2015, a total 21.8 million people equivalent to 68.9 percent had access to clean water sources in rural areas; 86 percentage of people living in urban Centre's with access to safe and clean water services and, in Dar es Salaam about 72 percent of the Dar es Salaam residents had access to clean water by 2015. It is important to note that, the delivery of the planned targets requires a significant increase in financial and human resources. A summary of the plans, targets and achievements by 2019/20 is shown in Appendix 2-1.

2.3 Policy, Legal, Institutional Framework

From 2015 -2020 the water sector has undergone several sector reforms with the main objective of improving institutional management, facilitating the enhanced efficiency of water supply and sanitation. The reforms have been either triggered or led to the following significant changes: -

i. Change of the water sector organisational structure in 2018;

ii. Change of most Development Partners (DPs) financing modality from basket to 'earmarked' funding for specific projects;
iii. Absorption of the current changes of the Ministry which has initiated a process of re-centralisation whereby District and Regional Water Engineers, who were operating within the Local Government structure to start reporting directly to MoW through RUWASA;
iv. Enactment of the Water Supply and Sanitation Act No.5 (2019) with the envisaged new regulations;
v. Clustering of District and Townships Urban utilities to Regional Water and Sanitation Utilities.
vi. Formulation of new DAWASA after the merging of DAWASA & DAWASCO
vii. Establishment of RUWASA where DDCA and Maji Central Stores have been diffused to the agency;
viii. Change of MoW structure where PCDU has the main objective of facilitating better programme performance and linkages between the Ministry, DP's and the implementing agencies of WSDP II.

2.3.1 Policy framework: NAWAPO 2002

For nearly 18 years, the policy has been operational, it is undeniably clear that many strategic and objective changes have occurred nationally and internationally, including the implementation of the new development plans and the development of the Sustainable Development Goals (SDGs 2015-2030). In addition, several changes have occurred within the Water Sector which are not in line with current water policy. These changes include the enactment of the new Water Supply and Sanitation Act. 5 of 2019. Some of the changes in this law are not in line with the content of the policy. For example, the policy recognizes Local Government Authorities as the lead institution for rural water services delivery while the existing law establishes RUWASA as the responsible agency. As a result of these changes, it was agreed that the National Water Policy has to be reviewed in accordance with relevant legislation and the review exercise of the policy is expected to be completed by the end of March 2020.

Furthermore, the need for 2002 policy review was culminated by the following issues among others:

i. Most of the contents of NAWAPO need updating e.g. statistics, information, references, etc. For instance, the policy references its objectives to meet the goals of Tanzania's Poverty Reduction Strategy Paper (PRSP) as a planning framework and Millennium Development Goals instead of FYDPs and SDGs.
ii. The current water policy does not reflect the contemporary national policy directives, for example the shifting of water service provision responsibilities from PORALG to the Ministry of Water.

iii. The sanitation component is not comprehensively addressed in the current water policy.
iv. Climate change issues are not really covered in the policy.
v. Community involvement in rural water supply projects is still a policy issue. Should it be community owned or community based?
vi. The National Water Sector Development Strategy (2006 – 2015); a tool for implementing the National Water Policy expired since 2015.

Nevertheless, despite of the identified gaps and challenges of implementing NAWAPO 2002, a number of achievements have come through from its implementation, and these include the following:

i. Priority on water use: The Government has implemented the policy statement with respect to the priority of clean and safe water for basic human use.
ii. Sustainable use and Water Resources Conservation: Water Resources Management Act No. 11 of 2009 section 23 sets out the various responsibilities of Basin Water Boards including the management of water quality and conservation, as well as improving and protecting ecosystems and wetlands.
iii. Sustainable Development of Groundwater Resources: Water Resources Management Act No. 11 of 2009 section 38 provides for the management and conservation of underground water resources as well as relevant regulations prepared.
iv. Transboundary Water Resources: The implementation of this issue has been guided by the Water Resources Management Act no. 11 of 2009 sections 98 to 100 that take into account National interests in international water management
v. Encroachment and degradation of water sources: This has been implemented and the sources of water resources have been allocated and protected, also the declaration was enforced by the enactment of the Water Supply and Sanitation Act No. 12 of 2009 as repealed and replaced by the Water Supply and Sanitation Act No. 5 of 2019.

2.3.2 Legal framework

Collectively, the Water Resources Management Act Nº. 11 (2009) and the Water Supply and Sanitation Act Nº. 5 (2019) form the core of the legal frameworks for the water and sanitation sector. Within the five years (2015 – 2020) there are major transformations in legal data, with enactment of Water Supply and Sanitation Act No.5 of 2019 repealing Act No.12 of 2009, and introduction of several regulations for facilitating implementation of both Acts. For the period 2015 – 2020, with regard to the Water Resources Management Act Nº. 11 (2009) a total of **5** regulations have been gazetted whereas **8** regulations have been gazetted pursuant to the Water Supply and Sanitation Act Nº. 5 (2019) as summarized in Appendix 2-2 a&b. Moreover, MoW is leading the process to harmonize water sector related laws, policies and strategies. This is with regard to the overlaps and gaps that exist within the mandated roles and

responsibilities of the various ministries and agencies active in the water sector. Legislations related to the water sector, include the following:

i. The Energy and Water Utilities Regulatory Authority Act Cap. 414;
ii. The Environmental Management Act No. 20 (2004); and
iii. The Land Act Laws.

The Water Resources Management Act no. 11 (2009)

This Act was enacted to provide for institutional and legal framework for sustainable management and development of water resources; to outline principles for water resources management; to provide for the prevention and control of water pollution; to provide for participation of stakeholders and the general public in implementation of the National water policy, repeal of the Water Utilization (Control and Regulation) Act, 1974 and to provide for related matters. The repealed Water Utilization (Control and Regulation) Act, 1974 as amended by Act No. 10 of 1981 vested the Minister with powers to declare an area to be a water basin water hence nine (9) water basins were declared accordingly. The preceded Water Ordinance, 1923 (as revised in 1948, 1957 and 1959) and as repealed in 1974, vested all waters within the territory in the ownership of the Governor with a requirement to register and obtain a water licence, permit or right from the water authority. Such principles have been enunciated in the *Water Resources Management Act no. 11 (2009)*

The Water Supply and Sanitation Act no.5 (2019)

This Act has been enacted to provide for sustainable management and adequate operation and transparent regulation of water supply and sanitation services; to provide for the establishment of Water Supply and Sanitation Authorities, Rural Water Supply and Sanitation Agency, National Water Fund and Community Based Water Supply Organisations; to provide for appointment of service providers, repeal of the Water Supply and Sanitation Act, 2009 and Dar es Salaam Water and Sewerage Authority Act, 2001 and to provide for related matters. Water Authorities including DAWASA established by the repealed laws have been saved and deemed to have been established under the new Act.

2.3.3 Water Sector Institutional Framework 2015 - 2020

Ministry of Water

Full-fledged Ministry. The Ministry of Water is the national government authority responsible for national water policy and strategy formulation (and ensuring these are implemented), the formulation of guidelines and regulations, the coordination of integrated water resources management and the provision of water supply and sanitation services and for determining a mechanism for appeals from all levels of the institutional framework. As the structure illustrates (Appendix 2-3) the Ministry has a number of implementing agencies. However, the recent

sectoral reforms have seen some losing their autonomy/title and getting diffused to other existing agencies, this include Drilling and Dam Construction Agency (DDCA) and Maji Central Stores (MCS). Others includes unifying rural and urban water supply into one division and several more units under directorates.

In addition to these changes within the period 2015 to 2020, the Government shift to Dodoma (a more central location) as was announced in 1973 by the first President Julius Nyerere, was actualized by President Dr. John Joseph Pombe Magufuli as he had pledged during the 2015 campaigns. MoW successfully achieved the move of its staff and its operations to Dodoma region. Ministerial activities are now in full swing despite the temporary disturbance of the staff and facilities mobilization.

Water Resources Management

Tanzania is divided into nine river and lake basins that follows hydrologic boundaries as illustrated in *Figure 3-3*. Pursuant to NAWAPO 2002 and Water Resources Management Act No. 11 of 2009, the management of water resources has five main levels; National level, Basin level, Catchment level, District level, and Community level which is the lowest level and integrates users of the same source. The Act outlines the powers and functions of the boards, catchment committees and water users' associations responsible for these water resources management levels.

The National Water Board is serving as an advisory board to the Minister of Water on matters related to multi-sectoral coordination in integrated water resources planning, management and multi-sector investment as well as resolution of national and trans-boundary water conflicts. Basin Water Boards are responsible for managing water resource in respective nine basins. Catchment water committees are working hand in hand with basin water boards, with roles including preparation and implementation of catchment plans, and resolution of conflicts within the catchments. At district level, district councils are responsible for planning and development of water resources in accordance with Basin plans. This runs down to protection and conservation of natural resources in respective villages and wards, establishment of by-laws and conflict resolution. Water User Associations is the lowest appropriate level of water resources management, with responsibilities for local level management of allocated water resources, mediation of disputes among users and between groups within their areas of jurisdiction, collection of various data and information, participate in the preparation of water utilization plans, conservation and protecting water sources, and catchment areas, efficient and effective water use and ensuring return flows, enforcement of the law and implementation of conditions of water use permits, and control of pollution. All these levels participate in water boards on representative basis, and illustratively their structured as displayed in Appendix no. 2-4 (WRD 2019).

Water Supply and Sanitation Service Provision

Water Supply and Sanitation Authorities (WSSAs)*:* The Urban Water Supply and Sanitation Authorities are autonomous government institutions which were established in 1998 under the Water Works Act No. 8 of 1997 (Waterworks Ordinance Cap 281) before being repealed by the Water Supply and Sanitation Act No. 12 of 2009 and subsequently the Water Supply and Sanitation Act No. 5 of 2019. The establishment of these authorities is based on a survey conducted by the Ministry of Water in 1992 which was meant to establish the best way to provide water services to urban areas. The study suggested the establishment of autonomous entities that could be self-reliant and would be close to the public. This is with the supervision of its advisory Boards of Directors in the provision of quality and sustainable water services.

By June 2019, a total of 98 WSSAs at district and townships headquarters, were formed and managed by PMO-RALG. However, in November 2019 sectoral reforms with regard to WSSAs operations occurred, whereby the regional WSSAs are 25 each with additional new service areas under utility clustering modalities. In addition, 8 WSSAs for National Water Projects and 36 WSSAs at district headquarters and townships level have been formed, whereby 10 district WSSAs out of 36 will be managed by regional WSSA in respective regions. This also included shifting of 50 towns to be under RUWASA management in respective districts. Details on WSSAs reforms as per PS – MoW announcement on November 11, 2019 are available in Appendix 2-5, 2-6 and 2-7. Additionally, these changes include cancellation of 41 WSSAs, whose service area will be managed by regional WSSAs (Appendix 2-8). As well, seven (7) authorities have been tasked to supervise and capacitate smaller authorities as elaborated in Appendix 2-9.

Rural Water Supply and Sanitation Agency (RUWASA): The agency is established by the Water Supply and Sanitation Act, No. 5 part X section 42 of 2019 responsible for implementation of rural water supply and sanitation projects. The corporate structure for RUWASA management is illustrated in Appendix 2-10.

Despite existence of institutional frameworks for the water sector, the provision of water supply and sanitation services have been encountering a number of challenges. In essence, execution of rural water supply and sanitation projects involves a number of implementing agencies, which at various stages are responsible for resource mobilization, execution of projects, coordination, operations, as well as monitoring and evaluation. The key challenges in this chain include lack of implementation capacity, poor financing (delayed payments), poor planning (designs) and low capacity of Community Based Water Organizations (CBWSOs) to manage rural water supply facilities. This leads into lack of sustainability; high capital investment; high operation and maintenance costs as well as depleting water sources. The challenges above led to review the institutional framework for implementation of water supply and sanitation projects which will enable transfer of water sector functions and responsibilities

including accountability of officers responsible for water service provisions from President's Office- Regional Administration and Local Government Authorities (PO-RALG) to the Ministry of Water (MoW).

In addition, RUWASA has also taken over the responsibilities of the then DDCA[4] and MCS. Act No. 5 part X section 43, 2b highlights functions DDCA will partake under RUWASA, these include conducting groundwater survey including prospecting and explorations, and to undertake drilling operations including water well flushing and conduct of pumping tests, and rehabilitation of water wells. Furthermore, RUWASA has taken over responsibility to manage water service provision in 24 WSSAs, and 55 towns in district headquarters and LGAs which didn't have WSSAs. The 24 WSSAs are in 13 regions, with Morogoro region having the highest number that is 4 (Appendix 2-11 provides information on towns under RUWASA management).

Community based water supply organizations (CBWSO): This is a legal entity established under Water Supply and Sanitation Act No.5, part VII section 32 of 2019 with powers well defined under section 33 of the same. The Act has transformed the Community Owned Water Supply Organization (COWSO) to Community Based Water Supply Organization (CBWSO) for enhancing sustainability of rural water supply and sanitation services through public involvement and private sector participation in rural water services. Initially, most of the rural water supply and sanitation schemes which were operated through COWSO faced a number of challenges in operation, maintenance and supervision as well as limited community and public involvement. Major aspects considered in CBWSO for sustainability are; -

i. Management composition of all CBWSO are owned by the Government, institutions and communities;
ii. Daily management of CBWSO are under professionals especially the Team leader should be a water technician and an accountant should be with technician level three accountant;
iii. The new act has encouraged CBWSO to increase the efficiency by clustering and involving private sector in O&M under the supervision of RUWASA.

Ministerial Institutions

Water Institute (WI): The Institute established by Government Notice (GN) No.138 of 2008 under the Executive Agencies Act (Cap. 245). The WI was an offshoot of former Rwegarulila Water Resources Institute (RWRI), which also came from the name Water Resources Institute (WRI) that was established in 1974 in order to supply the middle level technical workforce needed to implement the Rural Water Supply Programme. WI is fully accredited by the National Council for Technical Education (NACTE) to run and grant awards (Technician and Engineering programmes) to successful candidates. Awards offered are NTA level 4, 5 and 6 (Ordinary Diploma), and 7 and 8 (Bachelor of Water Resources and Irrigation Engineering).

[4] Plans are underway to reinstate DDCA as a parastatal company

The five ordinary diplomas offered by the Institute are in the area of Water Supply and Sanitation Engineering, Hydrology and Meteorology, Hydrogeology and Water Well Drilling, Water Laboratory Technology and Irrigation Engineering. Currently there are about **52** short courses offered to experts in the water sector, this includes ready and tailor made. Moreover, this March 2020 the institute is launching a March entry for diploma courses. Appendix 2-12 illustrates the structure for WI operations, and Table 2-1 summarises WI performance and status in its core responsibilities for the period 2015 - 2020.

Figure 2-1: Flow measurements by WI students

Water Institute students taking part in field work activities. Increased field work exposure is among targets of the Institute for quality graduates.

Direct beneficiaries of WI services offered are students, clients, WI employees and service providers. Indirectly WI serves the general public who are the ultimate consumers of water and irrigation services that can improve the national economy in terms of goods and services they provide for a better performing economy. The institute is equipped with laboratories (water quality analysis, soil analysis, hydraulic analysis, survey, and plumbing).

To catch up with the demand for technicians in the water sector which was estimated at 6208 as of 2015/16, the Institute's targets includes enrolling 3500 and 1700 diploma and degree students, respectively by June 2022 (WI 2018). Efforts to improve enrolments by supporting underprivileged candidates have included the establishment of Water Technician Funds in 2013, which by 2017/18 had supported 865 students. However, under WSDP there have been plans for capacity building of the Institute, which have led to procurement of laboratory equipment (For Water Quality and Hydraulics laboratory) within the recent five-year period.

Table 2-1: Water Institute enrolments and other performancies for the period 2015 - 2020

N	Year	Diploma	Degree	Technicians	Engineers	Short courses	Water quality samples	Publications
1	2015/16	1093	373	313	-	77	353	0
2	2016/17	1322	543	248	54	96	211	5
3	2017/18	1470	596	198	98	52	269	9
4	2018/19	1534	643	440	146	277	173	7
5	2019/20	1237	658			52	189	9

National Water Fund (NWF): It was established by the Water Supply and Sanitation Act of 2009 and came into operation in 2015 before being repealed and being re-established by the Water Supply and Sanitation Act No. 5 part XII section 55 of 2019. The NWF was established as a means of addressing the long-standing challenge of inadequate funding for water projects. The Fund aims at providing investment support for water supply infrastructure; management of water resources; and related activities as well as interventions that are necessary for delivery of planned targets in the water sector.

Energy and Water Utilities Regulatory Authority (EWURA): This is an autonomous multi-sectoral regulatory authority established by the EWURA Act Cap 414 of the Laws of Tanzania in 2001. It is responsible for technical and economic regulation of the electricity, petroleum, natural gas and water sectors in Tanzania pursuant to Cap 414 and sector legislation. EWURA regulates energy and water utilities in a transparent, effective and efficient manner that ensures their quality, availability and affordability. In urban areas, EWURA regulates the provision of water supply and sanitation services which is the responsibility of the Water Supply and Sanitation Authorities. Among other functions of EWURA it includes issuing license, tariffs review, monitoring performance and standards with regards to quality, safety, health and environment. EWURA is also responsible for promoting effective competition and economic efficiency, protecting the interests of consumers and promoting the availability of regulated services to all consumers including low income, rural and disadvantaged consumers in the regulated sectors. Annually, EWURA publishes performance review report of WSSAs showing achievements and constraints by considering key performance data and indicators for provision of water and sanitation services.

The Water Supply and Sanitation Act no. 5, part IV section 14 gives mandate to EWURA of issuing license to water authorities. As of now, EWURA regulates 69 WSSAs, which provide water supply and sanitation services at Regional and District headquarters, Township and National Projects Water Authorities. Appendix 2-13 provides an illustration of the EWURA organizational structure.

2.4 Non-State Actors in the Water Sector

For water sector development various stakeholders are involved, these includes the public and private sector, non-governmental organizations and development partners. For the period 2015 – 2020 the Ministry has worked with various Development Partners (DPs) and Civil Society Organisations (CSO) who are further elaborated below. These have supported projects under basket funding or earmarked modalities.

2.4.1 Civil Society Organisations

Civil society can be defined as “the public realm of organized social activities located between the state and the private households.” The water sector includes many groups of CSOs, and

they comprise of both the voluntary groups and some well-established organizations that have tens of paid employees. In addition to Tanzanian NGOs, there is a relatively small but influential group of international NGOs working in the country in the water and sanitation sector.

TAWASANET is a national network of Civil Society Organizations (CSOs) working in the water, sanitation and hygiene (WASH) sector. Its establishment was in August 2008. It addresses the need for a coordinating body for strengthening voices of multiple sector CSOs across the country, currently it has 35 members. The objectives of TAWASANET include:

- Providing a forum for collaboration and the interchange of ideas and knowledge among members in the provision of services in the water and sanitation sector;
- Promoting partnerships between civil society and other sector stakeholders;
- Encouraging public, government and industry understanding of water and sanitation and its contribution to socio-economic development, quality of life and the environment;
- Contributing to the development and implementation of sector policies, strategies, standards and guidelines in the water and sanitation sector;

TAWASANET has been very active in ensuring that the implementation of the WSDP is carried out in an accountable and transparent manner. It has contributed in preparing equity reports that were discussed during the Annual Joint Water Sector Review meetings. As an umbrella organization for water sector CSOs, it has been active in participating in water sector dialogue groups such as Thematic Working Groups and the Water Sector Working Group and its members have also been active in field monitoring through joint supervision missions as well as in dissemination events. CSOs also exercise roles in policy, advocacy, community capacity development and facilitation, public sensitization, research and consultancy services and in project implementation by some NGOs.

2.4.2 Other key players in the water sector

Over the years, the sector has observed a flow of contributors to sector growth, in the shape of suppliers, manufacturers, contractors, consultants, private sectors from varying backgrounds including religious related. Working in urban and even in very remote interior rural areas hence supporting the Ministry in ensuring no one is left behind towards sustainable development, with a drop of water for all. The players are professionals recognizable by regulatory bodies such as Engineers Registration Board, Contractors Registration Board, Tanzania Private Sector Foundation. Also, their visible in support of various sectoral initiatives for capacity building and awareness raising including extending support to facilitate Maji Week Conference, SADC Water Week. To name a few we have TWP, GIZ, and Appendix 2-14, summarizes some potential local non-state actors working in the sector. A comprehensive list

of the actors in rural water supply projects is well elaborated in the special audit report (SAR 2018).

2.5 Development Partners Group Water

The Development Partners Group Water (DPG) comprises 19 bilateral and multilateral agencies that support the Government of Tanzania to improve access to drinking water and sanitation, and to promote coordination among Development Partners (DPs) for the most efficient use of human and financial resources made available by the DPG members. The DPG is organized around the MoU and a Code of Conduct agreed with the Government and is set up through a dual chairing structure (an incoming and outgoing chair arrangement). DPG is supported by a secretariat housed at the German Development Cooperation Offices in Dar es Salaam and the secretariat is funded by GIZ (Then GTZ). The DPG establishes an annual work plan taking into account key water sector events and aligns its activities to the fiscal year. DPs provide financial assistance (through general budget support, the water basket and in earmarked projects) and technical assistance support.

Contributions to the water basket are calculated on an annual basis (and these are set out in the approved WSDP annual work plan and budget), currently, DPs contributing to the basket include AfDB and DFID.

3 CHAPTER THREE: WATER RESOURCES MANAGEMENT

The content of this chapter reports the status of National water resources in Tanzania - giving national accounts of the available surface and groundwater resources, the secoral water allocation, transboundary water management and water resources management issues (floods, drough and other management aspects). Additionally, this section narrates the progress and challenges of water resources planning, development and monitoring.

CHAPTER SYNOPSIS

The Water Resources

- As of 2018, every person in Tanzania had a share of 2.3 Mil Liters per year
- Projections to 2030 (based on NBS population growth) shows a drop of this share down to 1.4 Mill Liters per person per year
- Falkenmark Global water stress indicator is 1.7 Mil Liters per person per year
- Water Demand by sectors: Domestic (1,686 MCM), Irrigation (10,500 MCM), Hydropower (13,062 MCM), Livestock & Aquaculture (395 MCM), Industries & Mining (445 MCM) and Ecosystem & Wildlife (50,627 MCM).
- Five out of nine water basins in Tanzania are below this global indicator. Compared to share of water for each person, this means the issue is to transport water to the needy (i.e. economic water stress not physical water stress).

Achievements & Issues

- Six out of nine IWRMD Plans have been completed and proposed measures for sustainable water resources management,
- By end of 2019, Basin Water Boards have doubled their revenue collection from TZS 2 Bn in 2015
- Within WSDP II, Water Resources Management Planned US$ 804 Mil worthy of activities but commitments are in tune of US$ 129 Mil. This is out of US$ 3.3. Bn total WSDP II commitments (with 70% already signed agreements)

3.1 The state of Water Resources in Tanzania

Following completion of most of the IWRMD Plans, the Ministry has compiled the status of water availability in Tanznia. This ecercise considered all the Internally produced Renewable Water Resources (IRWR[5]) and not the Globally produced Renewable Water Resources

[5] IRWR is the average annual flow of rivers and recharge of groundwater generated from rain falling within the borders of the country.

(GRWR[6]). Previous reports has shown a decreasing trend in the total surface and groundwater renewable freshwater resources from 2000 to 1950 m^3/cap/yr between the year 2012 and 2014 (Water Sector Status Report of 2015). However, the recent comprehensive assessments[7] of the water resources in the 9 basins, revealed more water resources that were not considered initially due to limited information. In this regard, the current total national annual renewable water resources amounts to *126,262 MCM* per year which combines groundwater *(21,195 MCM)* and surface water *(105,067 MCM)* . This estimate is equivalent to an average of *2,330 m^3/cap/yr* which is above the globally agreed Falkenmark Water Stress Indicator of 1700 m^3/cap/yr. In addition, this comprehensive assessment of river basins renewable water resources has also revealed a high spatial variation across the country (*Figure 3-1*). While four of the basins are endowed with abundant water resources, others already face stress (*Figure 3-1*). However, because other basins have water quantities way beyond their current demand, it can safely be concluded that Tanzania faces economic[8] water scarcity but endowed abundantly on physical one.

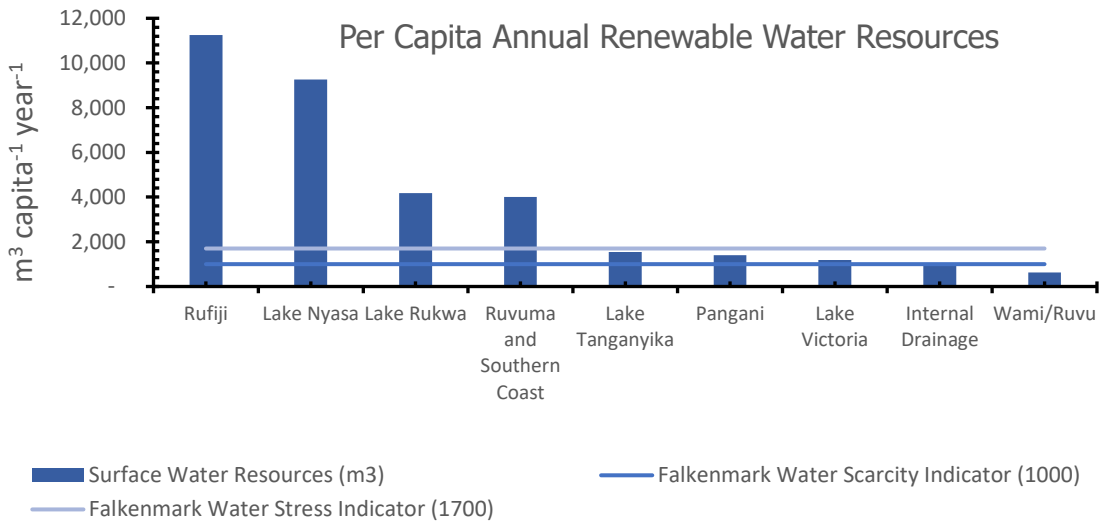


Figure 3-1: Per Capita Annual Renewable Water Resources for Basins in Tanzania 2018

[6] GRWR is the long-term average precipitation minus long-term average evapotranspiration plus long-term average incoming flow originating outside the country/region/basin. External RWR (ERWR) is the part of the renewable water resources coming from outside the country or shared with neighboring countries.

[7] Ministry of Water (2019): Consultancy Services for Consolidation of Data, Information and Models from the Integrated Water Resources Management and Development Plans and Preparation of Requirements Specific for WRIS and Web Portal. Interim Report, Dodoma

[8] Economic water scarcity is considered to occur when renewable water resources are adequate but where there is a lack of significant investments in water infrastructure in order to make these resources available (Rijsberman,2006)

Total annual renewable water resources per capita as presented here descibes the amount of water available to sustain the ever growing population. Historical assessment of per capita total annual renewable water resource in Tanzania is carried retrospectivelly using the current total annual RWR of 126,262 MCM and rationing it across to 1967 population to 2018 population (NBS data). This implies that, assumptions are made that the past RWR were the same as the current water resources (126 km^3). In reality, this is an understimation of the actual amount of annual RWR, since the country had much more pristine watersheds than we currently have, and is therefore expected to have had much more than 126 km^3 RWR by 1967. Furthermore, 2035 projections shows that tanzania will be under water scarcity category (*Figure 3-2*).

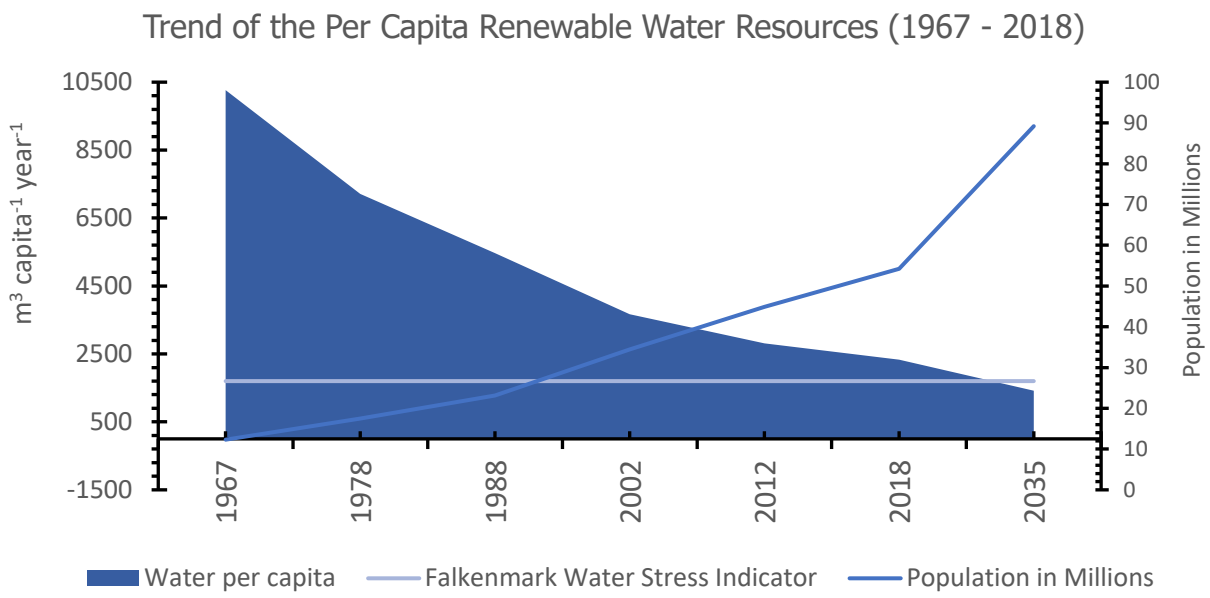


Figure 3-2: Tanzania per capital annual renewable water resources trend as population increases from 1967 to 2018 (MoW)

3.1.1 Surface Water Resources

Water resources management in Tanzania are managed through hydrologic basins which are considered to be the lowest appropriate level of water resources accounting. These river and lake basins are: Pangani, Wami-Ruvu, Rufiji, Ruvuma and the Southern Coast, Lake Nyasa, the Internal Drainage basins of Lake Eyasi, Manyara and Bubu depression, Lake Rukwa, Lake Tanganyika and Lake Victoria(*Figure 3-3* illustrates).

Figure 3-3: A map showing spatial distribution of the river and lake basins in Tanzania

Status of Major Rivers

Generally most of the rivers in Tanzania are perennial in nature, while others are intermitent or ephemeral rivers. Presented in this section are the annual mean flows (as of end of 2019) and length of major rivers in Tanzania. Data shows that the longest river in Tanzania is the Ruvuma, while the river with the largest drainage basin and flow is the Rufiji River (Table 3-1). Table 3-2 presents selected sub-basins and catchment contributions to the outflows. Data shows that some of the catchments like the Upper Ruvu catchment, Kilombero (Rufiji) and upper Ruvuma, have substantial contibutions to the total flows of their respective basins. These requires additional efforts to sustain their flows.

Table 3-1: Mean Annual Flows of Major Rivers

SN	River	Basin	Length in Km	Flows (MCM/yr)
1	Ruvuma	Ruvuma	800	9,240
2	Rufiji at Steiglers Gorge	Rufiji	600	22,250
3	Kilombero at Swero	Rufiji		14,470
4	Pangani at Hale	Pangani	500	627
5	Wami (at Mandera)	Wami-Ruvu	490	3,280
6	Ruvu (Moro Bridge)	Wami-Ruvu		1,370
7	Malagarasi at Taragi Ferry	L. Tanganyika	475	5,060
8	Ruhuhu at Kikonge	Lake Nyasa		5,600
9	Kiwira (at Kyela)	Lake Nyasa		1,900
10	Kagera at Kyaka	Lake Victoria	370	7,064
11	Mara ta Mara Mine	Lake Victoria		1,971

Source: MoW

Table 3-2: Annual Average Flows (million m3/year; MCM or billion m3/year; BCM) of sub-catchments of Selected River Basins of Tanzania

Lake Tanganyika Basin

SN	River Catchment	Flow (MCM/yr)
1	Malagarasi	2,798
2	Ugalla	1,055
3	Lugufu	798
4	Luiche	742
5	Ruchugi	551
6	Luegele	389
7	Other Catchments	4,185(***40%***)

Wami-Ruvu Basin

SN	River Catchment	Flow (MCM/yr)
1	Upper Ruvu	1,223 (31%)
2	Wami	1,120 (28%)
3	Mkondoa	788
4	Kinyasungwe	312
5	Lower Ruvu	220
6	Coast	210
7	Ngerengere	115

Rufiji Basin

SN	River Catchment	Flow (BCM/yr)
1	Great Ruaha	3,300
2	Kilombero	13,800 (***62%***)
3	Luwegu	4,000
4	Lower Rufiji	1,100

Ruvuma Basin

SN	River Catchment	Flow MCM/yr)
1	Upper Ruvuma	2,672 (62%)
2	Likonde	2,704 (62%)
3	UpperMiddle Ruvuma	1,584
4	LowerMiddle Ruvuma	1,638
5	Lower Ruvuma	644

Status of Major Lakes

The freshwater reserve of Tanzania in the form of major Lakes stores approximately 29,425 km^3 of all the world's freshwater resources. This is about 25% of the world's (fresh) surface water (*Figure 3-4*). Basing on water level from mean seal level, these water bodies are believed to have maintained their capacities (*Table 3-3* gives a summary). *Figure 3-5* gives an example of water levels stability for Lake Victoria whose water levels (amsl) indicate an increasing trend. Data trends for other major lakes were not readly available.

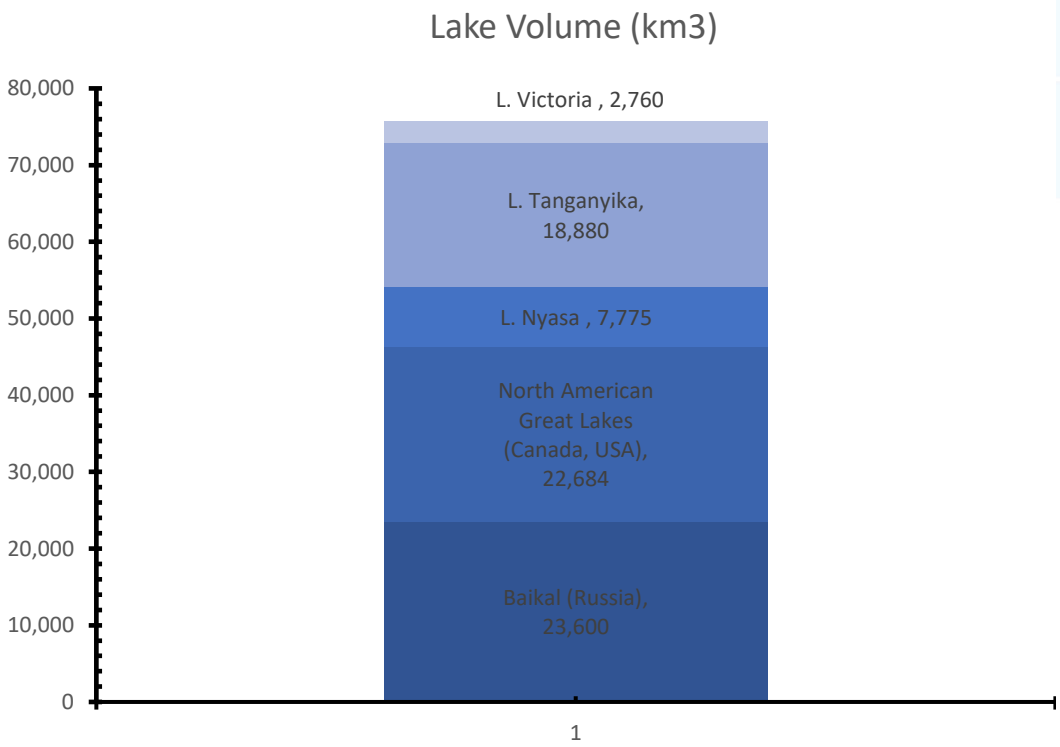


Figure 3-4: Water Volumes of the largest freshwater lakes of the World

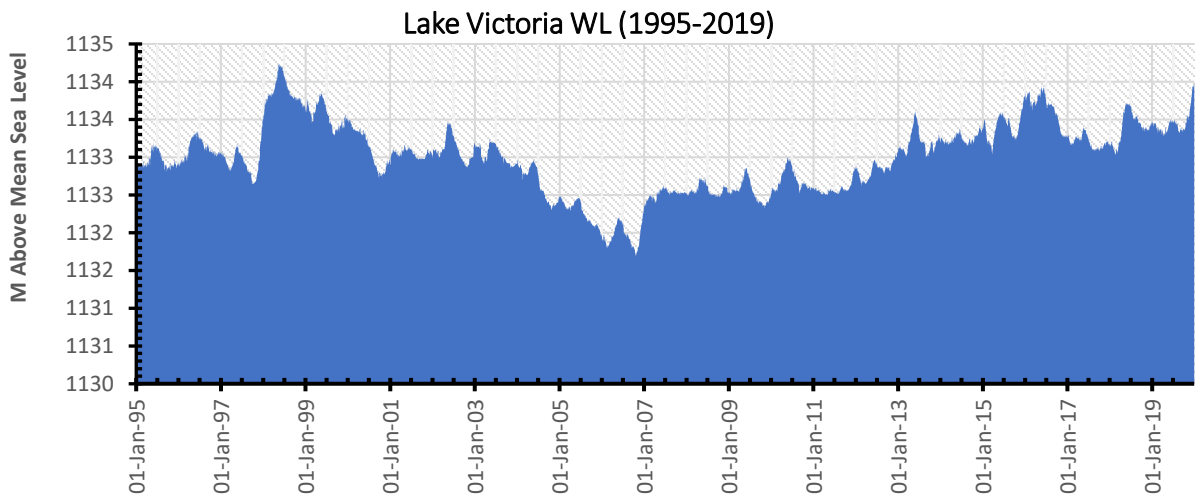


Figure 3-5: Water Levels of Lake Victoria showing an increasing trend between 2006 and 2019

Table 3-3: Water Levels (masl) of Major Lakes of Tanzania

Name of the Lake	2015/2016	2016/2017	2017/2018	Long Term Average
Lake Victoria	1133.9	1133.2	1133.4	1133.1
Lake Tanganyika	774.8	775	774.6	774.1
Lake Rukwa	810	801.2	801.1	800.1
Lake Nyasa	476.6	476.3	476.6	477.7

Status of Major Dams

Tanzania has ample storage of water in dams, most of which are man-made. The Ministry has successfully monitored the dams and their capacities over the years. Of the 600 dams that are in Tanzania, 20 have the capacity that exceeds 1,000,000 m^3, as detailed in the *Table 3-4.* Six of these dams are currently used for Hydroelectric Power Generation in the country, generating a total of about 561MW (*Table 3-4).* Periodic monitoring of the status of water levels in major dams in the recent past is presented in the *Table 3-4*, while the water level time series for selected dams is presented in *Figure 3-6*. Electricity generation is highly dependent on the reservoir water levels. Generally, the water levels in the selected dams have been above the minimum operational level for most of the time, except for Nyumba ya Mungu and Mtera dam whose water levels were below operational levels for few years, most likely due to extensive water abstractions in the previous equally dry seasons.

Table 3-4: Major Dams Water Levels (masl)

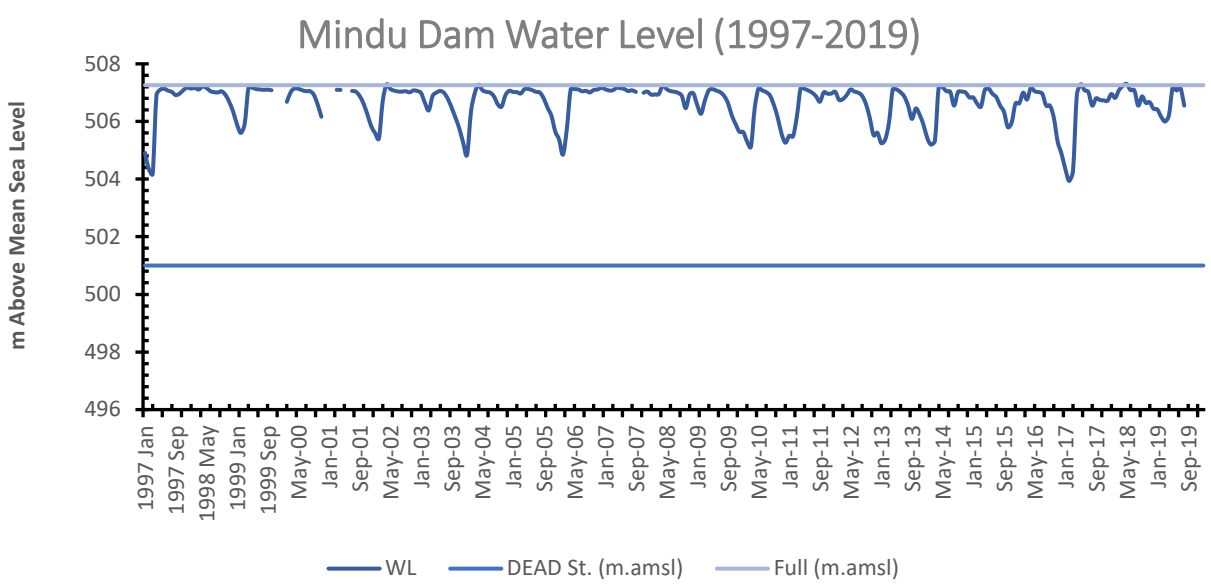
Name of the Dam	2015/ 2016	2016/ 2017	2017/ 2018	Long Term Average
Nyumba ya Mungu (Pangani)	684.2	683.6	687.3	685
Mabayani (Pangani)	88.5	82	84	83.3
Mtera (Rufiji)	694.7	693.1	693.6	693.5
Kidatu (Rufiji)	447.4	448.8	443.3	447.4
Kihansi (Rufiji)	1144.9	1145.2	1142.3	1145.8
Mindu (Wami-Ruvu)	507	505.9	506.9	506.6

Source: MoW

Table 3-5: A summary of Major dams and their respective Storage Capacities

S/N	Dam	Design Storage Capacity (m^3)	Region	HEP Installed Capacity (MW)
1	Mtera	3,800,000,000	Iringa & Dodoma	80
2	Nyumba ya Mungu	1,135,000,000	Kilimanjaro	8
3	Kidatu	125,000,000	Morogoro	204
4	Igombe	40,722,000	Tabora	
5	Mwamapuli	28,170,000	Tabora	
6	Ulyanyama	21,000,000	Tabora	
7	Manchira	14,000,000	Mara	
8	Mindu	13,000,000	Morogoro	
9	Myanji	12,211,700	Mara	
10	Ning'wa	10,600,000	Shinyanga	
11	Mabayani	7,700,000	Tanga	
12	New Dodoma	4,200,000	Dodoma	
13	Kilimi	3,500,000	Tabora	
14	Mindukeni	3,120,000	Morogoro	
15	Irienyi-1	2,750,000	Mara	
16	Kihansi	1,660,000	Iringa	180
17	Mandela	1,000,000	Tanga	
18	Kyarano	1,000,000	Mara	
19	Nang'olola	1,000,000	Shinyanga	
20	Mwanyahina	1,000,001	Shinyanga	
21	New Pangani Falls	800,000	Tanga	68
22	Hale	200,000	Tanga	21
	Total Storage Capacity	5,227,633,701		

Source (MoW)


Mindu Dam Water Level (1997-2019)
m Above Mean Sea Level
508
506
504
502
500
498
496
1997 Jan
1997 Sep
1998 May
1999 Jan
1999 Sep
May-00
Jan-01
Sep-01
May-02
Jan-03
Sep-03
May-04
Jan-05
Sep-05
May-06
Jan-07
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May-08
Jan-09
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Jan-11
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May-12
Jan-13
Sep-13
May-14
Jan-15
Sep-15
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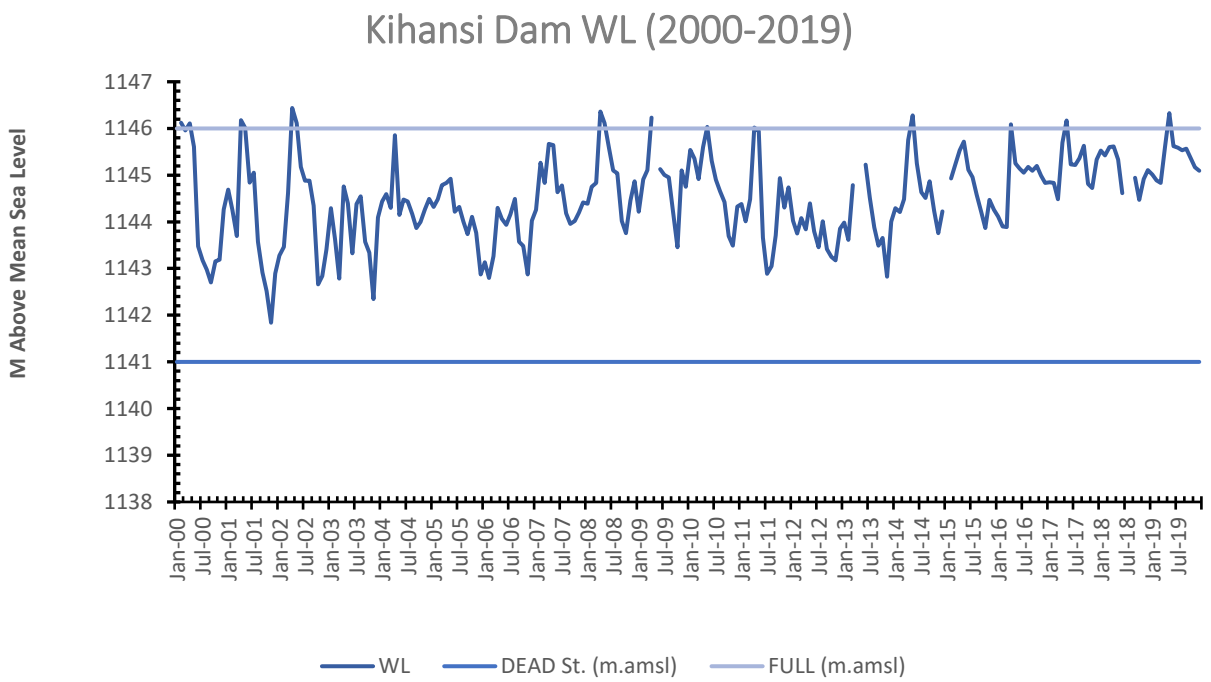
Jan-17
Sep-17
May-18
Jan-19
Sep-19
WL
DEAD St. (m.amsl)
Full (m.amsl)


Kihansi Dam WL (2000-2019)
M Above Mean Sea Level
1147
1146
1145
1144
1143
1142
1141
1140
1139
1138
Jan-00
Jul-00
Jan-01
Jul-01
Jan-02
Jul-02
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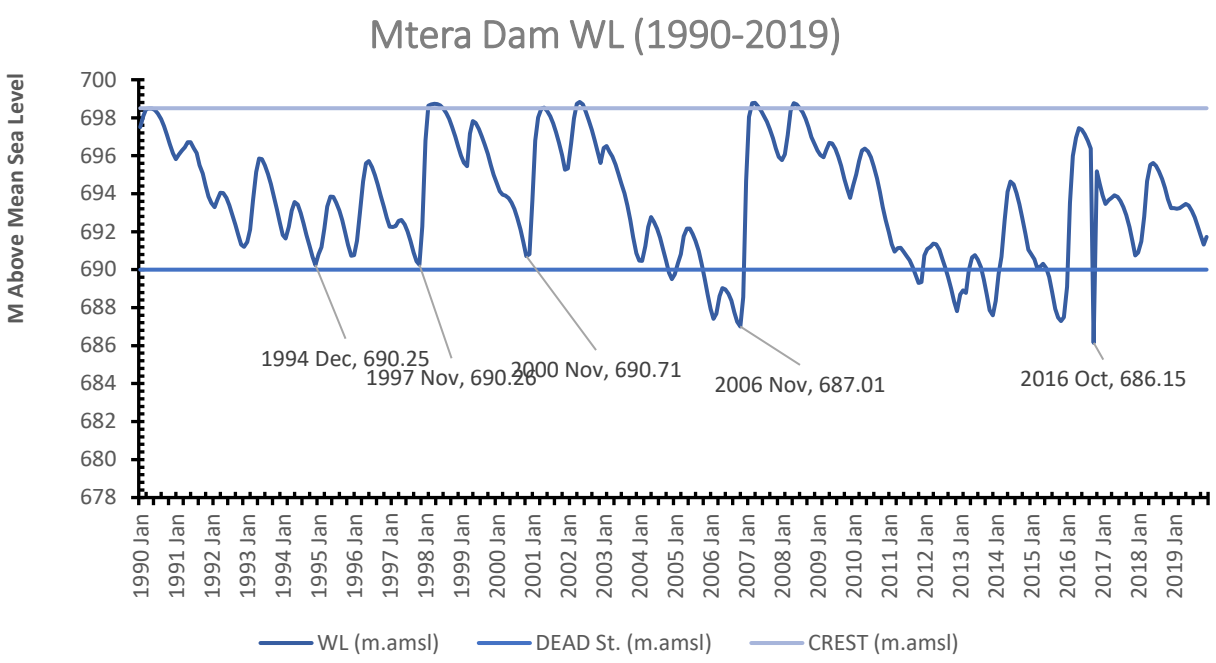
WL
DEAD St. (m.amsl)
FULL (m.amsl)



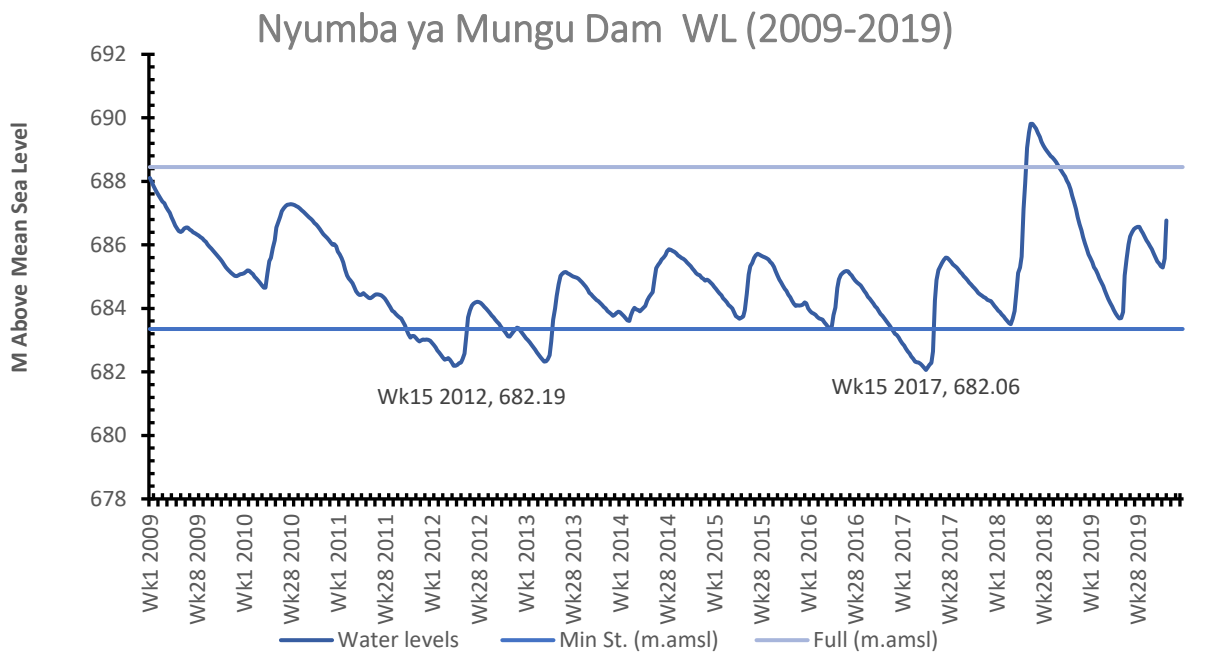


Figure 3-6: Water levers for Major Dams in Tanzania showing a negligible fluctuation

3.1.2 Groundwater Resources

The status of the groundwater resources of Tanzania has not been fully assessed – only patchy studies has been done or is ongoing. In this regard, the national wide potential is believed to be highly variable due to high variability of geological formations. High potential is expected in the weathered and fractured bedrocks, unconsolidated sediments and volcanic rocks which forms only 25%. However, 75% of the country is overlain by Pre-Cambrian crystalline basement complex that are generally barren in nature (Kashaigili, 2010)[9]. Owing to this, the larger part of Tanzania has aquifers with low productivity (*Figure 3-7*).

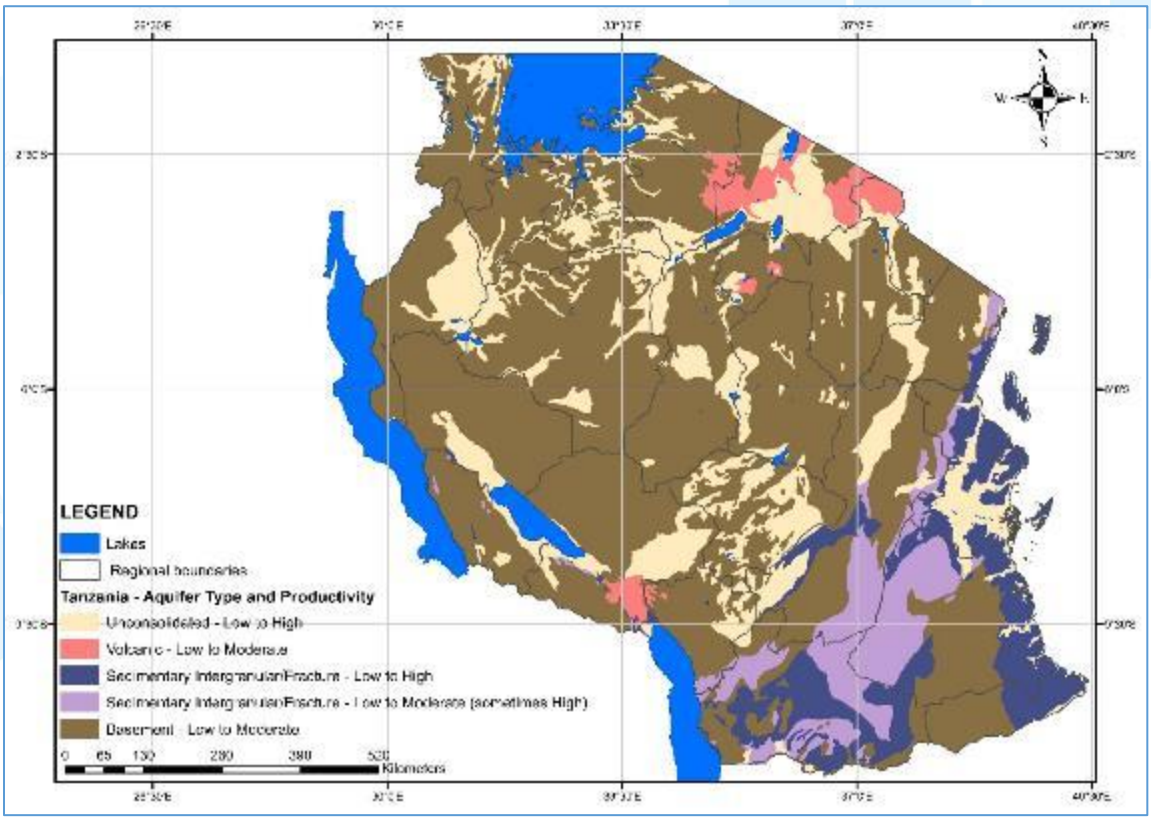


Figure 3-7: Map of Tanzania illustrating spatial distribution of major aquifers and their Productivity

[9] Kashaigili, J. J. (2010). *Assessment of groundwater availability and its current and potential use and impacts in Tanzania*. IWMI.

Groundwater Recharge Status

Compilation of data to establish recharge also suffers the availability of data and lacking studies. The available data was carried out by Jica in 2002 (*Table 3-6*) and shows that average annual recharge is 4 mm (about 0.4% of annual average rainfall) and translates to about 3,725 MCM. An old study on Makutupora basin by (Shizuo Shindo, 1989) (S Shindo) (S Shindo, 1991); (J. Kashaigili, Mashauri, & Abdo, 2003) estimates recharge flux at 5 to 10 mm/year (about 1.3% of average precipitation). Similar study in quaternary sediment aquifers of Dar es Salaam was carried out by Mjema & Walraevens, 2015 and indicates high recharge flux between 0 and 570 mm/year with average recharge estimates for the period of 1971 to 2006 being 121.7 mm/year. Meyboom, 1961 estimates 10 percent groundwater recharge in many areas to be the maximum that can be expected, but that in other localities the percentage recharge may well fall to 4 percent or even below.

Table 3-6: Groundwater recharge calculation for each basin [Source: Jica 2002]

No	Drainage Basin	Catchment Area (km^2)	Inflow	Outflow		
			Annual Mean Rainfall* (mm)	Annual Mean Runoff* (mm)	Evapotranspiration from the basin ** (mm)	Groundwater Recharge *** (mm)
I	Pangani	56,300	1,001.90	31.5	966	4
II	Wami/Ruvu	72,930	765.1	51.7	710	3
III	Rufiji	177,420	988.3	185.9	799	3
IV	Ruvuma	103,720	1,050.00	20.5	1,028	2
V	L. Nyasa	39,520	1,672.50	344.6	1,324	4
VI	IDB	153,800	619	36.6	577	5
VII	L. Rukwa	88,180	1,095.00	104.5	985	6
VIII	L. [illegible]	151,900	1,173.60	124.7	1,045	4
IX	L. Victoria	79.57	1,111.10	18.6	1,087	6
Average			**1,053**	**102**	**947**	**4**

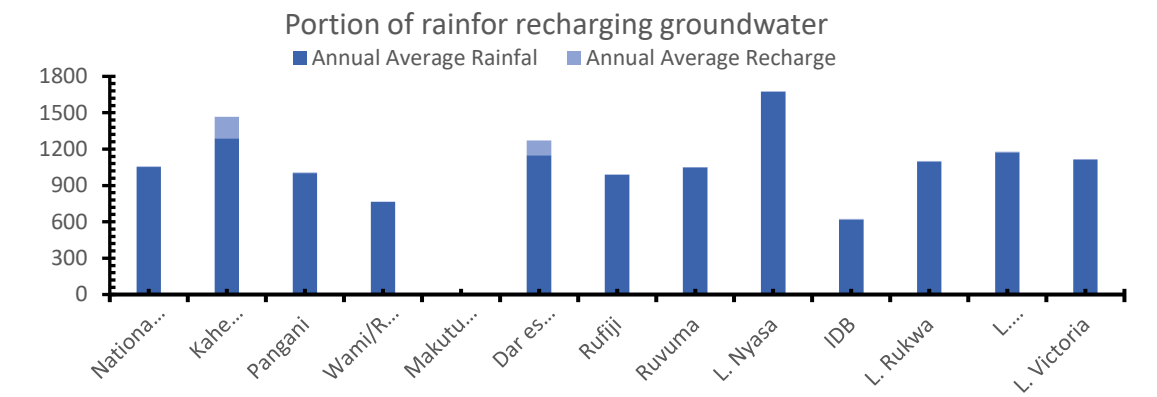


Figure 3-8: Graphical comparison of annual precipitation and groundwater recharge [Drawn from using data from Jica, 2002, Mjema and and Walraevens, 2015]

Groundwater Demand Status

The demand for groundwater resources use is on the increase especially for domestic water supply followed by other uses such as irrigation. The implementation of NWSSP for domestic supply in urban and rural settings (which are the largest users of groundwater) was estimated to consume 755,000 m3/day (60% of total use) against demand of 0.8 to 3.4 MCM/day (Kongola, 2008; DWR, 2010). These infrastructures are operated using submersible electric pumps (diesel, electricity and a growing use of solar panels), hand pumps and wind mill. However, these systems suffer functionality issues for a number of reasons including oversight capacity, expenses borne from water extraction method and tariff arrangements. Irrigation for sugarcane, flowers, vegetables and fruits such as grapes consumes 130,000 m3/day (10%) while mining and industrial use consume about 30,000 m3/day (2%). Livestock and others such as dry land fishing use about 350,000 m^3/day (28%). The total groundwater use is about 1.265 MCM/day which is about 12% of available groundwater resources (11 MCM/day) (DWR, 2010 – working reports).

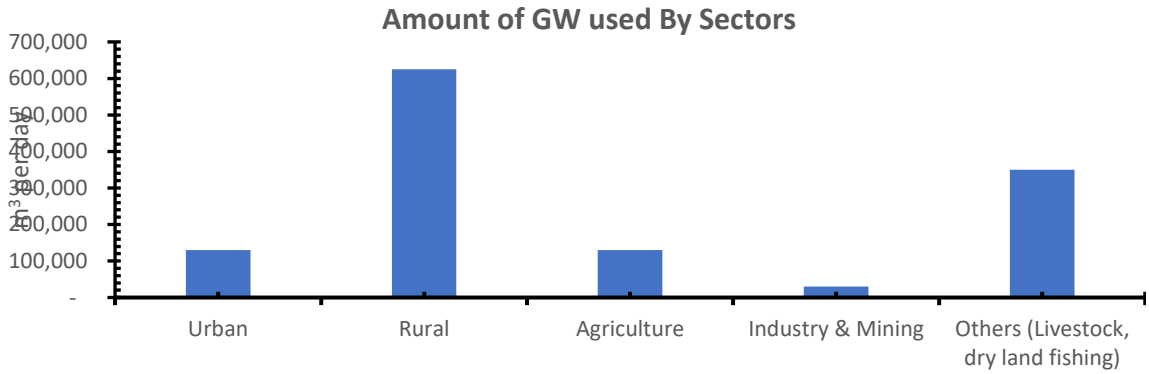


Figure 3-9: Volumes of groundwater consumed by sectors (Modified after DWR, 2010)

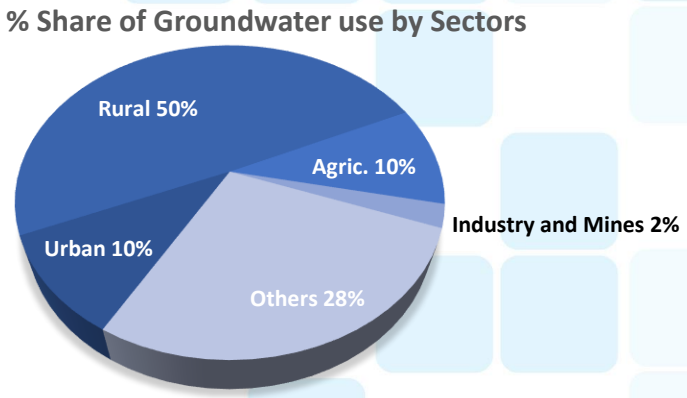


Figure 3-10: Percentage share of consumption by different sectors (Modified after DWR, 2010

Groundwater utilization for industrial use is more concentrated in urban areas, especially Dar es Salaam where about 80% of the industries are located. Due to inadequate water supplies many industries have opted for constructing private wells to augment surface water supply. Industries in Dar es Salaam, like Tanzania Breweries Ltd. (TBL), Tanzania Cigarette Company (TCC), Friendship Textile (Urafiki), Ubungo Farm Implements (UFI), Kibuku, Mpishi, and Tanzania Portland Cement factory (TPC - Wazo Hill) etc, have private wells (DDCA, 2001). The list is rapidly increasing, and similar trends are observed in Arusha, Mwanza and Mbeya City municipality (DDCA, 2001).

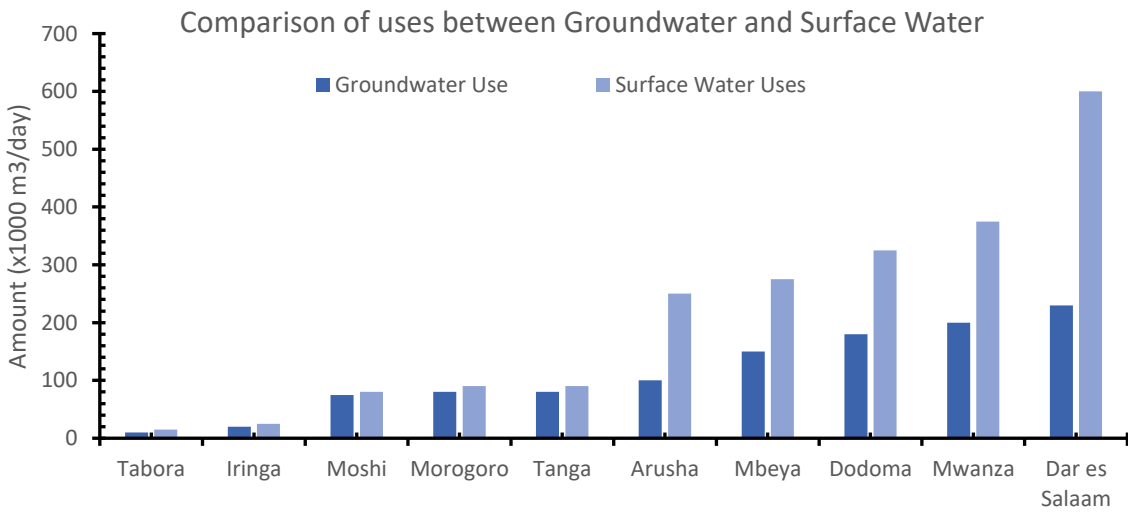


Figure 3-11: Role of Groundwater in different major cities in Tanzania (Modified after Mato, 2002)

3.2 Water Resources Utilization and Allocation in Tanzania

Most socio-economic activities in the River basins are supported by surface water resources. Analysis of the permits is summarized hereafter in Table 3-7: Proportion of Surface Versus Groundwater Allocation for each River Basin. No information on the source (groundwater or surface) of the issued water use permits is provided in Rufiji and Rukwa. Therefore, except for these two, most of the socio-economic activities in the various River basins, are supported by the surface water resources. IDB has the greatest percentage of groundwater use.

In addition, the ministry has compiled water demand by sector basing on the IWRMD preparation processes and noted the following share of water resources: Domestic (1,686 MCM), Irrigation (10,500 MCM), Hydropower (13,062 MCM), Livestock & Aquaculture (395 MCM), Industries & Mining (445 MCM) and Ecosystem & Wildlife (50,627 MCM).

Table 3-7: Proportion of Surface Versus Groundwater Allocation for each River Basin

IDB	
Groundwater	Surface Water
Total Allocated Quantity (m^3/day)	Total Allocated Quantity (m^3/day)
143,089	829,156
15%	85%

Lake Victoria	
Groundwater	Surface Water
Total Allocated Quantity (m^3/day)	Total Allocated Quantity (m^3/day)
49,434	46,913,785
0%	100%

Wami/Ruvu	
Groundwater	Surface Water
Total Allocated Quantity (m^3/day)	Total Allocated Quantity (m^3/day)
185,567	5,103,814
4%	96%

Lake Nyasa	
Groundwater	Surface Water
Total Allocated Quantity (m^3/day)	Total Allocated Quantity (m^3/day)
22,293	307,732,085
0%	100%

Pangani	
Groundwater	Surface Water
Total Allocated Quantity (m^3/day)	Total Allocated Quantity (m^3/day)
814,379	14,252,095
5%	95%

Lake Rukwa
Ground & Surface Water
Total Allocated Quantity (m^3/day)
3,148,809

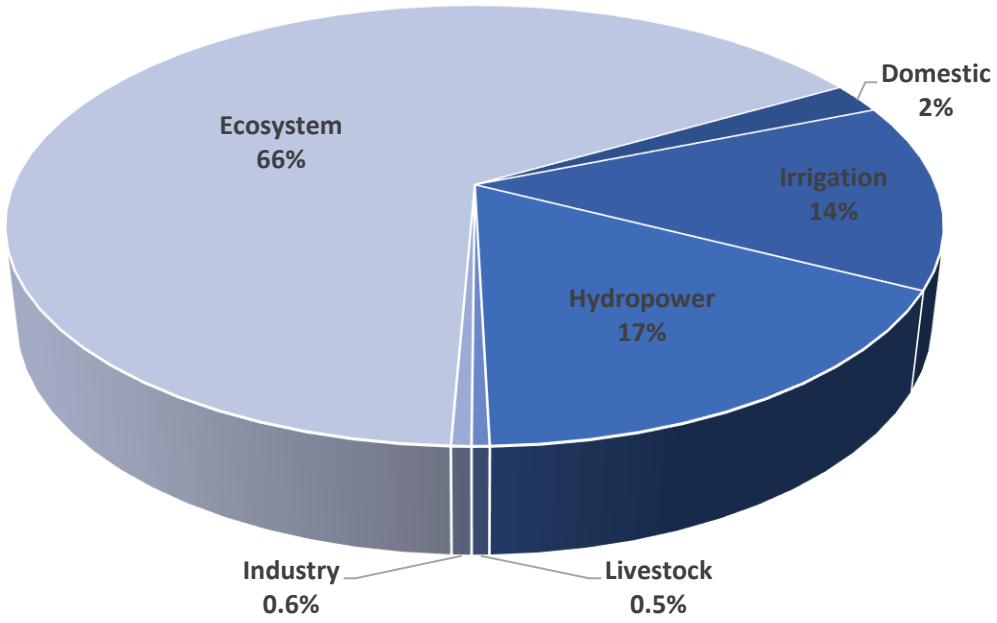


Figure 3-12: Water demand by sector [MoW,2019]

3.3 Implementation Status of IWRMD Plans

3.3.1 Status of operationalization and Implementation of IWRM: December 2019

IWRM Implementation differs across the basins in Tanzania. Whereas six of the basins have completed planning process including ESIA for the same, Pangani, Lake Victoria and Wami-Ruvu basin are at preparation stage with the latter at almost complete stage. Implementation of these plans are being carried out through the legal and institutional framework as described in section 2.3.3 detailing the hierarchy from national to water user level. While IWRM elements have already been institutionalized at National level, implementation progress differs among basins. As of December, 2019, all nine Basin Water Boards were operational as per WRMA of 2009. Furthermore, implementation of strategic project s proposed in IWRMD plans are at different stages from initial studies (e.g. Ndembera dam) through compensation (e.g. Farkwa dama) and some at construction stage (e.g. Nyerere HEP project in Rufiji Basin). Table 3-8 give a summary of some of the big strategic proposals extracted from IWRMD Plans.

Table 3-8: Some of the implemented/planned priority water resources infrastructure between 2015-2020

Basin	Project Description	Value (Tshs)
Rufiji	Stiegler's Gorge Hydroelectric Power Plant SESA done Feasibility done Procurement Process	USD 3.9 billion
Rufiji	Lugoda dam and Maluluma Hydro-electric power station on Ndembera River The Storage capacity of the Lugoda dam reservoir is approximately 347 million m^3	USD 120,000,000
IDB	Farkwa dam construction in Dodoma	USD 98,525,000
IDB	Farkwa Conveyance System to Dodoma municipality, Chemba, Bahi and Chamwino district councils in Dodoma region.	USD 321,475,000
IDB	Rehabilitation of 4 Dams i.e. 1. Engukment II Earth-fill Dam is located in Meserani Juu Village, Monduli District; Arusha Region 2. Makuyuni-Lemioni Earth-fill Dam is located in Makuyuni Village Moduli District; Arusha Region 3. Nkiniziwa Earth-fill dam is located in Nkiniziwa village, Nzega District; Tabora Region. 4. Nkiniziwa Earth-fill dam project is located at the Itobo village, Nzega District; Tabora Region.	TZS 3,000,000,000.

3.3.2 Achievements in Stakeholder Participation in the Water Sector

Significant progress has been made towards establishing institutions and engaging stakeholders, as Tanzania forges ahead in achieving inclusive decision-making processes for IWRM implementation. The Ministry has facilitated formation of Catchment Water Committees, Water Users Associations (WUA) and Multi Sectoral Forums to create mechanism for stakeholders to support institutions for IWRM implementation. A total of 28 WUAs were formed during the reporting period making a total of 123 WUAs Appendix 3- 2 elaborates further. A national and nine basin level MSFs have also been formed.

3.3.3 Achievement in Establishing Water Resources Monitoring and Assessment

National monitoring of water availability is key for planning and making any informed decision. WSDP II targets for water resources monitoring include strengthening monitoring networks by increasing strategic hydro met station and observations wells. Currently, there are 794 monitoring stations in the country, as categorically elaborated in Table 3-9. The status of hydrometric stations in the country has remained more or less the same for the past 10 years, with the exception of Wami-Ruvu and Ruvuma Basin that show some improvement (*Figure 3-14*). Similarly, there have been limited efforts to increase the number of weather stations in the country. Only in Rufiji and Lake Victoria basin where slight increase in number is noted (*Figure 3-15*).

More attention needs to be focused on monitoring aquifer response to abstraction and contaminants releases onto the environment. For the past five years there has been hardly any attention given to establishment or rehabilitation of existing groundwater monitoring networks, with exception of one observation well installed in the Internal Drainage Basin (*Figure 3-16*). To this date, there are few basins that do not have any groundwater monitoring station. This makes accurate accounting of available groundwater resources and exploitation even more challenging. Some of the basins like Rukwa, Tanganyika and Nyasa, would benefit from rehabilitation of previously operational monitoring stations.

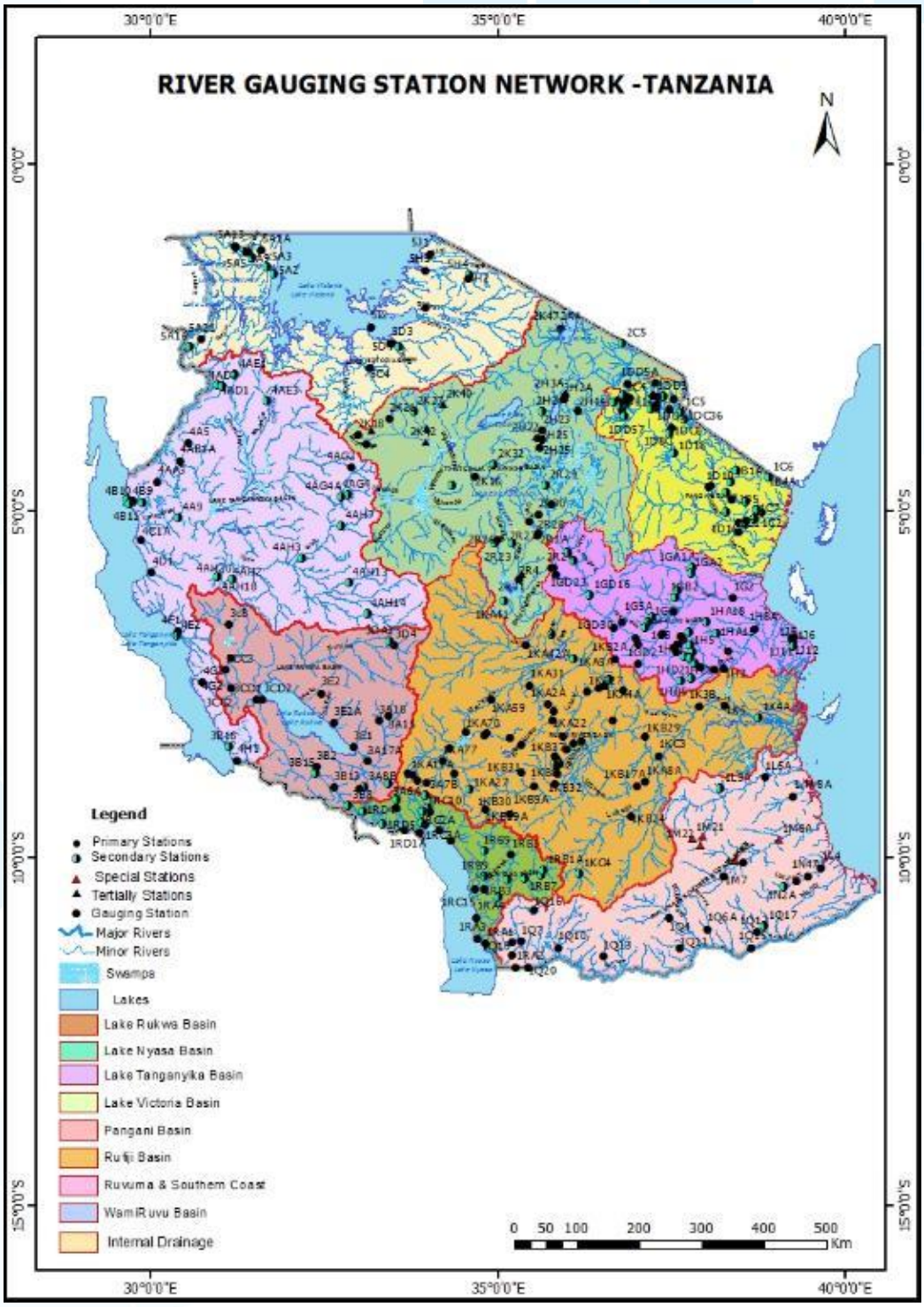


Figure 3-13: Coverage of the Hydromet Monitoring Stations in Tanzania

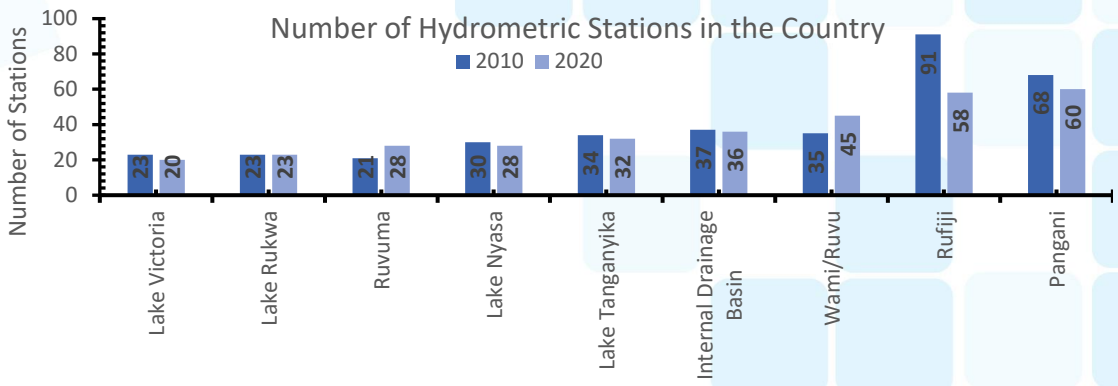


Figure 3-14:Number of Hydrometric Stations in the Country

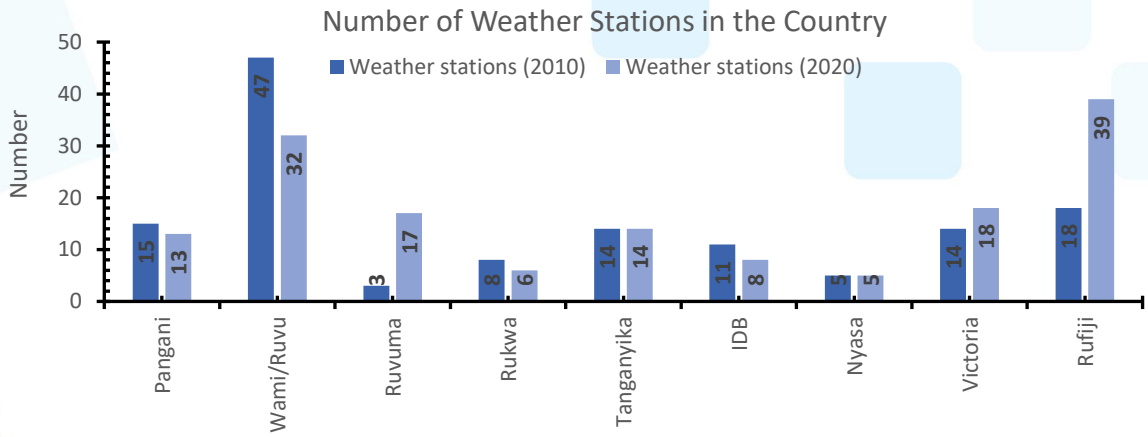


Figure 3-15: Number of Weather Stations in the Country

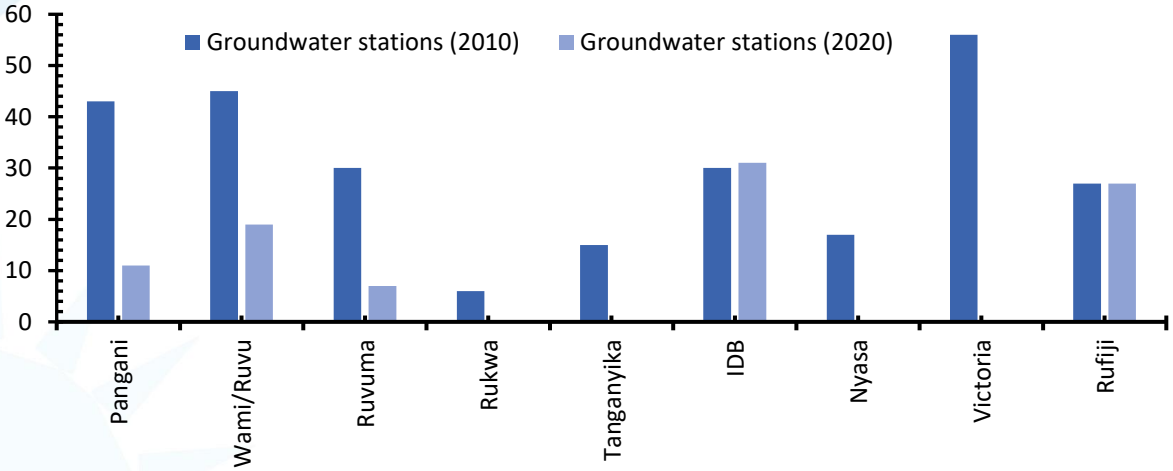


Figure 3-16: Number of Groundwater Monitoring Stations in the Country

Table 3-9: Total Number of Monitoring Stations in Tanzania

Stations Category	River Gauging Stations	Rainfall Stations	Weather Stations	Groundwater Stations	Lakes	Dams	Total
Numbers in 2010	362	289	135	269	N/A	N/A	1055
Numbers in 2015	321	188	82	75	N/A	N/A	666
Number in 2020	330	189	152	95	17	11	794

Summary of achievements in maintaining/establishing monitoring station between 2015-2020 are summarized below:

- Construction of seven (11) water resources monitoring stations was done in Nyasa (5), Ruvuma (4) and Rufiji (2).
- Rehabilitation of nineteen (19) gauging station was done in Pangani (10), Wami/Ruvu(5),IDB (1) and Lake Victoria (3) while eight (8) weather stations were rehabilitated in Pangani (5), Lake Victoria (1) and Wami/Ruvu (2), also civil works were done for installation of data logger system in 10 river gauging station in Rufiji Basin.
- Installation of six (6) satellite dish was done to Mini Weather stations in order to obtain real time data from those EWAS stations constructed to capture weather data for observing climate change in Liwale Districts (Ruvuma Basin).

3.3.4 Progress Sources Conservation and Protection

Catchment degradation and water pollution have continued to be major challenges in water resources management. The goal of the policy direction "*to prevent negative environmental impacts from human activity by ensuring water is used beneficially and efficiently and water related activities enhance or cause least detrimental effect to the natural environment*" is to "adopt environmental protection and conservation measures that contribute to the sustainability of all aspects of water development, management and use". The strategy adopted to achieve this goal in WSDP II is through the Basin Water Boards implementation of the following activities;

(i) Continue with identification and demarcation of catchments, groundwater recharge areas, wetlands and water sources for protection
(ii) Mapping and gazette potential water sources as water protected areas Table 3-10: Water Sources Gazzetted for Protection
(iii) Compensation for demarcated water sources and resettlement of communities

(iv) Strengthen cross-sectoral collaboration and promote stakeholders awareness and participation

(v) Promote and encourage livelihood projects that reduce pollution and enhance conservation of water sources

(vi) Engage politicians and influential groups to spearhead the agenda for protection and conservation of water sources at all levels

(vii) Review and implement water quality and pollution control monitoring programs in all basins characterize (identify, determine levels and types of pollution and mapping) point and non-point sources of pollution

(viii) BWBs in collaboration with key stakeholders to conduct research and studies to restore water sources (Rivers and groundwater potential zones).

(ix) BWBs to conduct Environmental flow assessment (EFA)

(x) Assessment of Rivers Health is carried out in major rivers during IWRMD plans preparation and implement the recommendations

(xi) Water bodies' classifications and development of their associated protection rules. Development of standards in each classification that will be used to determine if the designated uses will be protected

Table 3-10: Water Sources Gazzetted for Protection

Basin	Name of Source	Use/ Area	Area Demarcated	Demarcated Area (m^2)
Lake Rukwa	Kawa dam in Katandala River	Domestic	Nkasi	2,200,000
	Milala dam in Kausi River	Domestic	Mpanda	2,300,000
	Chokaa well	Domestic	Mjiwa Chunya	95,928
	Kidole well		Mjiwa Chunya	13,084
	Kiswaga well		Mjiwa Chunya	29,831
	Matundasi A well		Matundasi Village	7,794
	Matundasi B well		Matundasi Village	12,047
	Mkola well		Makongolosi Village	200,000
	Halewa/Swaya River	Domestic	Mwasanga Mbeya Town	16,226
	Mfwizimo/Iziwa River		Iziwa, Mbeya peak, Mbeya Town and Mpomu Village Mbeya Rural	11,572
	Nzovwe River		Mwakibete Ward, Mbeya Town	260,000
	Ivumwe River		Mwakibete ward in Ivumwe street Mbeya	118,000
	Imeta River		Mwansekwa Ward Mbeya Town	178,000
	Hanzya River		Nsoho ward Mbeya Town	279,000
	Mfwizimo/Lunji River		Iziwa Mbeya Town	82,653
	Sisimba River		Iganzo village Mbeya	104,000
Wami - Ruvu	Mindu dam	Domestic	Morogoro Municipal	4,000,000
	Makutopora well-fiel	Domestic	Mzakwe, Mamba, Mchemwa and Gawaye	85,000,000

3.3.5 Achievements in Monitoring and Enforcement of Dam safety

Dam safety and flood management is also an important undertaking in Water Resources. To avoid future risks associated with dam failures, WSDP II emphasizes on monitoring the enforcement of dam safety regulations and guidelines; Monitoring of ongoing dams constructions and review dam designs and carrying out the inventory of dams in all basin water boards and updating the dam database, among many other things.

Of the activities carried out in this regard include site inspection for compliance. This is guided by regulations for Dam safety GN. 237 of 2013. The activity was carried out at North Mara Gold Mine for the purpose of verifying compliance after the stop order was issued by NEMC[10]. The inspection discovered improvements on the control of seepage and supervision of the facility which guided NEMC to withdraw the stop order. Other such inspections were conducted at the following sites:

- Tailing Storage Facility (TSF) owned by MMC limited (Mvomelo District and Musoma district) – a sto order was issued
- Stamigold company limited at Bukombe district in Geita region – a stop order was issued
- Geita Gold Mine – a stop order was issued on use of old TFS,

Other activities include; review of documents or Design reports and Site inspection for granting Dam Construction Permit: Three (3) permits were granted for construction of Tailing Storage Facility for Nholi Gold Mine Project in Bahi district, Lindi Jumbo Graphite Project in Ruangwa distrct, and Bulyanhulu Gold mine in Msalala district. Moreover, one (1) permit was granted for construction of Fine Residue Slime (FRS) Facility for Williams Diamond Ltd. Further the Ministry has made initiatives towards Registration of Approved Professional Personnel (APPs). Up to January, 2020; 11 Approved Professional Personnels (APP's) were registered after being complied and approved by the Engineer Registration Board (ERB.). Most importantly also, the MoW has spearheaded Awareness Creations on Dam Safety trainings (i.e. Farmers Field School refresher training). These were conducted to enhance stakeholder's awareness on dam safety. The training was held at Sokoine University of Agriculture in Morogoro. Also, presentation on Dam safety to high level management of the Ministry of Water was done at the Ministry of Water Conference room (Mtumba) and on workshop of mining sector financed by Mining Commission held in Dodoma.

The MoW periodically collect necessary data for dam management and registration. In this 2015-2020, data for 673 dams were collected from seven (7) Basin Water Board and classification were done based on capacity whereby 567 are classified as small dams, 79 medium dams and 27 big dams. All these dams they have a total capacity for water storage of

[10] Order issued on 20th July 2019 on uses of the Tailings Storage Facility (TSF) following non-compliance issues

5.45 Billion cubic meter. Apart from that, Rufuji River Basin Water Board leads by having 3.93 Billion cubic meter equal to 72% followed by Pangani River Basin Water Board which have 1.19 Billion cubic meter equal to 21% of the total capacity of all dams. Classification was based on the International Commission of Large Dams (ICOLD) and US Amry Corps of Engineers' National Inventory of Dams (USACE 2000) where by small dams are less than 500,000 m^3, medium dams 500,000-3,000,000 m^3 and large dams more than 3,000,000 m^3.

3.3.6 Achievements in Water Quality Monitoring

In the last five years (2015 – 2020), the Ministry continued with implementation of Water Quality Management and Pollution Control Strategy. Assessment across the country indicates variations of water quality from one place to the other. These variations emanate from a number of factors including the state of natural rocks, human activities, geographical factors and climate changes. Through the assessment of 1,540 water samples of 2,250 planned across Tanzania mainland it was noted that, surface water is more prone to contamination with high levels of nitrogen, phosphorous and turbidity which introduced naturally or through human activities. In groundwater, high levels of salinity, acidity, nitrate, minerals such as Fluoride, Iron, Manganese and chloride were rife in most of the Regions and Districts.

However, generally, monitoring results show that, the quality of these water sources is still suitable for ecosystems and can also be developed and used after being treated according to the intended uses. Table 3-11 shows physico-chemical parameters and locations with waters of poor quality across the country. Moreover, the monitoring has indicated some of the parameters that are predominant in most water assessment. The contribution of these parameters to the challenges that the Ministry is facing with regard to pollution control is depicted in Figure 3-17.

Table 3-11: The Physico-chemical parameters and locations with waters of poor quality across the country

Parameter	Affected Regions/Districts Areas
Low pH	Dar es salaam (Ilala, Kinondoni, Temeke), Pwani (Kisarawe), Kigoma (Buhigwe, Kasulu, Kigoma MC, Kakonko, Kibondo), Katavi (Mpanda), Rukwa (Sumbawanga), Ruvuma (Songea), Kagera na Geita
Hardness	Dar es Salaam (Temeke, Kinondoni, Ilala) Dodoma (Mpwapwa, Kongwa, Chamwino, Chemba), Singida (Singida Manispaa, Manyoni), Morogoro (Gairo, Morogoro, Morogoro MC, Mvomero), Pwani (Kibaha, Bagamoyo) Iringa (Iringa, Kilolo), Mbeya (Mbarali), Mara (Rorya, Musoma, Butiama, Serengeti, Bunda), Lindi (Lindi MC, Ruangwa, Nachingwea), Mtwara (Mtwara MC), Tanga (Korogwe, Mkinga), Rukwa (Sumbawanga), Songea, Kagera and Geita

Fluoride (5-55 mg/L)	Arusha (Arumeru, Meru, Monduli, Ngorongoro, Arusha city), Manyara (Babati TC, Babati DC, Hanang, Simanjiro), Kilimanjaro (Siha, Hai, Moshi, Katavi (Mlele), Mwanza (Magu, Busega, Sengerema, Misungwi, Mwanza City, Kwimba), Singida (Singida, Iramba, Mkalama), Shinyanga (Shinyanga MC &DC), Mbeya (Busokelo) and Iringa (Kilolo)
Chloride (998-1626 mg/L)	Lindi (Lindi MC, Kilwa), Mtwara (Mtwara MC) Dar es Salaam (Temeke, Kinondoni, Ilala), Morogoro (Morogoro MC, Gairo), Pwana (Kisarawe, Bagamoyo), Tabora (Uyui), Kigoma (Kigoma), Geita (Nyan'hwale), Tanga (Korogwe, Mkinga, Tanga), Dodoma (Dodoma MC) and Pwani
Nitrate *(168-347 mg/L)*	Mwanza (Magu, Sengerema,),Geita (Nyang'hwale), Singida (Ikungi, Iramba, Manyoni, Singida, Singida MC), Tanga, Iringa , Dodoma (Bahi, Chamwino, Chemba, Kondoa), and Dar es Salaam (Temeke, Kinondoni)
Sulphate	Mtwara, Dodoma and Morogoro
Iron (2-26 mg/L)	Mtwara (Mtwara MC, Tandahimba) Shinyanga, Mara (Serengeti), Kigoma (Buhigwe), Lindi (Liwale, Kilwa, Coast (Kisarawe), Dar es Salaam (Kinondoni, Ilala, Temeke), Tanga (Handeni, Muheza, Mkinga) and Singida (Manyoni)
Manganese	Dar es Salaam (Kinondoni), Lindi (Ruangwa, Nachingwea,Kilwa, Masasi, Liwale, Mtwara (Nanyumbu, Makondeko, Nanyamba), Simiyu (Maswa, Bariadi) na Manyara (Kiteto), Kigoma (Kigoma MC, Kasulu, Buhigwe, Kibondo, Kakonko) and Tabora
Eutrophication	Lakes and Dams
Heavy Metal (Arsenic, Selenium, Copper, Cyanide, Nickel, Mercury and Lead	Near mining sites (Mara, Geita, Mwanza and Shinyanga)

Ambient water quality for some of the water bodies is presented below. Specifically, Lake Victoria water quality has been monitored for a long period of time. The results show pollution levels are on the decrease. Total suspended Solids and Total phosphorous were decreased in 2016 when compared with the exercise conducted in 2014.This might be caused by activities taking place in the lake catchment. Although the Ministry has managed to process the stated number of samples, more efforts are underway to further clarify the sampling locations and pollutions levels in the efforts to further inform the public on the surface and groundwater quality, eutrophic conditions and sediment loading rates into our major lakes and reservoirs.

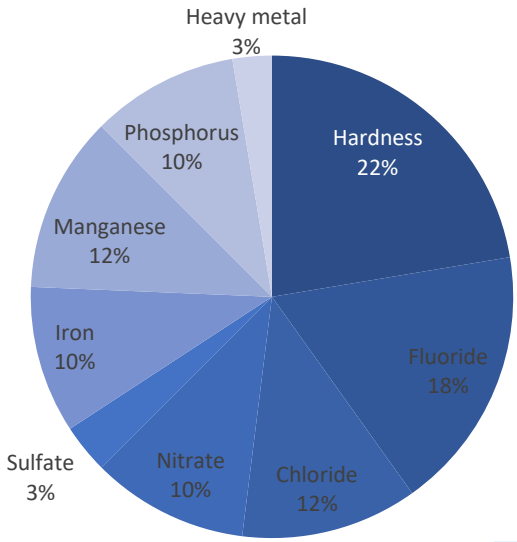


Figure 3-17: Percentage contribution to pollution of the assessed waters in the country

3.3.7 Improvements Made in Water safety compliance in Urban and Rural Areas

Regularly the Ministry assesses water safety compliance to the set physio-chemical and microbiological standards. As of reporting period 2015-2020, a total of 19,339 samples were collected and tested to reveal their compliance to Potable Water Specification: TZS 789:2016 – EAS 12:2014.

The Water Quality directorates reports that waters from the Urban Water Supply and Sanitation Authorities complied by 93.5% with the required standards for domestic purposes, while 6.5% were not complied with the standards for drinking water. Non-complience was noted to mainly originate from the high levels of chemical and bateriological parameters. The characteristic chemicals found in most of these waters include; Fluoride, Iron and manganese, while physical parameters of concern in most waters was Turbidity. However, the results revealed that WSSAs maintain high level of complience for the five years as shown in Figure 3-18.

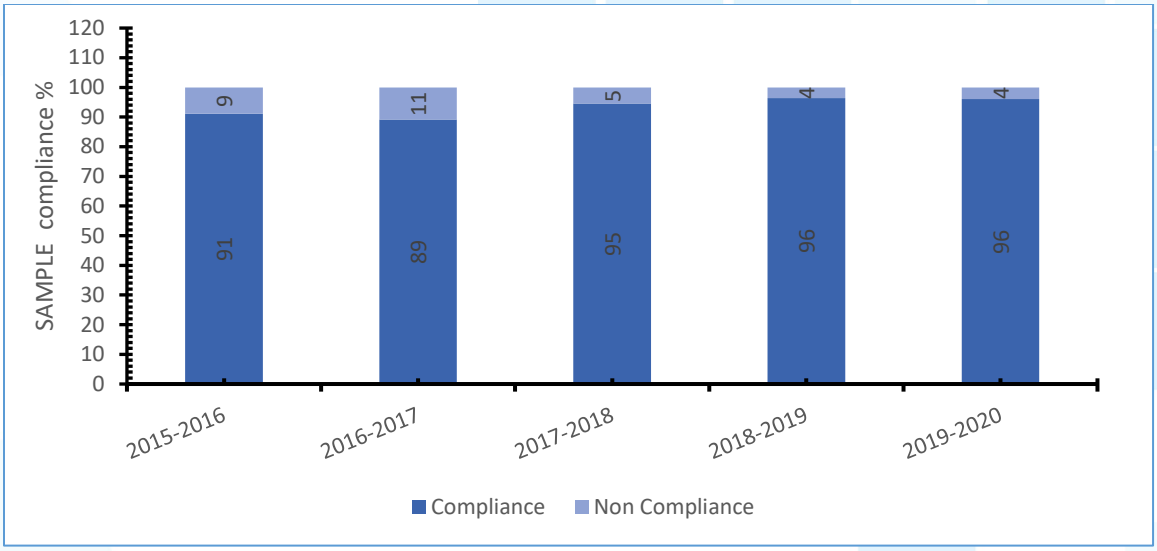


Figure 3-18: WSSAs Percentage Compliance of water Samples

The assessment of the compliance of Rural Water Supply (Local Government Authorities) to the Potable Water Specification: TZS 789:2016 – EAS 12:2014, 83.8%. It was noted that high levels of Hardness, Salinity, Chloride, acidity, Nitrate, Manganese, Fluoride, and Salinity are of main concern in Rural Water Supply. The analysis shows that the level of compliance for rural water projects was almost stable for the last two financial year (2018/2019 and 2019/2020) as shown in Figure 3-19. The situation signified that there are extra effort being applied to ensure that the comunities are provided with safe drinking water.

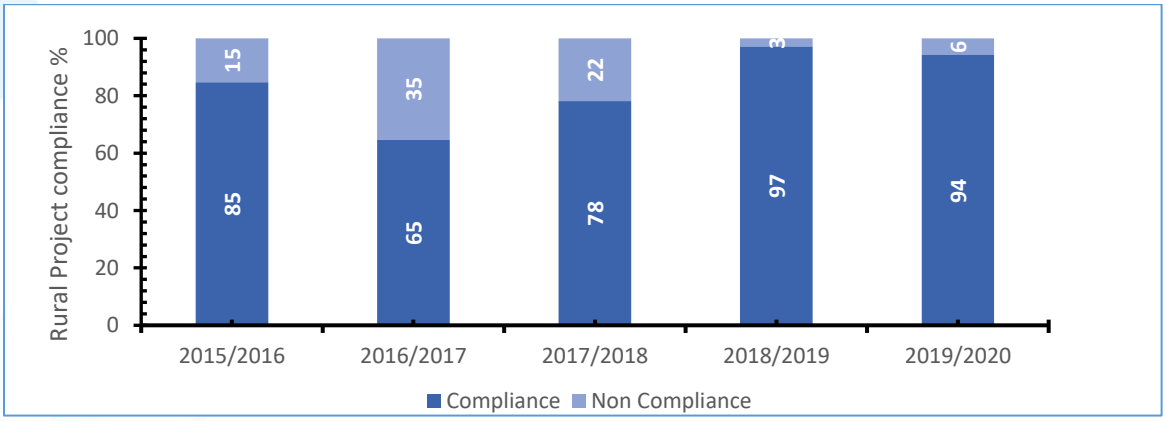


Figure 3-19: Rural water project Percentage Compliance of water samples

Other achievements made in the reporting period include the development and dissemination of a generic National Guideline for Monitoring Drinking Water Quality and Reporting to be used by all water supply entities in the country. Moreover, the Ministry has implemented a defluoridation strategy. This mainly targeted highly affected regions (fluoride belt). Main activities undertaken in this regard include; dissemination of successful findings on bone char technology defluoridation technology and and awareness creation on the use of technology as shown. During the reporting period, a total of 1,628 Household Defluoridation Units (HDU) have been distributed in Arusha and Manyara regions in the fluoride highly affected areas. Such a technology has benefited 13,024 citizens by providing them with clean and safe water. Currently, the research station continues with periodic monitoring of the performance of defluoridation units whereby 822 Household Defluoridation Units (HDU) in different areas and 10 Community Defluoridation Plants were inspected. This includes at times, periodic replacement of the media. On the other hand the research station constructed one Community Defluoridation Plant (CDP) at Mwedo Girls' Secondary School in Arusha Region (Figure 3-20) with the capacity of saving 600 students including school staff.

Figure 3-20: Mwendo Community Defluoridation Plant

Another initiative towards the same is the fluoride reconnaissance survey that was carried out in Arusha, Kilimanjaro, Singida, Shinyanga, Mwanza, Manyara and Geita regions. The survey involved a total of 2,594 water sources. The survey revealed high fluoride concentration in 1,067 water sources while 1,527 water source complied with stipulated Tanzania standards for Natural potable water (1.5mg/L). Figure 3-21 shows water sources compliance and non-compliance in each region.

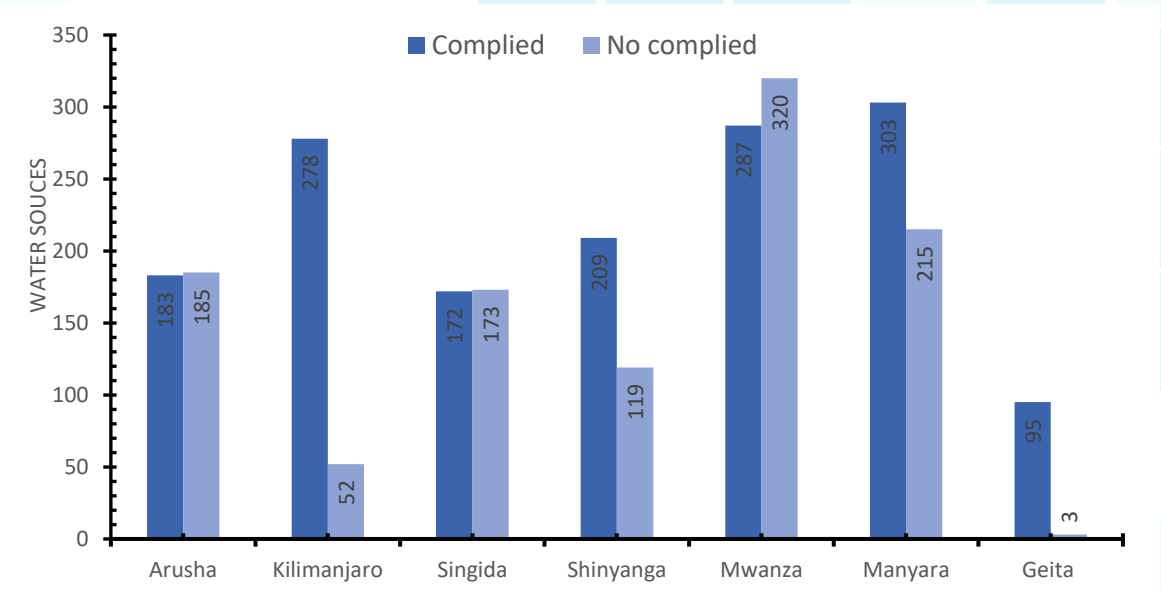


Figure 3-21: water sources compliance and non-compliance

i. Implementation of Climate Resilient Water Safety Plans

Another approach used by the Ministry in attempt to ensure the safety of drinking water supply is the implementation of Water Safety Plans (WSPs), which is a comprehensive risk assessment and management across the entire water supply chain, from the catchment to consumer. The MoW therefore coordinates the implementation of Climate Resilient Water Safety Plans (CR-WSPs) to ensure provision of clean and safe water by Water Supply and Sanitation Authorities and COWSOs. The implementation of CR-WSPs approach has already been piloted at Kigoma Water Supply Authority, Mbande COWSO in Kongwa District and Mkambarani COWSO in Morogoro District. Together with this, the MoW has developed guidelines for the preparation of CR-WSPs for both rural and urban water schemes. Capacity building for development of CR-WSPs for the selected schemes was undertaken and Mbande COWSO is in advanced stage of implementation whereby improvement of water source by drilling of boreholes is ongoing.

3.4 Management of Transboundary Waters Resources

Tanzania is riparian to several transboundary water bodies with neighboring countries (Table 3-12). Sustainable development and management of such transboundary water resources require cooperation, understanding and agreement among the riparian states, so that the waters can be equally beneficial to the riparian states. This is an international requirement for all states with shared water resources, guided by two major instruments i.e. the 1997 United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses

and the 1992 UN Convention on the Protection and Use of Transboundary Watercourses and International Lakes. These have already been domesticated in the region through the Treaty of East African Community and SADC Revised Protocol on Shared Watercourse Systems, 2000 (Tanzania ratified in 2003)., though, it is yet to be ratified in Tanzania.

A total of 14 transboundary water bodies exist in Tanzania *(*Table 3-13*),* including rivers and lakes. Each of these transboundary water sources are part of the nine available lakes/river basins in the country where seven out of the nine water basins are transboundary as indicated in Figure 3-22. The Ministry of Water has produced a detailed report on the *Benefits and Challenges of Transboundary Water Cooperation for Tanzania (2008/09 – 2018/19)*, which contains a more comprehensive assessments of these water resources. The achievements of Regional Cooperation in transboundary water resources management for Tanzania are as listed in Appendix 3.7. These include establishment of treaties, conventions or agreements and transboundary organizational frameworks such as joint bodies, joint mechanisms and commissions.

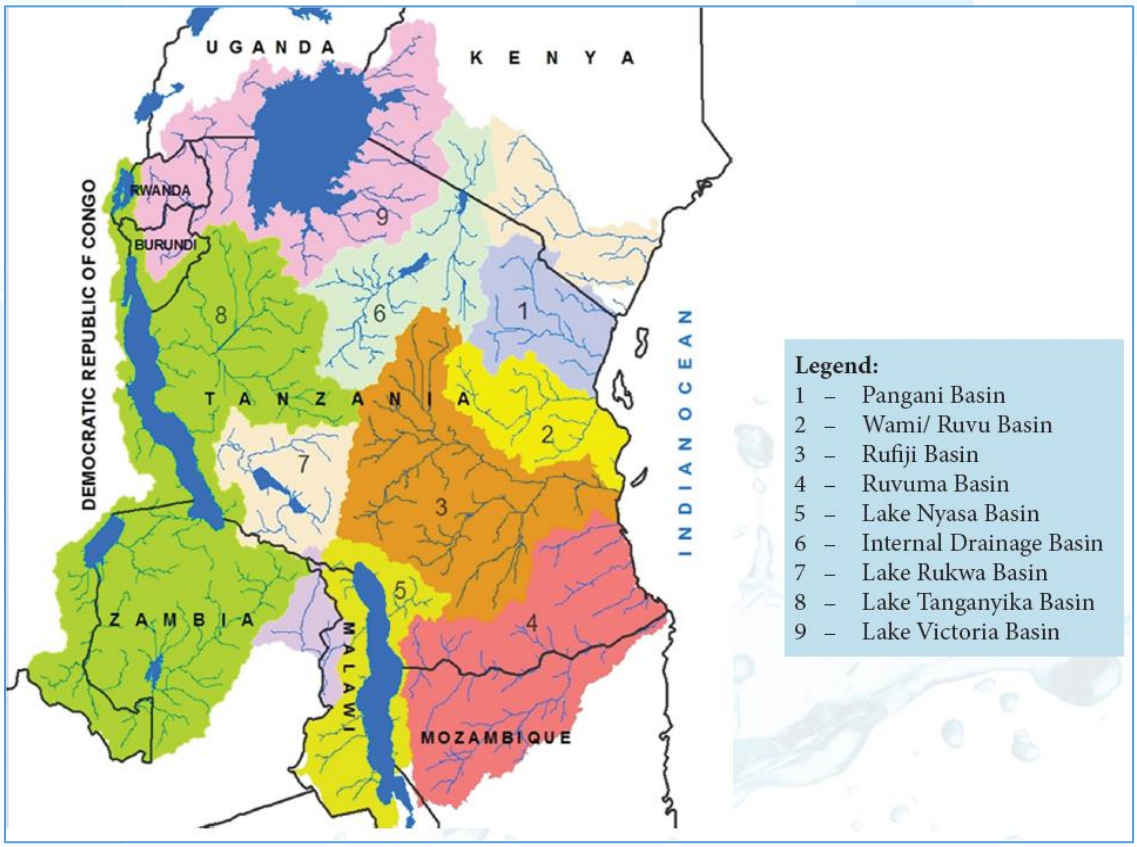


Figure 3-22: Transboundary Map of Tanzania

Table 3-12: List of riparian countries with their respective shared water resources

S/N	Country	Basin	Shared Water Source
1	Kenya	Lake Victoria	Lake Victoria and Mara River
		Pangani	Lake Chala, Lake Jipe, River Lumi, and River Umba
		Internal Drainage	Lake Natron
2	Uganda	Lake Victoria	River Kagera, and Lake Victoria
3	Rwanda	Lake Victoria	River Kagera
4	Burundi	Lake Victoria	River Mwiruzi
5	Malawi	Lake Nyasa and Songwe Basin	Lake Nyasa, and Songwe river
6	Mozambique	Ruvuma	River Ruvuma
7	Zambia	Lake Rukwa	River Momba
8	DRC	Lake Tanganyika	Lake Tanganyika

Table 3-13: Land mass in the hydrologic basins for the shared water bodies and the percentage share of Tanzania

SN	Source	Riparian Countries	Area (km^2)	% of water body Area in Tanzania
1	Lake Nyasa	Tanzania, Mozambique and Malawi	33,457	24
2	Lake Natron	Tanzania and Kenya		100
3	Lake Tanganyika	Tanzania, Burundi, Democratic Republic of Congo, Rwanda and Zambia	32,600	41
4	Lake Victoria	Tanzania, Kenya and Uganda	68,800	51
5	Lake Chala	Tanzania and Kenya	4.2	50
6	Lake Jipe	Tanzania and Kenya	30	50
7	Kagera River	Tanzania, Burundi and Rwanda		
8	Mara River	Tanzania and Kenya	13,504	35
9	Malagarasi River	Tanzania and Burundi		
10	Momba River	Tanzania and Zambia		
11	Mwiruzi River	Tanzania and Burundi		
12	Umba River	Tanzania and Kenya		
13	Ruvuma River	Tanzania and Msumbiji	155,000	37.3
14	Songwe River	Tanzania and Malawi	4,243	55

Table 3-14: Transboundary institutions for which Tanzania is a member to.

S/N	Institution	Member States	Quantity	Percentage of Area in Tanzania	Remarks
1	Zambezi Watercourse Commission (ZAMCOM)	Tanzania, Angola, Botswana, Malawi, Mozambique, Namibia, Zambia and Zimbabwe	8	2	Despite small are of Tanzania yet its water contribution to the Zambezi flows is 60%. ZAMCOM is based in Harare-Zimbabwe
2	Nile Basin Initiative (NBI)	Tanzania, Burundi, Rwanda, Jamhuri ya Kidemokrasia ya Kongo, Kenya, Uganda, Ethiopia, Misri, Sudan, Sudan Kusini, na nchi ya Eritrea ambaye ni mtazamaji	11	3.7	Tanzania contributes 28% of Transboundary Waters in Lake Victoria which is the source of Nile flows. NBI is based in Entebbe, Uganda.
3	Lake Tanganyika Authority (LTA)	Tanzania, Burundi, Jamhuri ya Kidemokrasia ya Kongo na Zambia	4	41	Hosted by the office of Vice President Division of Environment. Located in Bujumbura.
4	Lake Victoria Basin Commission (LVBC)	Tanzania, Burundi, Kenya na Rwanda, Uganda	5	51	The organization is anchored in the Treaty of East African Community
5	Africa Ministers' Council of Water (AMCOW)		55		This is AU specialized Technical Committee based in Abuja, Nigeria.
6	Songwe River Basin Commission	Tanzania na Malawi	2	55	Located in Kyela-Tanzania
7	Ruvuma River Basin Commission	Tanzania na Msumbiji	2	34	The commission is oin rotation basis, has no permanent secretariat.

3.5 Water Related Disasters in Tanzania

Tanzania's main water related disasters are drought and floods, that are principally caused by occurrence of extreme weather events aggravated by the ever-increasing anthropogenic pressure on landuses. A number of extreme weather events have been recorded in Tanzania. . Major floods reported in Tanzania in the recent past include the 1997/98 El Nino floods, 2006, 2010/11, 2014 and 2016 floods. On the other hand, of the grievous droughts reported is the prolonged drought of 1998-2005 (Kijazi & Reason, 2009). In almost all instances, the most vulnerable regions in Tanzania are Morogoro, Dodoma, Dar Es Salaam and Katavi while other flood-prone regions are Mtwara, Arusha, Iringa, Tanga, Pwani, Mbeya, Kigoma and Lindi.

Of the Basins in Tanzania, Wami/Ruvu has faced frequent and severe floods that affect many lives negatively. This is mainly due to high population residing in the basin floodplains, including the urban and peri-urban areas of Dar es Salaam and Morogoro. Kilosa district in Morogoro region, for-instance, has a history of frequent flash floods, dating back to 1930's, notably emanating from Mkondoa River floodS (Tanzania Red Cross Society, 2014). The 2016 flood within Wami-Ruvu basin is suspected to have claimed the lives of 5 people, destroyed 315 houses, and damaged central railway that runs through the floodplains of Kilosa and rendered it unusable. In Dar es salaam region, notable flood events include those experienced in 1997/1998 El- Nino, 2011, the March 2014 and 2016 floods that inundated the coastal and the floodplains of the city. Recurrently, these floods claim the lives of the residents. The December 2011 flood, for example, claimed 40 lives in Dar es salaam while 4,909 people were displaced, while the 2014 flood claimed the lives of 25 people in DSM alone ((Salukele & Chale, 2017).

Other reported cases of flood-associated damage to people, properties and other socio-economic activities include;

- Destruction of 70 houses and displacement of at least 400 people from Dodoma municipality following 17 and 18 January 2016 floods.
- Tremendous crop damage and the associated crop failures due to 2016 El-Nino, as reported in the FAO, Feb 2016 report ((Mokonnon, 2018).
- Displacement of thousands of residents due to 2009-2011 floods in the areas of Muleba, Kilosa, Same and Dar es Salaam
- 2009/2010 floods in Kilosa (Morogoro), Mpwapwa and Kondoa (Dodoma) where more than 50000 people were affected, 5100 hectares of crops were destroyed

Tanzania has also faced few drought events. In 2006, a severe and prolonged drought was reported to affect various areas of the country, caused by short-rains failure. Similarly, in 2008, the rains were reportedly to be shorter than normally experienced followed by another anomalous lack of rains in 2009 which triggered drought across the country. The recorded drought between 1998 and 2005 affected more than 75,000 people (Kijazi & Reason, 2009).

The global EM-DAT database shows that Tanzania record drought events between 1960's and 2013 occurred in 1967, 1977, 1984, 1988, 1990, 1996, 2003, 2004, 2006 and 2011, all of which affected at least 12,737,483 people.

Generally, the water related natural disasters in the country have both socio and economic repercussions. The UN country brief, reports that, just between 1989 and 2011, over 5.4 million lives were affected while there were 300,000 USD worth economic damages in 1990 and 400,000 USD in 2006 (Water, U. N. , 2013). This calls for coordinated interventions between the MoW and disaster preparedness units in the Vice President's office.

3.6 Key Issues

Data and information System management

Notwithstanding country's vulnerability to water-related disasters outlined earlier, most basins have limited instruments in place for minimizing such risks. There is a need for prioritization of resilience to water-related disasters, investment in disaster risk management needs, especially flood warning systems need to be prioritized. This must be mandated under the Ministry of Water for effective implementation within all Lake and river basins**.** Since colonial era, there have been several efforts to build flood controlling structures like levees and reservoirs in Kilosa, some of which have already failed (Ringo, 2018). More efforts to support ongoing initiatives to reduce flood vulnerability needs to be carried out.

Despite the progress made as outlined earlier with regard to monitoring the state's water quality, the Ministry recognizes the importance of more comprehensive water quality assessment campaigns to ascertain the status and trends of water quality in all waters, pollution loading to water sources and the extent to which the water quality has deteriorated with respect to its usability. Moreover, more numerous and continuous water quality monitoring stations need be established in lakes and dams. This however, is a resources intensive exercise and needs to properly planned. The Ministry understands that the audience would have benefited from a more elaborate data showing specific parameters that are prevalent the ambient waters of the country, the total length of rivers affected and total volumes of lakes and reservoirs for which parameters are prevalent. This assessment is currently being planned and would be reported in upcoming reports. In future the Ministry also intends to report on their routine sampling schedules, sampling strategy and frequency.

The Ministry has made numerous efforts towards groundwater resources monitoring. However, there is a need to have a more comprehensive plan to install more piezometric observation stations, in almost all the basins with clear plans for sustainability of these monitoring networks.

4 CHAPTER FOUR | WATER SUPPLY AND SANITATION

While the Ministry responsible for Water is legally mandated and politically accountable to oversee, lead, direct and coordinate the entire water sector, the management and supervision of different sector components are assigned to different Ministries, management structures, administrative bodies and quasi-independent institutions within and without the Ministry.

Management-wise, the Water Supply and Sanitation Services are grouped into two; provision of services in urban areas and rural areas. The Urban Water Utilities are responsible for the management of water supply and sanitation services in all Regional centers, District headquarters and Township centers. RUWASA on the other hand, is responsible for the management of water supply and sanitation services in all areas outside the boundaries of Regional centers, District centers and Township centers. However, there are cases where urban centers (Traditionally under respective Urban Authorities) are placed under the supervision of RUWASA for enhanced efficiency and effectiveness.

Although the entire sector budget is controlled and accounted by the Ministry of Water, the health and hygiene part of sanitation is practically implemented by the Ministries responsible for Health and Education with specific focus on households, open public areas, health facilities, schools' environment and other sanitation-sensitive public facilities and service areas.

In the recent past, the rural water supply and sanitation services were technically and financially managed by the Ministry of water while disciplinary and supervisory powers were entrusted to the Local Government Authorities under the armpits of the Ministry responsible for Regional Administration and Local Government Authorities (PO-RALG). RUWASA is a creation of Water Supply and Sanitation Act No. 5 of 2019 that was enacted to enforce the latest water sector reforms undertaken by the Government to address, among other issues, recessing service sustainability in the Rural Water sub sector. It takes over service management, supervision and implementation powers previous exercised by the Ministry of Water, President Office-Regional Administration and Local Governments and Local Government Authorities respectively.

CHAPTER SYNOPSIS

Water Supply

- Completed Projects: 3,057 (June 2015) and 4,200 (Dec. 2019)
- Total Water Points: 110,000 (June 2015) and 139,000 (Dec. 2019)
- Rural Water Service Coverage: 48% (June 2015) to 70% Dec. 2019
- Urban Service Coverage: 72% (June 2015) to 85% (Dec. 2019)
- Urban Water Connections: 989,548 (June 2015) to 651,901 (Dec. 2019)
- Urban access to clean/safe water: 7,047,049 (2015) to 11,858,246 (2019)
- WSSAs Production/Demand (mill.m^3/year): 285/554 (2015) to 369/625 (2019)

Sustainability Issues – Water Supply

- Rural Functional Water Points: 88,000 (June 2015) to 97,000 (Dec. 2019)
- Rural Non-functional Water Points: 20% (June 2015) to 30% (Dec. 2019)
- Urban Non-Revenue Water: 20.1% (June 2015) to 30.2% (Dec. 2019)
- Registered CBWSOs: 1,236 (June 2015) to 3,236 (Dec. 2019)

Sanitation Status

- Sewerage Services Coverage: 10% (June 2015) to 13.4% (Dec. 2019)
- Households (H/H) with improved toilets: 36% (June 2015) to 57% Dec. 2019
- H/H with hand washing facilities/Soap: 13% (June 2015 to 21% (Dec 2019)
- Villages/Mitaa without any toilet = 7.5% (June 2015) to 2.5% (Dec. 2019)

4.1 Water Supply Services

4.1.1 Institutional Service Delivery Framework

The Water Supply Services main focus is water resources for domestic use including drinking and household chores. It specifically refers to water accessed from developed or improved a water sources within the definition of National Water Service Standards, National Five Years Development Plan and Sustainable Development Goals. The Ministry of Water is responsible for ensuring that the policy, legal and sector service standards are conveniently placed to fan a conducive and supporting environment for sector growth and prosperity. The Ministries responsible for Health, Education and the President's Office-Regional Administration and Local Government provide specific policy, legal and oversight support in areas that cannot be done better by other institutions given the current Government set up.

At delivery level, Water Services at Regional headquarters, Districts headquarters and Township centers are managed by semi-independent Urban Water Supply and Sanitation Authorities. Led by Boards and Management teams, each Authority plans, budgets and implements annual pro-service delivery interventions to achieve set and agreed targets

towards set and agreed Objectives in respective service jurisdiction. The Ministry follows up, monitors, supports and regulates the operations of these authorities both directly and through EWURA, an official Government Regulatory Authority for all Energy and Water Utilities.

Authorities are categorized into classes on the basis of abilities levels to provide service and maintain the costs of running the institution from the proceeds of the charged services. To promote growth and improvement in service delivery, authorities are constantly evaluated and gauged against service efficiency, effectiveness and sustainability. Evaluation resultant measures may be changes in ranks up or down and, in rare cases, putting a Utility under the supervision of another Authority within the sector.

On the other hand, the Rural Water Service delivery is managed by Rural Water Supply and Sanitation Agency (RUWASA). Unlike in urban water service delivery setting where each service area has its own authority, there is only one national wide authority in rural water service delivery. RUWASA service provision and operation set up is composed of supervisory and delivery structures at different levels. The Board and the National Management team are based in Dodoma with supervision offices in Regions and implementation offices in Districts. The service outlets are managed by the community-based institutions (CBWSOs) formed by respective villages under the supervision of RUWASA and Local Government Authority in the subject area. RUWASA Districts Offices are legally mandated to register, support and regulate all CBWSOs within their service boundaries.

The sector management reforms as effected by Water Supply and Sanitation Act Na.5 of 2019 has opened an opportunity for a transformation in governance and operation modalities in Community Water Service management. The law requires formation of a nine members Water Committee composed of individuals from the government offices, service institutions and private sector. The law also requires the Water Committee to recruit a Management Team with a professional team leader and professional treasurer to run the service delivery related day to day activities. Learning from the operational challenges before reforms, the law encourages different CBWSOs to merge and operate services of several villages through one organization to enhance service effectiveness and nail economies of scale in operation costs. The idea is that a merged CBWSO stands a higher chance of attracting a private operator whose added advantage should be reflected in service efficiency and assured continuity. RUWASA is tapping on this opportunity and optimizing on the envisaged reforms' expectations.

4.1.2 Status of Rural Water Supply Service Delivery

The overall objective of Rural Water Supply and Sanitation (RWSS) is to improve the provision of clean and safe water supply service and promotion of improved hygiene and sanitation services in rural areas through Rural Water Supply and Sanitation Agency (RUWASA).

Specific objectives include; Water supply services in rural areas improved; Rural water supply projects are cost effective and sustainable; Rural Water Supply projects are owned and managed by beneficiaries and backstopped (technically and financially) by RUWASA

initiatives for sustainable services and Sanitation, operation and maintenance are integrated in the design of rural water projects.

The WSDP II set target by June 2019 was to install a total of 76,334 water points serving a total of 19,080,000 people in rural areas, thereby increasing the access percentage from 51% in June 2014 (77,584 water points, serving 19,395,697 beneficiaries) to 80% (153,918 water points, serving 38,475,697 beneficiaries) by June 2019. The target breakdown is as follows;

Table 4-1: WSDP II Targets 2014/2015 to 2018/2019

s/n	Intervention Area	Target	Number of People
1	Construction of New Water Points	38,759 Water Points	9,644,750
2	Rehabilitation of Nonfunctional Water Points	19,889 Water Points	4,972,250
3	Service extension of existing infrastructure	17,686 Water Points	4,463,000
4	**Total June 2014 to June 2019**	**76,334**	**19,080,000**

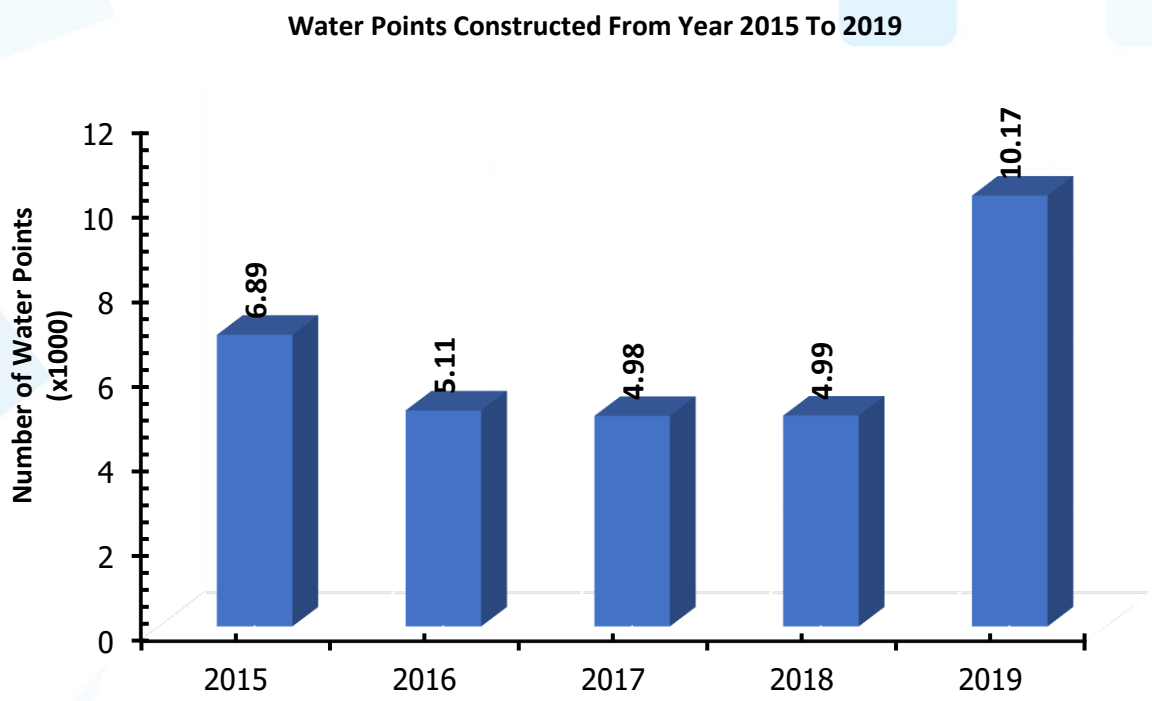


Figure 4-1: Total Number of Water Points Constructed per each Year from 2015 to 2019 (Source: RUWASA-CDMT Monthly Reports 2015 - 2019)

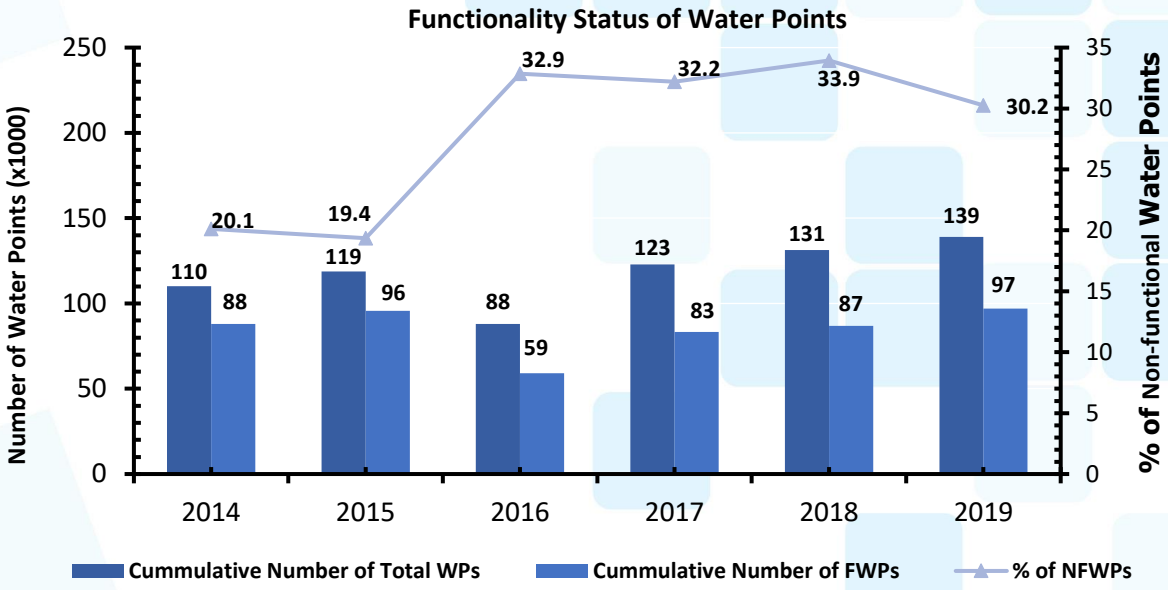


Figure 4-2: Trend of Cumulative Number of Total Water Points, Functional Water Points and Percentage of Non-functional Water Points From year 2014 to 2019 (Source: RUWASA-CDMT Monthly Reports 2015 - 2019)

While the WSDP II target for Rural Water services was to increase a total 76,334 water points by June 2019, official Rural Water Supply and Sanitation Agency (RUWASA) reports indicate that the total number of Water Points from construction, extension and rehabilitation interventions reached only 32,133 by December 2019, even six months later after the cut off target line. This means that, the achievement is slightly above one third of the set target.

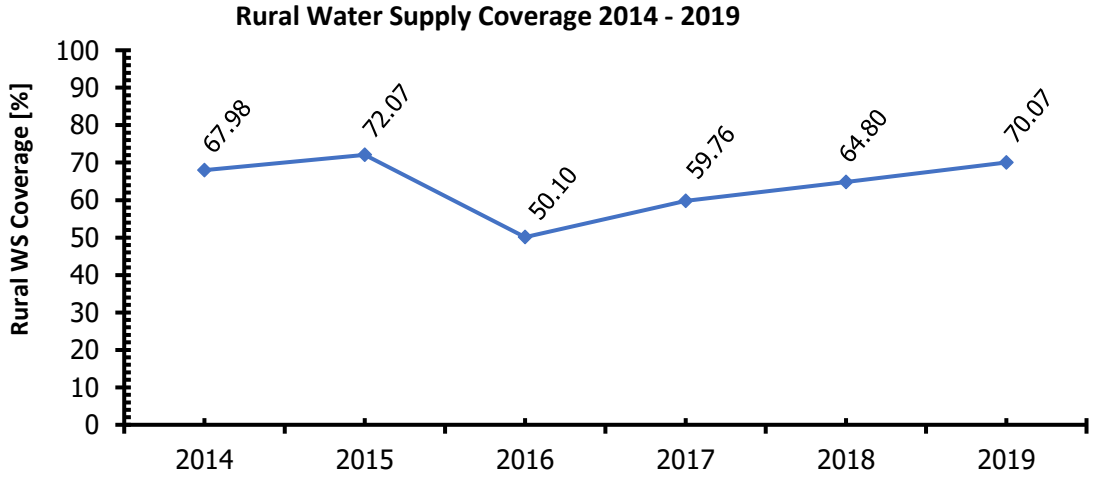


Figure 4-3: Access to Rural Water Supply Services from year 2014 to 2019 (Source: RUWASA-CDMT Monthly Reports 2015 - 2019)

Looking at WSDP II target, water supply coverage was expected to increase by an average of 6% per year from 51% to 80% between June 2014 to June 2019 respectively. This ambitious target is also reflected in the set target for number of water points in the same period. Unfortunately, the service coverage that was recorded six months past the target end line (December 2019) indicated to be around 70% against a set target of 80% coverage by June 2019.

Although these numbers invite an interpretation of poor performance, in reality the period between July 2015 and December 2019 marks a fundamental shift in Water Points data protocol and information processing management. It is within this time when a Central Data Management Team (CDMT), an exclusive rural data collection and management team was formed in the Ministry of Water.

The CDMT was mandated to manage the Water Point Mapping System (WPMS) which is the official rural water service data management system. In order to fill some identified performance and flexibility gaps within the WPMS, the team introduced a CDMT Data Manager, a supplementary tool with flexibility to conveniently capture data and information for indicators beyond but related to Water point functionality.

To establish the authenticity of the data in the system, the team embarked in a data cleaning exercise that resulted into removing a big number of water point that were being counted wrongly because of inappropriate data interpretation methods which included obsolete water points and double counting some data. The removal of wrongly counted water points and separation between investment water points and functional water points caused a serious drop in the number of water points *(Figure 4-3)* from an assumed coverage of 72% in 2015/16 to real coverage of 50.10% in 2016/17.

Therefore, the service coverage data from 2016/17 to December 2019 reflects actual functioning water points within the definition of National water sector service standards. Logically, the coverage in actual progression is beyond the set target of 85% by 2020 which has already been achieved given the fact that it is already 70% by December 2019. This is so because without the data cleaning exercise in 2016/17 that removed 22% of the assumed coverage, then the coverage by December 2019 is already 92%; six months before June 2020, the target line of 85%. In this case, therefore, the functional coverage in June 2015 was supposed to read 48% and the actual implementation progress in terms of coverage has increased from 48% in June 2015 to 70% as of December 2019.

Even with the cleaned data which mirrors the service situation on the ground, the 70% coverage is a big leap. With rehabilitation and extension interventions currently going on in the Districts under RUWASA management, it is likely to hit the 85% coverage target in the rural water service sub sector.

4.1.3 Non-Functional Water Points

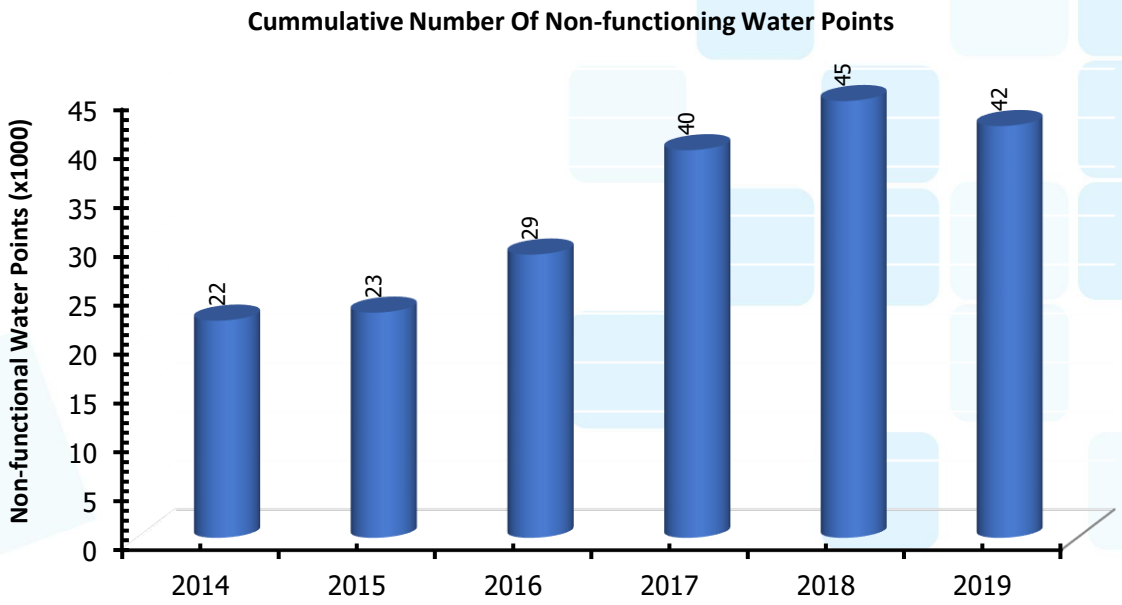
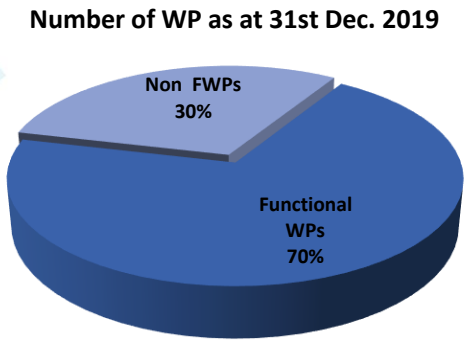


Figure 4-4:Trend of Non-functional Water Points from year 2014 to 2019 (Source: RUWASA-CDMT Monthly Reports 2015 - 2019)

The graph above is a simple description how operation and maintenance is a challenge to reckon with. It adds up to the compromised rural water service sustainability.



While appreciative of the Government efforts to invest in the water supply service as records in the previous graphs indicate, it is worth noting that out of the cumulative total 138,987 water points as of December 2019, a total 42,035 water points, which is one third of all water points, are not functioning.

Figure 4-5: Total Number of Water Points (Source: RUWASA-CDMT Monthly Reports 2015 - 2019)

It is obvious that the number of non-functional water points increases with the increase in the number of constructed, rehabilitated and extended water points. It is tempting to allege that the designing, budgeting and implementation approach have not changed which means the

expectations in achievement over the last four years should not be less of what is being seen. Certainly, this is one of the main reasons that motivated the current sector changes in rural water service management and this is an area deserving due attention from RUWASA strategies and plans.

4.1.4 Community Service Management and Sustainability

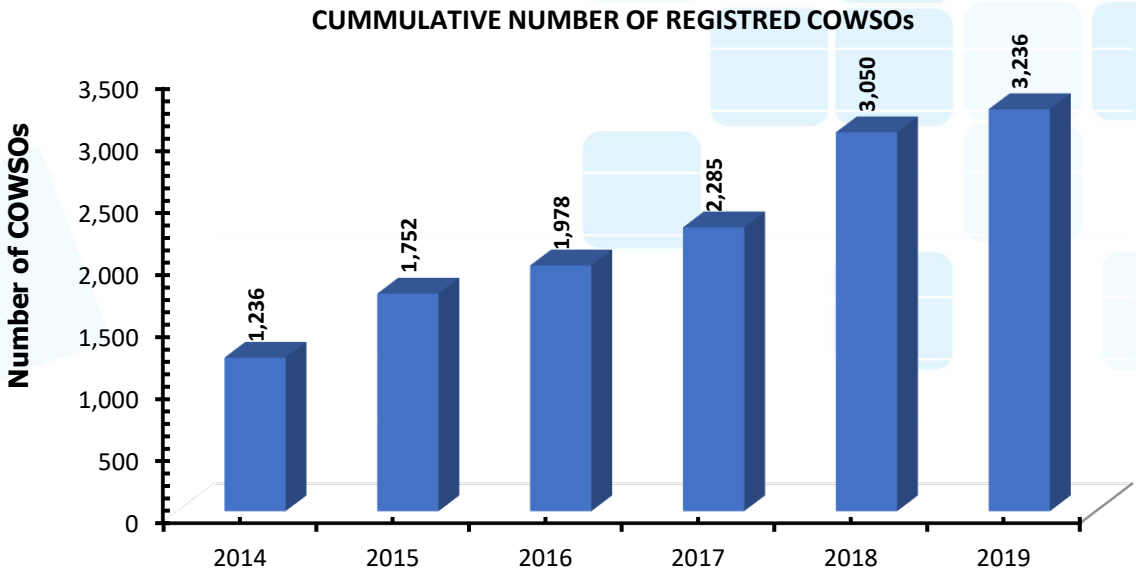


Figure 4-6: Trend of Number of Registered CBWSOs (then COWSOs) from year 2014 to 2019 (Source: RUWASA-CDMT Monthly Reports 2015 - 2019)

One of the biggest challenges in rural sub sector progression is undeserved attention accorded to community service management. Despite the fact that this is the last point in the service outlet chain, there has been very little investment in time, human and financial capital. As a translation of Water Policy and relevant guidelines on the importance of ensuring community ownership in service provision, WSDP I implementation guidance documents insisted and facilitated immediate hand over of all constructed projects to CBWSOs (the then COWSOs). While the intention to involve and solicit community participation was good, the packaging of implementation fell short. The Projects were handed over to COWSOs that were formed and led by individuals with little or no skills and exposure to run services and or organization, hence the organizational stagnation and worsening of services.

In appreciation of this implementation performance gap in WSDP I, the design and implementation of WSDP II committed to facilitate the strengthening of CSOs capacity to sustainably manage community water services. Improvement measures included finalizing the National Rural Water Supply and Sanitation Sustainability Strategy and its implementation plan, COWSOs Leaders Training Manual, thematic COWSOs Management Guidelines,

Standard Operating Procedures and corresponding series of COWSOs leadership trainings that were carried out by the Ministry of Water in collaboration with PO-RALG. This move triggered motivations to formalize organizations, register and improve community service delivery supervision and management. The increased number of formed and registered CBWSOs in the *(Figure 4-6)* influenced the moderately steady growth of Water Points and slight decrease in number of non-function water points.

With revolutionization of community water service management as backed up by the Water Supply and Sanitation Act No. 5 of 2019; especially the professionalization and commercialization of management and services respectively, it is expected that the functional water points will sharply increase and non-functional water point numbers will dive drop.

It is also worth mentioning and appreciating the role played by different development partners who supported generic and specific interventions focused at enhancing sustainability of rural projects and services. Specific pro-sustainability programs and schemes on the ground includes but not limited to DFID funded Payment by Result Scheme (PbR) and the World Bank funded Program for Results (PforR). As part of implementation of the sector reforms, RUWASA is currently facilitating and supporting, re-registration of CBWSOs to conform to the latest legal requirements and encourages CBWSOs to operate in clusters and involve private sector in operation and maintenance of services. Directives and guidance to that effect have been issued and will continue to be issued as and when necessary.

4.1.5 Status of Urban Water Supply and Sanitation

The overall objective of the Urban Water Supply and Sanitation component is improved and sustained quality and quantity of water supply and sanitation services for urban populations managed by financially autonomous and commercially viable Urban Water and Sanitation Authorities (UWSAs) while providing efficient and cost-effective services

Specific objectives include; Households, businesses and institutions connected with 24 hours water supply services; WSSAs are able to finance operation and maintenance costs for sustainability of infrastructure, assets and services; and operating costs minimized; WSSAs are able to finance a significant part of their new investments from loans; and have improved sewerage systems as part of an overall sanitation strategy for each town; Appropriate lifeline tariffs as per National Water Policy directions are set, and free water using agreed criteria is provided to the most poor; Good customer relations are established and operational; Non-Revenue Water (NRW) is significantly reduced and Modern billing systems as a prudent measure to improve billed revenue collections are used in all WSSAs;

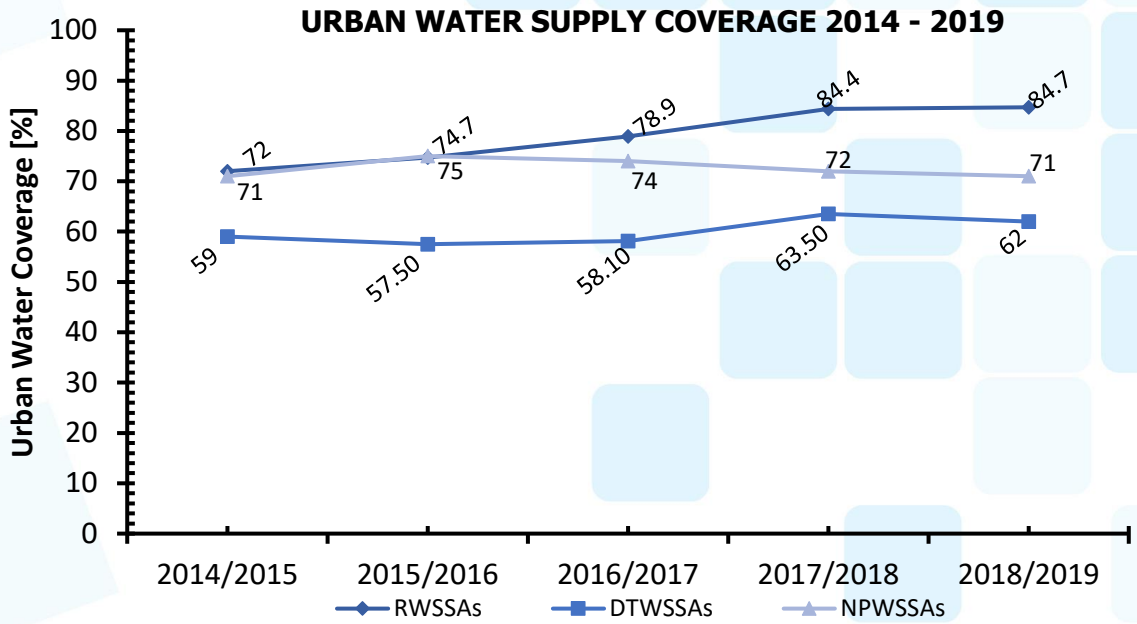


Figure 4-7: Access to Urban Water Supply Services from year 2014 to 2019 (Source: Water Utilities Performance Review Reports 2014/2015 – 2018/2019)

Although not to the targeted and expected pace, the urban water service appears to have been growing in terms of number of constructed projects, number of connection and water production. It seems the speed of construction and connection is overwhelmed by the higher speed of population growth in urban centres.

The sharp increase in percentage of access in Regional Water Supply and Sanitation Authorities from 2016/17 to 2017/18 (refer figure 4-7) may be attributed to increased production in Dar es Salaam and the Authorities benefitting from Lake Victoria sourced water. Rehabilitation of service network and investment to the clustered areas and cleaning of data on the number of connections may be the main reasons for sudden stagnation and drop in access percentage between 2017/18 and 2018/19.

Table 4-2: Target of WSDP II for Urban Water Supply Services

N	Intervention Area	Base 2014/2015	Target 2018/2019
1	Increase Water Access	68 %	95%
2	Increase Water Production	300 Mil. Ltrs/day	756 Mil. Ltrs/day
4	Increase service beneficiaries	1,750,000	6,100,000
5	Decrease Non-Revenue Water	55 %	25%

4.1.6 Regional WSSA

WSDP II set target for Urban Regional Centres was to provide water supply services to 2,000,000 new beneficiaries in the 23 Urban Regional Centres through 200,000 Household water connections; thereby increasing access from 80 percent in December 2013 to 98 percent by 2019; and reduce Non-Revenue Water from 37 percent to 25 percent.

Table 4-3: WSDP II Targets for Regional WSSAs

N	Intervention Area	Base 2014/2015	Target 2018/2019
1	Increase Water Access	80 %	98%
2	Decrease Non-Revenue Water	37 %	25%

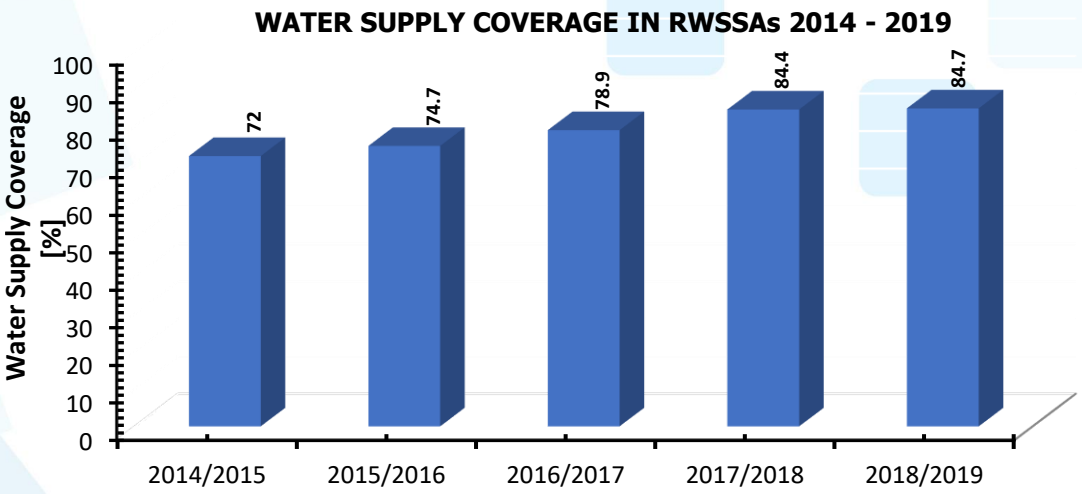


Figure 4-8: Access to Water Supply Services in Regional Water Supply and Sanitation Authorities (Source: Water Utilities Performance Review Reports 2014/2015 – 2018/2019)

From EWURA data on service progress, Dar es Salaam seems to have been enjoying a steady growth in service access levels with a sharp increase between 2015/16 and 2016/17 and a stable steady increase of 5% per year from 2016/17 to 2018/19. With this pace, it is predictable for Dar es Salaam to hit the 95% target by June 2020. It may prove to be a good idea to encourage other Authorities, especially Regional centres authorities with advantage of wider customer base, to learn from DAWASA.

Dar es Salaam aside, other Regional Authorities are averagely struggling to keep up with both increase in urban population and maintaining their dilapidated distribution network infrastructures that have been put to test after increase in water volume from completed Regional and National projects. The stagnant growth in access is well supported by the

adamant and unpredictable changes in average levels of non-revenue water in Regional Centre Authorities.

4.1.7 National Projects, District/Small Towns WSSAs

WSDP II set target for National Projects, District Headquarters is to provide water supply services to 1,100,000 new beneficiaries in District Headquarters, Townships and areas served by National Projects through 110,000 Household water connections; thereby increasing the access percentage from 53 percent in 2013 to 65 percent by 2019.

Table 4-4: WSDP II Targets for National Projects & District/Small Towns WSSAs

N	Intervention Area	Base 2014/2015	Target 2018/2019
1	Increase Water Access	53 %	65%

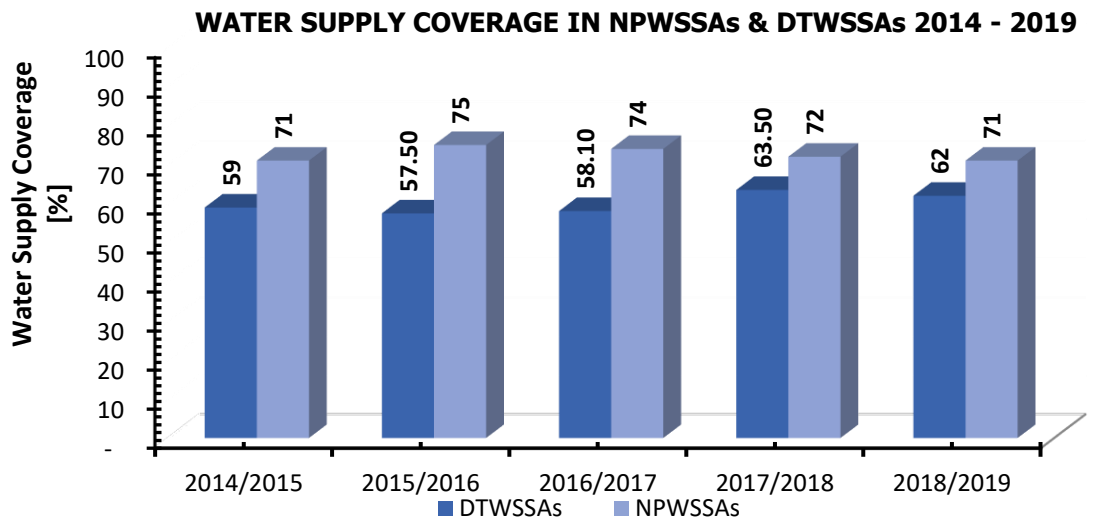


Figure 4-9: Access to Water Supply Services in District/Small Towns and National Projects Water Supply and Sanitation Authorities (Source: Water Utilities Performance Review Reports 2014/2015 – 2018/2019)

Looking at the trend of decrease and or stagnation of service accessibility data as indicated in the graph above *(Figure 4-9)*, it becomes easy to understand and explain the logic in some of the steps taken by the Government through the Ministry of Water. Recently, a number of Urban Authorities in Districts and Townships have been clustered and placed under the supervision of either strong Regional Authorities or the newly formed RUWASA because of their inability to run the service and the institution. It appears most of the wailing authorities were formed prematurely or out of social political pressure which did not allow ample time for objective analysis of continuity and stability of organization and service operations.

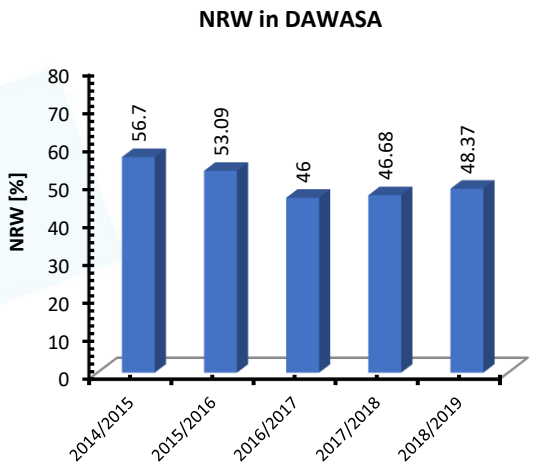
Learning from this shortcoming, the Government have taken a bold decision to put all economically weak but potential Authorities under the supervision of Stronger Urban

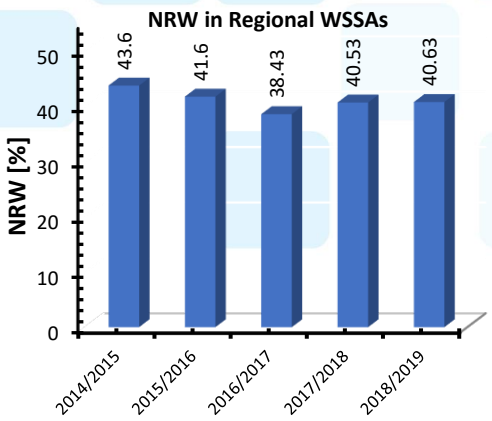
Authorities or RUWASA. These Authorities will operate under incubation until such time when supervising authorities are convinced that the same have graduated to operate independently.

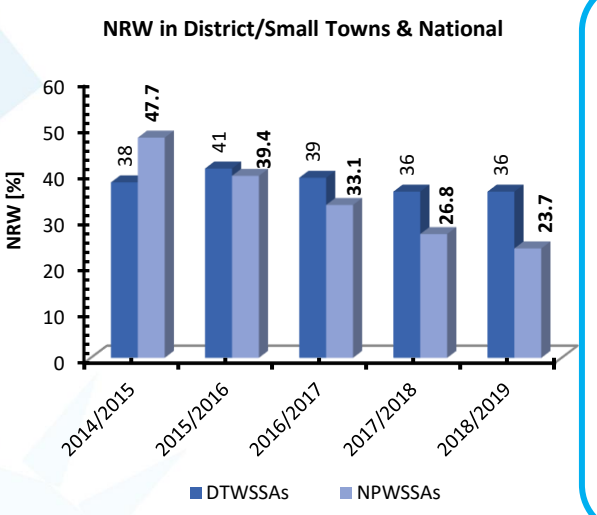
4.1.8 Non-Revenue Water

Table below gives a summary on the trend of average NRW combined for all water utilities below

2014	2015	2016	2017	2018	2019
20.1%	19.4%	32.9%	32.2%	33.9%	30.2%







This Non-Revenue Water trend is an average representation of all Urban Water Authorities in the mainland Tanzania. It is worse in Regional Utilities where Authorities like DAWASA is losing almost half of the production. The average is alarmingly high and unhealth for both organization economic growth and improved and affordable service delivery. The individual groups levels of non-revenue water as depicted in graphs below proves the seriousness of the problem. This situation was noted in the WSDP II document four years ago and was placed as one of the areas that needed redress measures on the part of Urban Utilities. In reality, although the trend of new connections, service coverage is promisingly good, the rate of decrease in non-revenue water is not encouraging.

Figure 4-10: Trend of NRW in Water Supply and Sanitation Authorities (Source: Water Utilities Performance Review Reports 2014/2015 – 2018/2019)

4.1.9 Infrastructure Development and Functionality Status

i) Rural service infrastructures

This sub component has three intervention areas, which include new project development, rehabilitation of non-functional projects and extension of projects to install water points in areas previously not covered by the scheme services (in coordination with Basin Water Boards)

Table 4-5: Number of Completed Rural Water Supply Projects from 2015/2016 to December 2019

	2014/15 Baseline	2015/16	2016/17	2017/18	2018/19	July-Dec 2019	2015/16 to Dec. '19
Number of Completed Projects	3,057	338	265	344	166	30	1,143

(Source: RUWASA)

Table 4-5 indicates total numbers projects completed per year and cumulative five years number of projects constructed so far. There is a drop in the number of completed projects in 2018/19 after completing a sizeable number of projects in three years. It is possible that a big number of projects were finished between 2015 and 2018 because they were a backlog of WSDP I and facilitation by National Water Fund. It is also possible that the sudden shift of focus to service sustainability, attracted more funds for operation and maintenance. The graph below indicates the trend of increase in the number of water points constructed as a result of the completed projects in table 4-5 above.

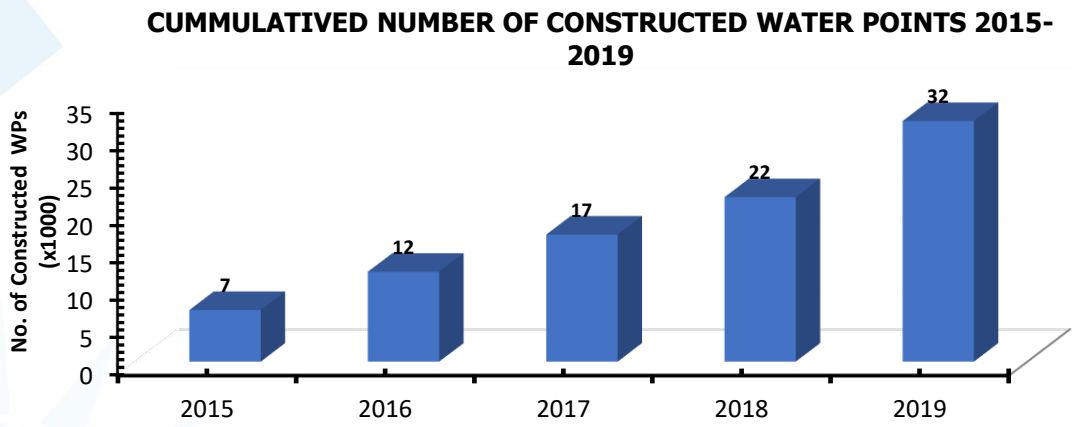


Figure 4-11:Trend of Number of Constructed Water Points from year 2015 to 2019 (Source: Water Utilities Performance Review Reports 2014/2015 – 2018/2019)

In recent years, the Government of Tanzania has demonstrated a high commitment in investing in water service infrastructure. Table 4-6 below presents a very interesting case for strategic decision making. Closely, it shows that the number of projects constructed and number of projects rehabilitated and extended have spent almost the same amount of funds. On the other hand, with the same amount of funds the percentage of increased coverage for rehabilitation and extension is more than double the percentage increase out of constructing new projects. With the present amount of non-functional water points especially those that are repairable, it is wise to spend more on rehabilitation for quicker and comparatively cheaper result.

Table 4-6: Number and Potentiality of Ongoing Rural Water Projects during 2019/2020

S/N	Description of Ongoing Interventions	Total Number of Projects	Total Projects Costs [TZS]	2019/20 Budget [TZS]	Projected Increase in Water Supply Coverage
1.	Construction of rural water supply projects funded by NWIF	422	247,490,379,842	93,537,953,773	5.0%
2.	Construction of rural water supply projects funded by CDG	200	162,419,301,204	30,459,609,771	
3.	Rehabilitation and extension of rural water supply projects funded by PbR programme	1,217	25,920,000,000	25,920,000,000	6.7%
4.	Construction, rehabilitation and extension of rural water supply projects funded by PforR Programme	518	119,999,386,307	119,999,386,307	6.2%
	Total	2,357	555,829,067,353	269,916,949,851	17.9%

(Source: RWSSP Progress Report for Second Quarter 2019-2020)

In the reporting period, DAWASA has almost doubled the number of new connections that was existing in June 2015 although compared to the ambitious WSDP II set target of 500,000 new connection by June 2019, the achievement is slightly above 50% of the target. If further gauged against demand in the service jurisdiction including some parts of Coast Region, DAWASA need to strategize on how best to increase more numbers in connection hence raised percentage of coverage.

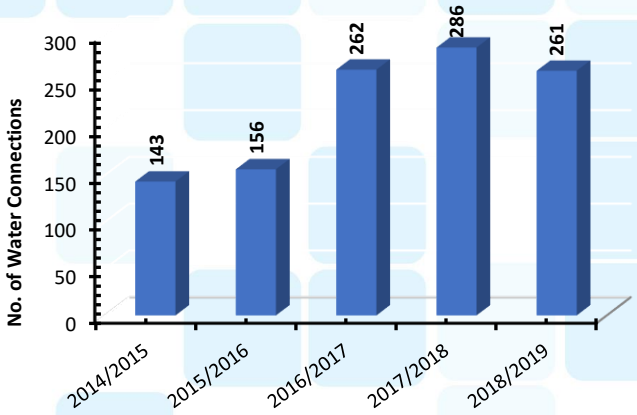


Figure 4-12: Cumulative umber of water connections since 2014

ii) Urban Service infrastructures

In 23 Urban Regional Centers, the WSDP II infrastructures targets include; 22 treatment plants constructed; 330 Km new transmission main constructed; 2,111 Km of pipes to expand the water supply distribution network laid; 44 storage tanks constructed; 200,000 new house connections installed; 60 wastewater treatment ponds constructed and 887 Km of sewer lines constructed.

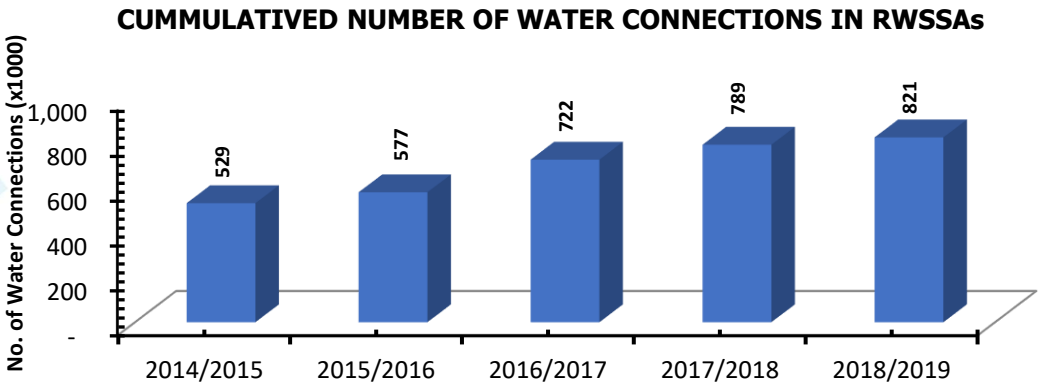


Figure 4-13: Cumulative Number of Water Connections in Regional WSSAs (Source: Water Utilities Performance Review Reports 2014/2015 – 2018/2019)

The overall connections in Regional Utilities outside Dar es Salaam have registered a steady increase on average during the reporting period. The target set is to trigger a coverage of 90% by June 2020 and the Regional Utilities recorded slightly over 84% coverage by June 2019. This is a promising achievement for the June 2020 target. The picture over all indicates Utilities commitment in investing on customer related infrastructures.

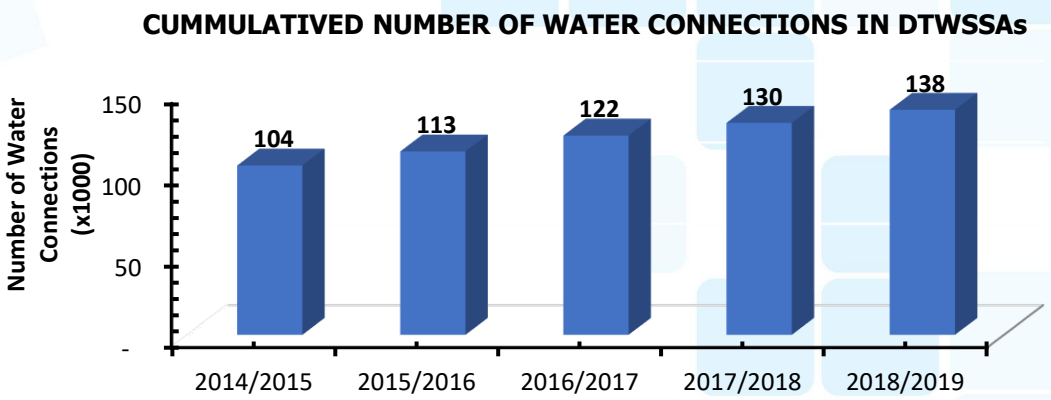


Figure 4-14: Cummulative Number of Water Connections in District/Small Towns WSSAs (Source: Water Utilities Performance Review Reports 2014/2015 – 2018/2019)

Despite the comparatively smaller customer base and therefore financial resources, the District and Township Authorities on average did well in terms of investment on customer demands and needs. On average, this group of Utilities exceeded the WSDP II target set on coverage of 65% by June 2019 by hitting an average of 71%. Although the group need a long leap to the 90% national coverage target by June 2020, the effort so far is worth recognition.

On the other hand, there are different projects that are ongoing at different stages under supervision of different Authorities and the Ministry all over the Country. There is Lake Victoria water supply project for Tabora, Nzega and Igunga comprising of construction of transmission and distribution mains construction of storage tanks and offices. The overall progress is estimated at 73.2% by June 2019. Another one is Water Supply Project for supply of water to 28 Towns which has design and construction phases and started implementation in June 2019. The Consultant submitted the Draft Design Review Report in August 2019.

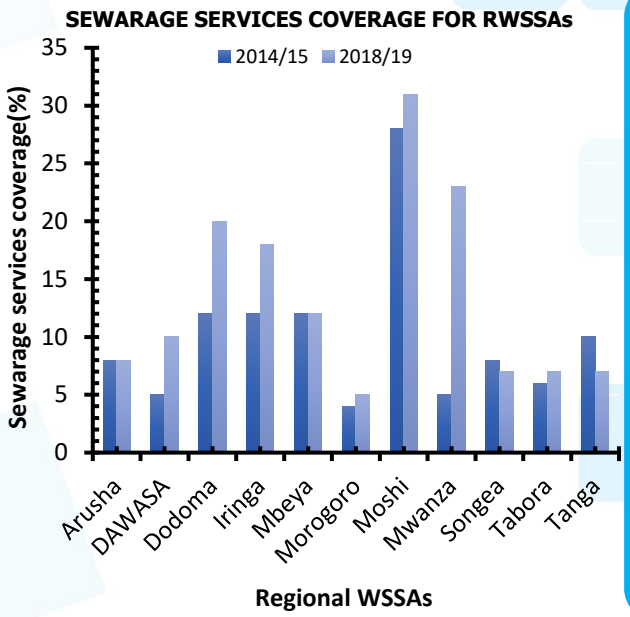
Lindi and Kigoma are also beneficiaries of a Water Supply Project of which progress was recorded to be 92% and 87% respectively at the end of June 2019. Another Lake Victoria Water Supply and Sanitation Initiatives Project ongoing for Geita, Nansio, Sengerema and Mwanza City with progress at Mwanza City recorded reach 75% by June 2019. Morogoro will also benefit from a Morogoro Water Supply and Sanitation Project which was at preparatory stage by the end of financial year 2018/19. Other water Supply and Sanitation projects are also progressing in Musoma and Bukoba with progress ranging from preparatory to 10% implementation by June 2019. Chalinze and suburbs is a beneficiary of a Rehabilitation and Expansion of Chalinze water Treatment Plant and Extension of Chalinze water Distribution Network and Reservoir with a plan to construct 1022km of pipelines, 19 storage tanks, 351 kiosks, Construction of 400m3/hr treatment plant, 9 Booster Station and 1 office. The overall works progress was at 80% by June 2109.

Orkesumet Project was also in record to have been progressing at 12% for lot I and 73% for lot II BY June 2019, so was Misungwi, Lamadi and Magu towns Project which was progressing at 85% in June 2019. The Contract for Mugango Kiabakari Project was signed in August 2019 while the Dar es Salaam destined Kimbiji/Mpera drilling boreholes Project was at 87.5% progress by June 2019. Another Dar es Salaam project is expansion of upper Ruvu and expansion of Distribution system to include Kiluvya and Bagamoyo. In Simiyu Region, a climate resilient bulk water supply project from Lake Victoria to the townships of Nyashimo, Bariadi and Lagangabilili including villages along the pipeline is planned. The detailed design was completed in June 2019 and the process of procuring supervision consultant is on progress. Arusha is also a beneficiary to a big rehabilitation and extension of water supply and sewerage systems in Arusha City with intention to have boreholes, waste water treatment plant, supply network expansion and Office buildings. Different pieces of works were reported to have progressed between 5% and 91% by June 2019. As noted, the implementation progress in different projects is promisingly good. Combined with calculated interventions to reduce non-revenue water, these projects in different parts of Urban Tanzania combined together are the source of added confidence to the Government targeted coverage of 90% in Urban areas by June 2020.

4.2 Sanitation

4.2.1. Sewerage

The broad objectives of WSDP II in UWSS are to have sewerage systems as part of overall sanitation strategy for each town by increasing sewerage systems service coverage from 17% by June 2007 to 30% by June 2010. As of June 2015, only 10 towns/cities had sewerage services which is equivalent to coverage of 20% of total urban population. It is the view of the Ministry that Sewerage services need special attention especially after improving water services. Very little improvement is recorded, such that as of 30th June 2015, it is estimated that only 526,895 people used about 43,295 sewerage connections.



Taking the Regional Utilities as a case for depicting the sewerage situation in urban areas it seems there have not been much of a progress and improvement in comparison to the situation in 2015. The coverage then was estimated to be 20%. Looking at the graph it does not register any significant change on average because while Utilities like Moshi and Mwanza and Dodoma have soared, Utilities like Tanga and Songea have gone down and Utilities like Morogoro have done very little to increase sanitation service coverage to at list above 5% of the population in her service jurisdiction.

Figure 4-15: Status of Sanitation Services Coverage for Regional WSSSAs (Source: Water Utilities Performance Review Reports 2014/2015 – 2018/2019)

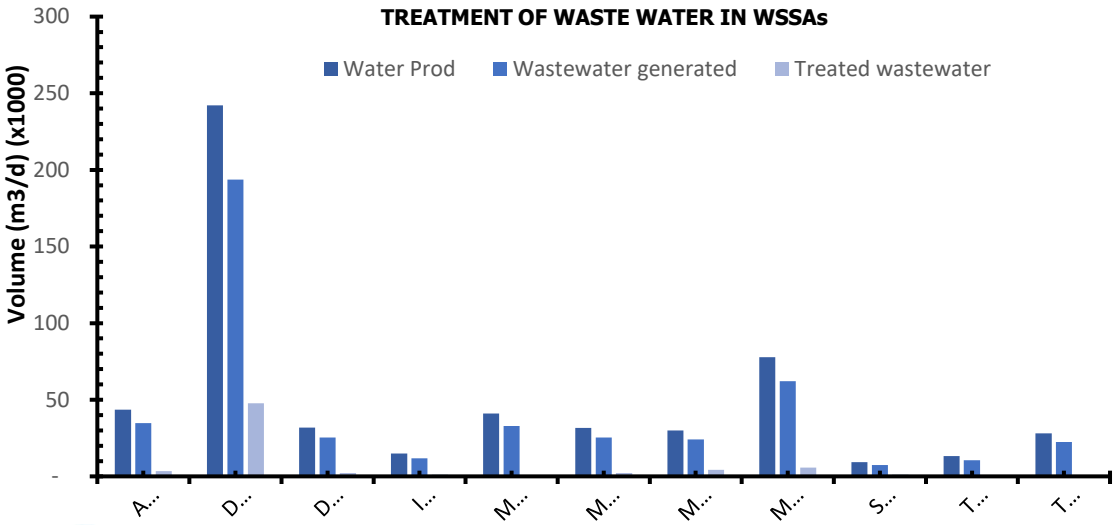


Figure 4-16: Waste Water Generated vs Treated in FY 2015/2016 (Source: Water Utilities Performance Review Reports 2014/2015 – 2018/2019)

The ratio between produced waste water and treated waste water is uncomfortably slanted. It probably tells a true picture of availability and capacity of the waste water collection and treatment facilities. Linked to state of urban hygiene, it says all about our vulnerability to continuous outbreak of water and air borne diseases. Again, going back to coverage

percentages in water supply service delivery as indicated in *Figure 4-7* to *Figure 4-9* displayed in the previous section, this is a question of conflicting priorities. The Utilities are forced to choose, prioritize, rank and allocate the already limited resources wisely. While faced with the ever-ambitious water supply service coverage target to reach, the obvious is opted.

Currently the sanitation services in Urban utilities with sewage connection is only 13%. For the rest of the áreas waste wáter management is done using special cars to the disposal áreas usually slightly outside the town. The known Authorities with waste wáter disposal network are 11 including Dar es Salaam, Arusha, Tanga, Dodoma, Mbeya, Morogoro, Mwanza, Tabora, Moshi, Songea na Iringa. As of June 2019, a 844 kms of sewerage system were constructed with 49,864 connections. There are still a number of Authorities without sewerage systems; these use exhauster vacuum trucks for emptying and trasportation of faecal studges for pretreatment at sludge treatment plants. The Authorities include Sumbawanga, Bukoba, Kigoma, Musoma, Geita, Nansio and Sengerema. In other towns, the sanitation service is done by Urban Water Authorities and private sector.

Knowing the not very satisfactory situation, all Utilities were supposed to increase sanitation service coverage from 13% to 30% by June 2020. Working towards this target, different Authorities have been taking measures to redress the deficiency. DAWASA is planning to construct modern disposal and treatment facilities at Jangwani, Kurasini and Mbezi Beach. Arusha plans to expand its waste water network and construct new 18 disposal dams while Geita, Misungwi, Lamadi, Magu, Lindi, Bukoba, Musoma and Kahama are building modern collection and disposal facilities. On the other hand, several Authorities have identified and designated sewerage disposal and treatment dam sites. The Authorities include Njombe, Mtwara, Babati, Pangani, Muheza and Korogwe.

4.2.2. Hygiene

Hygiene target is to increase the proportion of the population that uses improved sanitation facilities from 2.2 million Households (25%) in 2013 to 7.8 Million Households (75%) by 2019, while instituting measures to eradicate open defecation. Specific targets includes; Latrines in 3,500 primary schools rehabilitated including hand-washing facilities, menstrual facilities and formation of sanitation clubs by 2019; Latrines in 700 secondary schools rehabilitated including provision of hand-washing facilities and formation of sanitation clubs by 2019; WASH in 1,000 health facilities rehabilitated and management of healthcare waste strengthened in 600 health facilities by 2019; 25% of households with water treatment and safe storage facilities by 2019 and 8 WASH facilities constructed in highway congested bus stops by 2019.

Table 4-7: Status of Sanitation Services

Description of Indicators	Performance of KPIs	
	2015/2016	**2018/2019**
Households with improved toilets [%]	35.8%	57.2%
Households with hand washing facilities +soap [%]	13.4%	20.8%
Households with drinking water safe storage facilities [%]	11%	21.9%
Number of Health facilities with improved toilets	1000	826
Number of Schools with improved toilets	4200	4136
Villages/Mitaa without any toilet [%]	7.5%	2.5%

(Source: Ministry of Health)

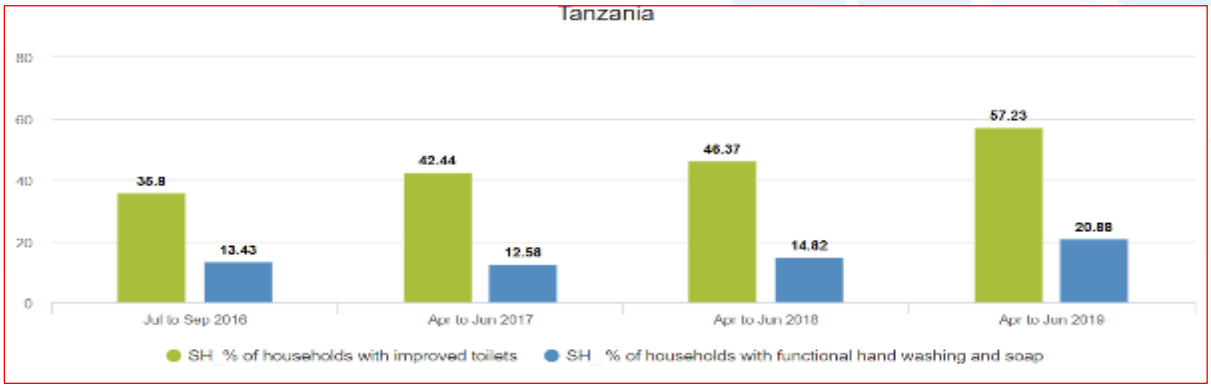


Figure 4-17: Achievement of National Sanitation Campaign from July 2016 to June 2019 (Source: National Sanitation Campaign-Annual Progress Report 2018/2019-Ministry of Health)

Looking at the figures displayed in the Table 4-7, one of the biggest success of the campaign is increasing coverage of improved sanitation from 35.8% in June 2016 to 57.2% in June, 2019. Similarly, the number of households without any type of toilet has decreased from 7.5% to 2.5% during the same period.

Over the reporting period, like the previous one, the funding for facilitating improved sanitation and hygiene budgeted under the Ministry of Water was being passed over to the Ministry of Health and Ministry of Education for implementation. That being the case, until financial year 2017/18 when the Ministry of Water formed a Sanitation and Hygiene Section, the reporting and tracking responsibility especially on rural sanitation and hygiene rested on the Ministries of Health and Education.

The Ministries of Health and Education have been implementing Sanitation interventions through a very famous and successful campaign known as 'Nyumba ni Choo'. Looking at the figures displayed in the Table 4-7, one of the biggest success of the campaign is reducing the number of Villages/Mitaa without any toilet from 7.5% in June 2016 to 2.5% in June 2019. Achievements in other indicators' targets around households have also doubled including the

percentage of households with improved toilets which have increased from 35.8% in June 2016 to 57.2% in June 2019. Improvement expectations are even higher towards June 2020 as there are several Government and Development Partners' supported interventions going on the ground.

4.3 Key Issues

4.3.1. Sustainability of Rural Projects and Services

Official reports (annual, midterm, joint mission, independent and routine monthly reports) indicate that more than a third of investment in rural water service delivery is a lost investment either before or immediately after a short-lived service delivery.

This challenge is attributed to poor planning, subjective decision making, poor design and at most poor project and service management. That the mass failures in community projects happened under the management of COWSOs can not be over-emphasized, but that concept of Community involvement and ownership of the projects is a failure is open to discussion.

Owing to community service history, most of CBWSOs (the former COWSOs) are treated as hindrance to the service prosperity at Community level instead of being treated as a blessing and a convenient service improvement puller. With careful organization, capacity strengthening and guidance, the Community Service Management is a reliable route to enhanced service sustainability. RUWASA is currently implementing a number of preparatory interventions to optimize the changes in the sector. The move is to use changes in laws and sector focus to revolutionize community water service management through professionalization, convenience clustering and fostering private sector engagement in operation and maintenance.

4.3.2. Non-Revenue Water

This may prove to be one of the main causes of urban service quality 'stunting'. According to EWURA annual reports (Water Utilities Performance Review Reports), the rate of Non-Revenue Water (NRW) is alarming. The national tolerable NRW rate is 25% (agreed rate for SADC Countries is 20%). The records indicate an average of 30.2% for all Authorities put together. Out of 120 Authorities and National Projects only 29 Authorities have NRW at or below 25%, hardly a quarter of all Authorities. It is worse in bigger Authorities hosting Regional Headquarter services like Arusha and Dar es Salaam. Dar es Salaam, for instance, is losing a half of the water produced in NRW. NRW hinders organization and economic growth and kills possibilities to improve service quality and affordability.

The Government through EWURA encourages and recognizes performance of individual Authorities as a gauge of capacity to manage organization running costs and ability to finance production and maintenance of service. Utilities are supported to deliberately strategize and

plan to address the main causes of non-revenue water. The plans are supposed to address all critical angles; Management, financial and Operational.

4.3.3. Inadequate Rural Water Service Data.

Data collection and management especially in rural water sub sector is still a challenge in methodology, storage and use. This is because the content of data being collected and stored to date do not cover all regular and intermittent indicators that need to be reported on. To date, internal Ministry reports cannot be completed using Central Data Management Team data alone without cross referencing with other sources. The team is currently part of RUWASA and plans are underway to list, harmonize and agree on all critical indicators that are being reported on monthly, quarterly and annual. Once finalized and agreed, all data and information on the indicators will be collected by CDMT as one exclusive source of data and information for all reports and analysis on the rural water subsector.

4.3.4. Blurred Accountability in Sanitation Services

As it stands now Sanitation services are seemingly a responsibility of four Ministries; The Ministry of Water prepares budgets and passes the health and hygiene part of the sanitation budget to Ministries responsible for Health and Education and the two Ministries implement health and hygiene interventions through Local Government Authorities under the President's Office-Regional Administration and Local Government. On the ground, the Ministry of Water oversees the implementation of sewerage interventions through Urban Authorities and RUWASA and ensures health and hygiene interventions in households, public areas, health facilities and schools are supported.

Reports are written in pieces; Water prepares reports on Sewerage, Health on Households, public and Health facilities and Education does on Schools related sanitation. There may be one budget but reporting, analysis and learning for better planning and prioritized resources utilization is not part of the implementation design.

It is important that this implementation anomaly is addressed jointly so that a much more realistic implementation and accountability mechanism is agreed for the betterment of Sanitation subsector.

5 CHAPTER FIVE | PLANNING & FINANCING

The purpose of this Chapter is to communicate to stakeholders sector's intended plans for the period FY16/17 to FY 20/21. Sector planning and financing has been a subject of discussion in all previous sector reviews. The discussions have enabled a complete and fair sector performance assessment. Prior to WSDP I implementation, water sector activities were implemented through discrete projects and sub-programmes in selected areas in Tanzania. Challenges with this fragmented approach resulted to the development of the National Water Sector Development Strategy (NWSDS) and programme (WSDP). Both documents provide guidance on implementation of water supply and sanitation service delivery and water resources management interventions.

WSDP (programme) was introduced in 2006 with a 20-year horizon planned to have four implementation phases of five years. WSDP I started on July 1st 2007 and had its Mid-Term Review (MTR) in 2010. MTR findings revealed implementation progress was substantially behind schedule and recommended for programme re-structuring and revision of targets. The completion date was pushed-forward to June 2014. As of June 2014, most activities of WSDP I were not completed thus an additional financing period was agreed by stakeholders to further the implementation period of WSDP I to December 2015. In July 2014, the program document for the second phase of WSDP covering the period 2015 to 2019 was completed. In September 2015, the additional financing period was extended to June 30th 2016 and WSDP I concluded as planned. As of June 2016, WSDP I had spent $ 1.42 billion and commitments totaled $1.63 billion. Share of Basket financier's in WSDP I was 42%, Government of Tanzania (GoT) 22.3% and Earmarked Financiers was 35%. Basket and GoT had released 100% of their commitments and earmarked financiers had a balance of $ 0.21 billion due to some projects still being in progress. (*1st Aide Memoire - June 2016*)

WSDP II started on July 1st 2016 with Ministry of Water (MoW) having the overall responsibility particularly on water resources, supply and sanitation while Ministry of Health leading the national sanitation and hygiene campaign. This chapter therefore assesses the two-year additional financing period and three years of WSDP II implementation. Bulk of the information provided in this Chapter is from the WSDP Phase II framework document, WSDP strategy, annual budget books, vote 49 audit reports, WSDP evaluations and Aide Memoirs.

CHAPTER SYNOPSIS

Planning & Financing

- Development budgets increased in both nominal and real terms to TZS 616 billion in 2019/20 from TZS 490 Billion in 2014/15.
- WSDP II commitments increased to $ 3.2 Bn from $ 0.8 Million in 2015.
- Sector releases show an increasing trend (both local and foreign). Share of local releases has increased to 40% from 20% in 2011- a positive direction towards sector's self-financing. The NWIF provides reliable funding.
- Fee collections for basins have doubled to over TZS 4Bn in 2019 from TZS 2Bn in 2015 enabling basins meet costs of their recurring expenditure.
- WSDP II budget execution reveal improvements in planning since the disparity between plans vs receipts has decreased from 59% in FY 16/17 to 29% in FY 18/19. Spending has also improved due to close supervision of projects.
- Sector's Fiduciary management has improved specifically in the areas of procurement, accounting and audits. Overall, the level of effectiveness and efficiency has improved compared to situation in FY 14/15.

Issues and next steps

- Shift prioritization in planning to water resources to defer the looming water security risk. Review and adjust realized commitments.
- Instituting a simple mechanism to track and account for all sector interventions to determine a true picture of sector performance and close the gap on the accounted support that passes out of the formal system.

5.1 Water Sector Planning

The Water Sector Development Programme (WSDP) provides an overarching framework on sector planning, investment priorities and a mechanism for resources mobilization in Tanzania. WSDP's Programme Development Objective (PDO) aims at strengthening sector institutions for integrated water resources management and improving access to water supply and sanitation services. The WSDP programme was designed to be implemented by various Implementing Agencies (IA) including Local Government Authorities (LGAs), Basin Water Boards (BWBs), and Water Supply and Sanitation Authorities (UWSAs/DUWSSs) throughout the country.

Expectations at the end of the second phase are the Government of Tanzania (GoT) would have met its FYDP II sector targets and be well on the way to achieve the global indicators (SDGs). Expectations in WSDP II are to have in place a sustainable regulatory framework for comprehensive water resources management and development to enable the country attain

middle income status. Planning in the sector is done in a way that Government, development partner (DP) and other stakeholders including private sector closely align resources in a coordinated manner in support of national goals via a broadened dialogue arrangement. Although Ministry of Health leads the sanitation & hygiene campaign, Ministry of water is assigned vote 49 to account for all water resources management and supply activities. WSDP II implementation group intervention plans into five components. The President's Office, Regional Administration and Local Government (PORALG) is engaged in all WSDP interventions while Ministries of health and education are engaged in sanitation and hygiene.

Table 5-1: WSDP II summarized requirements plan

WSDP II requirements	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Amounts	TZS Billions					
Exchange rate (0.001 $ to TZS)	2.27	2.27	2.27	2.27	2.27	
Water Resources Management	87.5	336	728	424	248	1823
Water Supply and sanitation in rural and urban	722.9	1425.6	1272.2	900.6	696.6	5018
Sanitation and Hygiene (S&H)	9.2	89.9	114.0	75.4	51.9	341
Program Delivery support (PDS)	57.1	87.3	61.1	37.4	9.7	253
Total	876.7	1938.6	2175.6	1437.0	1006.6	7434

At the planning stage WSDP II had an estimated total programme cost of $3.3 billion (TZS 7.4 Trillion), making it one of the largest water sector programmes ever launched in the region. While the form of the above envisaged annual budgets is a bell-curve, it is worth mentioning that WSDP II maintained the same planning structures of WSDP phase I. Sector priorities for Water Resources Management; Water Supply and Sanitation Services; as well as Institutional Strengthening and Capacity Building are provided in the (*WSDP II document July 2014*) and the (*Strategic Plan November 2015*) using a Sector Wide Approach to Planning (SWAP) and implementation of IWRMD plans. The plans are aligned with the aspirations of the Tanzania Development Vision (TDV-2025), Five Year Development Plan (FYDP 2016/17 -2020/21), Long Term Perspective Plan (LTPP 2011/12-2025/26), Water Sector Development Programme (WSDP 2006-2025) and Election Manifesto of the Chama Cha Mapinduzi (CCM 2015 -2020).

An IWRMD approach recognizes the economic value of water and sustainability whilst decentralizing decision-making through subsidiary principles for water resources. Both structures favor holistic bottom up planning in a participatory manner. SWAP aims at providing the required capital investment finance from Government, in collaboration with Development Partners, private sector and other partners to further ensure efficient allocation of public financial resources, thus reducing regional and district inequalities and attain a much balanced approach on planning needs.

Achieving sector aspirations is hindered by timely availability and adequacy of financial resources. Sector has a shortfall in financial resources to fulfil WSDP II needs. Ideally, to fully

implement WSDP II, annual budgets should amount to a minimum of TZS 1.5 trillion. As a workaround to limited financial resources, considering second phase activities are still relevant a preferential selection of activities has been done.

Table 5-2: Sector planning and implementation overview (Figures in TZS Billions)

	16/17	17/18	18/19	19/20	20/21	Total
Sector (WSDP II) requirements	876.7	1938.6	2175.6	1437.0	1006.6	7434.4
Actual annual budget allocations	781.7	623.6	673.2	616.1		2694.6
Actual Audited spending	326.4	383.4	480.9			1190.7

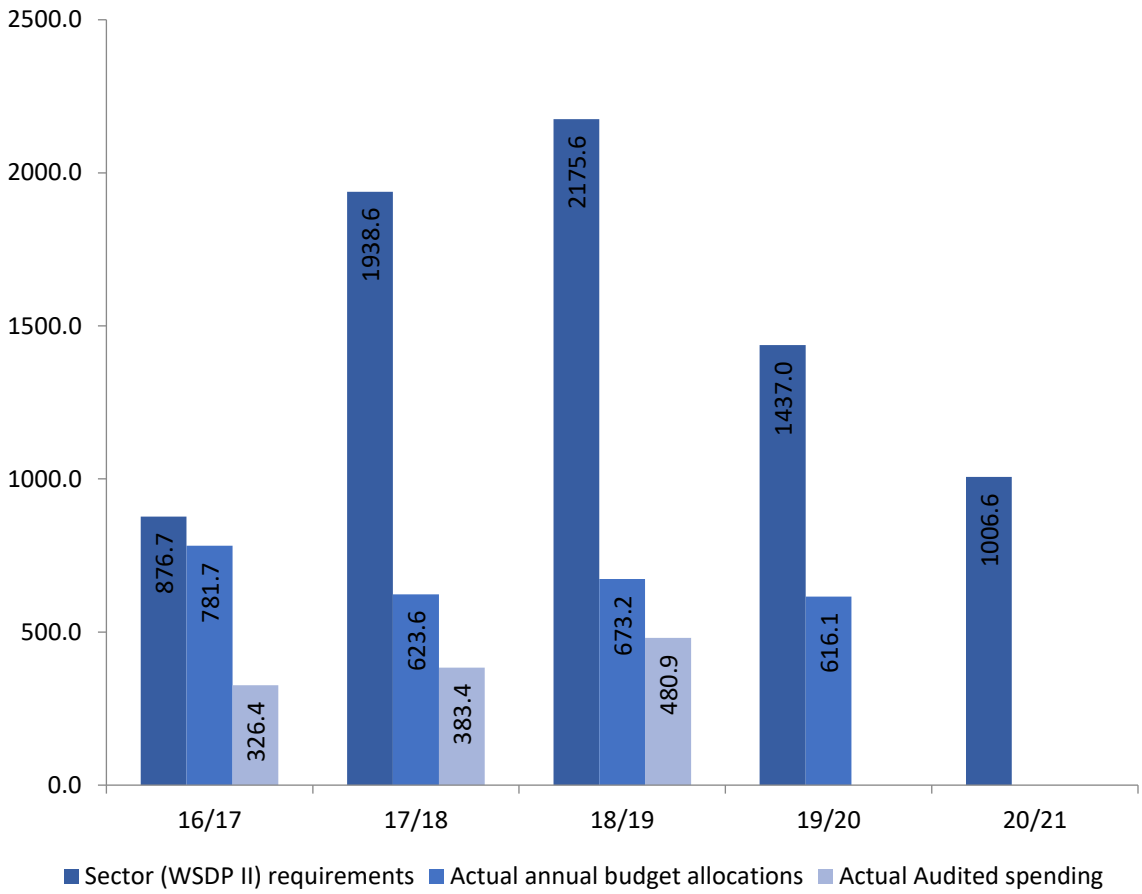


Figure 5-1: Sector planning and implementation overview (Figures in TZS Billions)

Since the beginning of WSDP II in FY 16/17 high priority of allocations has been to water supply and sanitation projects. Share of allocations for both rural and urban Components totals TZS 2.45 trillion (91% of total allocations for the period).

Table 5-3: Approved budgets during Additional financing and WSDP II.

FY	14/15	15/16	16/17	17/18	18/19	19/20	WSDP II total (Year 1-4)	% share.
	WSDP I Additional financing		WSDP II					
			Year 1	Year 2	Year 3	Year 4		
Amounts	TZS Billions							
Water Resources Management (WRM)	56.6	42.3	62.7	61.1	48.7	40.0	212.5	7.9%
Water Supply and sanitation (rural and urban)	404.7	415.3	813.0	536.4	549.3	547.9	2446.6	90.8%
Other WSDP II Components (4&5)	27.5	27.7	-94.0[11]	26.1	75.2	28.2		
Final budget	488.9	485.3	781.7	623.6	673.2	616.1	2694.6	

Table 5-4: Annual approved budgets against WSDP II requirements.

WSDP II plans vs actuals	16/17	17/18	18/19	19/20	20/21
Annual approved budget against WSDP II requirements.	89%	32%	31%	43%	
Approved Water resources management budget against WSDP II requirements.	72%	18%	7%	9%	
Approved Water supply and sanitation budget against WSDP II requirements.	112%	38%	43%	61%	

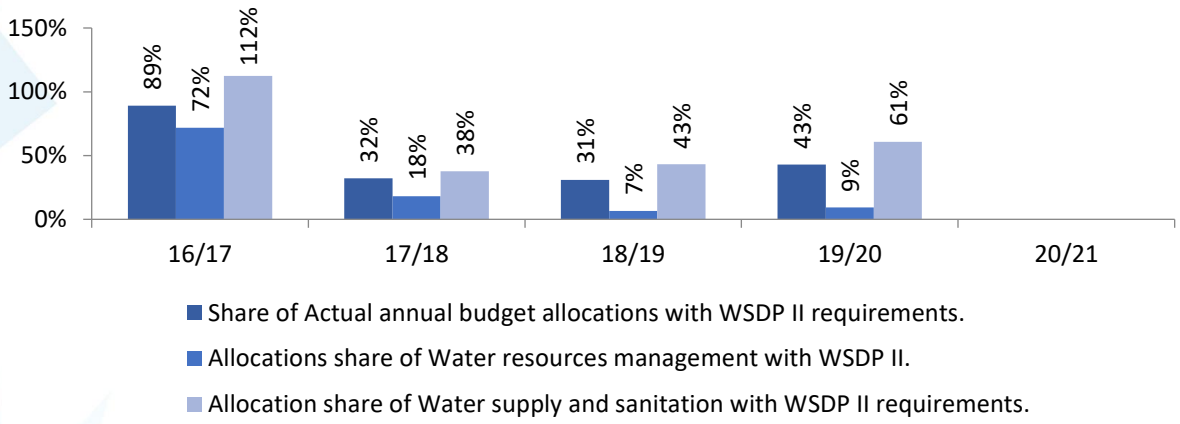


Figure 5-2: Water sector plans vs actual (FY16/17 – 20/21)

[11] The negative value is explained by the reallocation warrant of TZS 133 billion that reduced the total budget from TZS 915 billion to TZS 781 billion was done in FY 16/17.

Cumulatively, the approved sector budgets since FY 14/15 are a total of TZS 3.6 trillion ($ 1.7 billion) Minimum. Portion of WSDP II (since FY 16/17 is TZS 2.7 trillion (36% of requirements)). Some interventions happen within the sector but outside the formal accounting system and therefore goes unrecorded. A perspective of sector plans against releases/receipts for the period is depicted in the below table.

Table 5-5: Development budget (DEV) Releases against approved plans

FY	14/15	15/16	16/17	17/18	18/19	19/20	Total
DEV budget (Bn TZS)	488.9	485.3	781.7	623.6	673.2	616.1	3668.8
Total Releases (Bn TZS)	296.96	502.74	326.36	383.4	480.9		1990.36

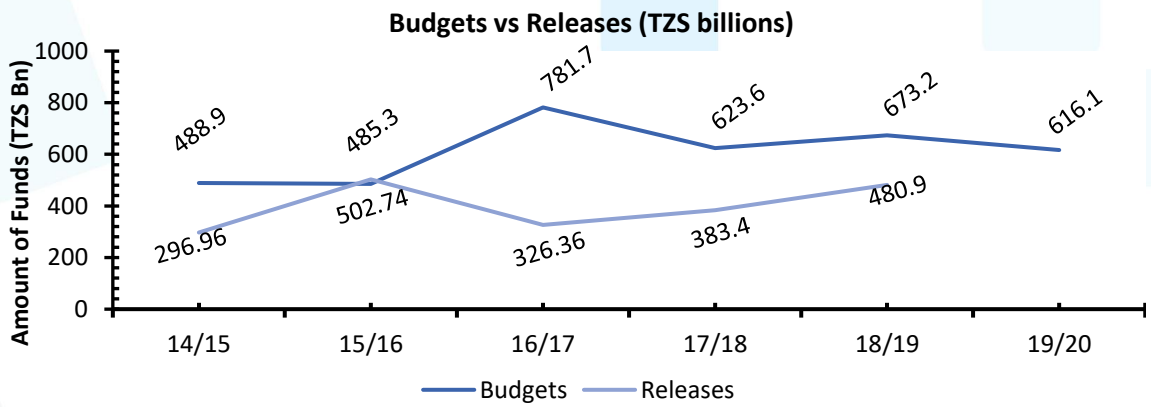


Figure 5-3: Comparison between Budgeted funds vs Releases

Among the lesson learned in WSDP I is mobilizing commitments from foreign sources is a slow process. The process has long lead times to attain the releases stage. In the first year of WSDP II implementation, MoW decided to defer (temporarily abandon) some activities pending the resources situation to improve while according highest priority to water supply and sanitation projects. Outcome of this prioritization is evidenced in the success in increased access and coverage reported in the preceding chapter. While the expected annual share of resources for water resources management in WSDP II was 25%, annual allocations have been declining reaching 6% in FY 19/20. Total allocations for WRM is TZS 212 billion cumulatively (7.9%) while allocations for water supply and sanitation stand at TZS 2.45 trillion (90.8%).

Table 5-6: Share of Component allocation against total annual budget

	16/17	17/18	18/19	19/20
Water Resources Management (WSDP II Component 1)	8%	10%	7%	6%
Water supply and sanitation (WSDP II Components 2&3)	104 %	86%	82%	89%
Water resources, supply and sanitation (WSDP II Component 1,2,3)	112 %	96%	89%	95%

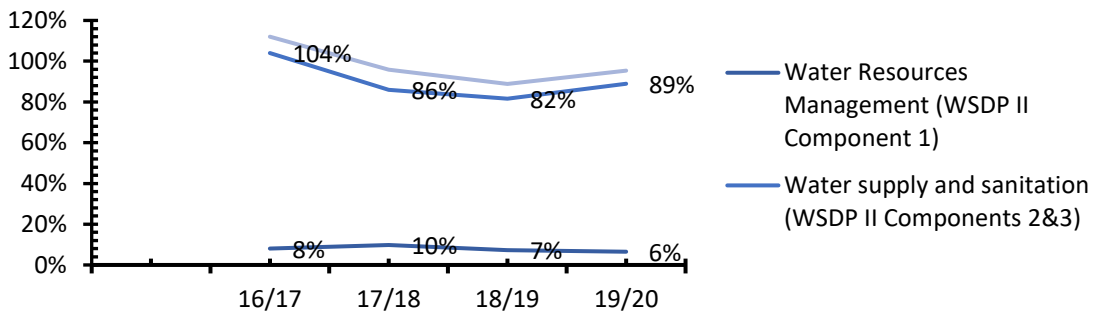


Figure 5-4:Share of Component allocations against total annual budget.

Planned interventions at Component and sub-component level at the planning stage of WSDP II in July 2014 are featured below

Table 5-7: WSDP II detailed activity plan with priority investments (Source WSDP II document July 2014)

SN	Component	Sub component	Priority areas for WSDP II intervention	Requirements (Million $)
1	Water Resources Management (WRM)	Water Resources Management and development	Basin level Institutional strengthening,	104.7
			Water Resources Assessment, Allocation, Regulation, Conflict Resolution Demand Management,	57.3
			water conservation and protection	47.9
			water security	385.8
			transboundary water resources management	0.335
			Implementation of IWRMD plans	169.3

SN	Component	Sub component	Priority areas for WSDP II intervention	Requirements (Million $)
			National Water Resources Reforms and Investments	23.9
		Water Quality Management and pollution control	Implementing Water Quality Management for Compliance	3.63
			Strengthening Management Support and Capacity Development to Support the Managerial Systems of Water Quality Management	10.88
TOTAL for Water Resources Management				**804**
2	Rural Water Supply and sanitation (RWSS)	Investments	New constructions and extension	563
		Capacity strengthening including O&M	Rehabilitation and O&M	299
TOTAL for Rural Water Supply and Sanitation				**862**
3	Urban Water Supply and sanitation (UWSS)	Improvement of water supply and sanitation in Dar es Salaam	Drilling, water treatment, source development, construction, extension and rehabilitation of water supply and sewerage systems, waste water treatment in Dar Salaam, National projects, regional centres and district headquarters. Management support to Utilities and MoW	455.8
		Improvement of water supply and sanitation in 23 Regional centres		379
		National projects, district headquarters and small towns including sanitation		481
		Capacity strengthening		32.32
TOTAL for Urban Water Supply and Sanitation				**1348**
4	Sanitation and Hygiene (S&H)	Rural sanitation	Sanitation and hygiene advocacy, promotion and marketing, capacity building to implementing agencies,	137.7
		urban sanitation		12.3

SN	Component	Sub component	Priority areas for WSDP II intervention	Requirements (Million $)
			rehabilitation and construction of WASH facilities and research.	
TOTAL for Sanitation and Hygiene				**150**
5	Programme Delivery Support (PDS)	Fiduciary Management	1. Financing and Financial Management (Training, reporting and Audits). 2. Planning and budgeting (Training and preparation of annual plans and budgets), 3. Procurement Management (bid assessment and contract management and training)	16.5
		Program Coordination and Performance Monitoring	1. Dialogue, MoU and safeguards compliance 2. Program assessments (mid-term review and technical (value for money audit) 3. ICT enhancements and training 4. Monitoring (Field visits and surveys, annual and terminal evaluations)	9.94
		Capacity Development	Capacity development at MoW, Water Institute, DDCA, Maji Central Stores and Communication and publicity unit.	84.85
TOTAL for Program Delivery Support				**111**
GRAND TOTAL FOR WSDP II				**3275**

MoW's Department of Policy and Planning (DPP) is responsible for policy formulation, coordination of preparation of sector plans, strategies and resources mobilization. The DPP prepares work plan and budgets annually for each subsequent fiscal year of WSDP implementation by receiving input from Components, departments and stakeholders. Using existing planning frameworks, DPP prepares long, medium and short term plans for the sector using a result-based SWAP. Both sets of plans are consistent with respective consolidated sector MTEF and budget guidelines issued by the Ministry of Finance & Planning for that particular year. Government's Financial Year (FY) starts on July 1st and ends on 30th June.

Prior to the initial budget preparation process, Development Partners confirm to the Government their proposed contributions for each year of WSDP implementation. Annual

budgets (Development (DEV) and Recurrent[12] budgets) are prepared to adhere to sector MTEF and budget guidelines issued by Ministry of Finance and Planning. The budgets recognize planned contributions from local and foreign source categories[13]. Confirmed commitments from Development partners[14] are reflected in the sector MTEF and annual budget estimates. Once completed, budgets (DEV and Recurrent) are submitted to the legislature for approval. Approval is granted before end of June.

Among the assumptions taken during planning of WSDP II were financial resources will be sufficient, available in a timely manner via same modalities as in WSDP I (large share of basket from both Government and foreign sources). The below broad priorities were planned to be tackled in the second phase:

1. Finalization and operationalization of the Integrated Water Resources Management and Development Plans to maintain assurance of sound water governance and coordinated cross-sectoral demand management;
2. Consideration of Climate Change mitigation and adaptation measures as part of effective protection and conservation of water sources;
3. Urgent capacity building on management and technical expertise to enable sustainable operations of rural water projects;
4. Urgent intervention to reduce to acceptable levels, the non-revenue-water problem;
5. Consideration of investment in renewable energy as a means to reduce the cost of O&M for water projects; and Strengthening and harmonization of information systems to cater for data/information flow to ensure efficient and effective performance monitoring of the Programme.

In 2018, a number of key reforms were planned and undertaken at ministerial and sector level aiming at optimizing sector's efficiency and effectiveness. At ministerial level the National Irrigation Commission (Vote 5) was transferred back to the Ministry of Agriculture, the Rural and Urban Water Departments were merged to form the new Department of Water Supply and Sanitation. Furthermore, the former WSDP Program Coordination Unit (PCU) was changed to Project Preparation, Coordination and Delivery Unit (PPCDU), to provide more focus on project preparation and delivery and enhance coordination of WSDP. DAWASCO has been merged with DAWASA. Moreover, the parliament of the United Republic of Tanzania enacted the new Water Supply and Sanitation Act which provide for the establishment of the Rural Water Supply and Sanitation Agency (RUWASA).

[12] Recurrent budgets contain Personnel Emolument (PE) and Other Charges (OC).

[13] Annual budgets that are normally submitted to legislature for approval do not include some contributions from Development Partners and Civil Service Organizations (CSOs).

[14] This is a requirement for those who have signed Financing agreement (loans or grants) with Ministry of Finance.

RUWASA took the role of Local Government Authorities in rural water supply and sanitation service delivery in July 2019. Stakeholders regard this decision as a positive step to strengthen delivery and management of rural water supply and sanitation services at local level. The Ministry of Water has also initiated a review of the National Water Policy of 2002 and the development of a new National Water Sector Development Strategy. The policy and strategy review have come timely and the review is grounded on evidence and experience of the implementation of WSDP in the past 13 years.

The sector did introduce a number of initiatives to further improve the planning process. The Funding compendium and the Equity Guidelines have been developed to facilitate identification and securing additional resources to ensure an equitable allocation. Good progress has been achieved towards adoption of spatial technology in planning using GIS. GIS will speed up the realization of a strategic and targeted investment plan which is lacking at the moment. A National Water and Sanitation Master Plan as an immediate cure to the strategic planning is needed so that investments into appropriate water and sanitation are considered more prominently and improves on equity and human rights-based investment criteria. *(4th Aide Memoire)*

5.1.1 Budget execution

Analysis of development budget.

WSDP's development budget (DEV) outlines development priorities and resource allocations in the sector. Current water sector plans draw resources from three (3) principle sources of funding, namely: (i) Local (from Treasury), (ii) Foreign (external loans and grants) and (iii) Internal (revenue). During the review period, the DEV budget increased in both nominal and real terms from TZS 490 Billion in 2014/15 to TZS 616 billion in 2019/20.

During the period (FY 14/15 - FY 19/20), total accounted receipts from all sources (local, foreign and other) amounts to TZS 1.99 Trillion (692 Mn $). This is 54%[15] of approved allocations for the period. Total DEV spending during the period (FY 14/15 to FY 18/19[16]) totals TZS 1.953 Trillion (US $0.907 billion. The TZS 1.953 trillion is 98% of total receipts. WSDP II budget execution reveal improvements in sector planning since the disparities of plans against receipts has decreased from 59% in FY 16/17 to 29% in FY 18/19.

MoW through vote 49, being the lead Implementing Agency (IA) for WSDP receives and transfers-out funds to other IA. During the period, a cumulative total of TZS 1.054 Trillion was transferred-out to other IAs. Water supply and sanitation projects in rural and urban components received bulk of the transfers amounting to TZS 1.002 Trillion (95%). Remaining 5% was transferred to the remaining components (water resources, water quality, sanitation and hygiene and Institutions under program delivery support). The remaining balance was expensed for various WSDP activities at ministerial level.

[15] 36% is the minimum recorded amount. Actual resources injected to the sector are much more.
16 all Exchequer receipts and basket payments including Direct payments to projects

Assessment of sector progress in WSDP II implementation (FY 16/17 to FY 18/19) should consider the fact that a minimum[1] of 36% of all sector allocations are confirmed received and 98% of the receipts have been spent.

Table 5-8: DEV budget allocations, releases and payments (FY 14/15 – FY 19/20)

FY	14/15	15/16	16/17	17/18	18/19	19/20	Total
	In Billions of TZS						
Approved (DEV Budgets)	488.9	485.3	781.7	623.6	673.2	616.1	3668.8
Annual receipts (GoT & DPs).	297.0	502.7	326.4	383.4	480.9	290.0	1990
Annual Payments (spending).	304.2	510.8	317.5	372.5	448.3		1953.3
Exchange rates (0.01$:TZS)	2030	2168	2204	2270	2270	2270	
	In Millions of US $						
Approved (DEV Budgets)	240.8	223.8	354.7	274.7	296.6	271.4	1662
Annual receipts (GoT & DPs).	146.3	231.9	148.1	168.9	211.9	127.8	1035
Annual Payments (spending).	149.9	235.6	144.1	164.1	197.5		891

FY 18/19 and FY 19/20 are provisional as are yet to be audited by the National Audit Office (NAO)

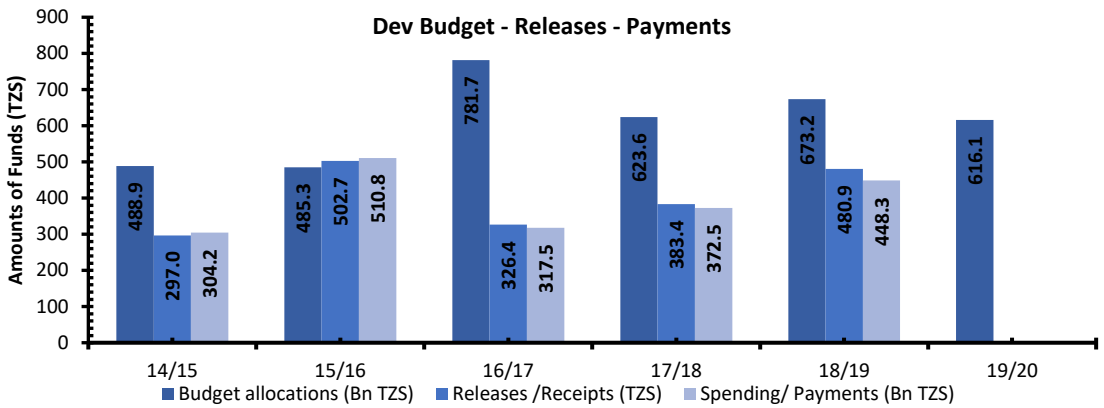


Figure 5-5: Development Budget allocations, releases and payments (2014 – 2019).

Analysis of Recurrent Budget

Recurrent budget is composed of Personnel Emoluments (PE) and Other Charges (OC). Allocations of the sector's recurrent budget for FY 2014/2015 to FY 19/20 have averaged TZS 26.7 Bn TZS, comprising of TZS 8.5 Bn Other Charges (OC) and 17.2 Bn TZS as Personnel Emoluments (PE).

Table 5-9: Recurrent Allocations.

Financial Year	14/15	15/16	16/17	17/18	18/19	19/20
	Amounts in Billion TZS					
Recurrent allocations	30.1	26.96	24.41	24.44	24.4	23.8
Other Charges allocations (OC)	15.7	9	7.01	6.64	6.3	6.3
Personnel Emoluments (PE)	14.4	17.96	17.4	17.8	18.1	17.5

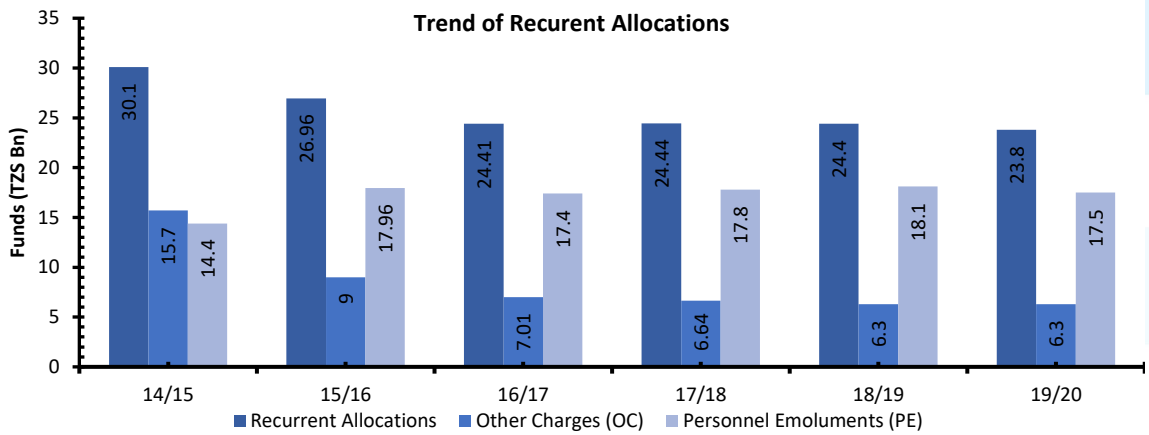


Figure 5-6: Figure 5 6: Recurrent Allocations Trend since FY 2014/15

Recurrent allocations (largest share being PE) indicate a downward trend. The trend is attributed to a reduction in allocations for Other Charges (OC) following Government wider initiatives to improve accuracy in planning and manage public expenditures. Recurrent budget is funded from local sources and for this whole period, a total of 103 Bn TZS has been allocated. Although actual recurrent spending was not determined in this report, the decreasing OC has been complimented by the DEV budget allocations or support by stakeholders.

5.2 Financing

5.2.1 Resource mobilization

Resource mobilization is a formidable process. WSDP I had raised an unprecedented $ 951 million at midterm and ultimately during its conclusion commitments had increased to $ 1.630 billion. Financing strategies considered during WSDP II planning in 2014 included traditional arrangements via mobilizing grants, concessional loans and in-kind contributions from foreign, local and private sector.

WSDP II indicative commitments from foreign sources In July 2014 amounted to $ 0.8 billion. Commitments increased to $ 1.93 billion in December 31 2018 (*4th JM aide memoire*). In June

2019, MoW did a thorough and rigorous assessment of all financing agreements and pledges to realize a total commitment of $ 3.2 billion have been pledged (*Funding landscape*). This means realization of WSDP II financing requirements of $ 3.3 billion is 97% on target. However, these commitments are skewed with a bias for water supply projects in urban areas. WSDP II requirements for urban water and sanitation projects total $ 1.348 billion but current commitments have reached a staggering $ 2.302 billion (surpassed needs by +71%).

Comparatively, Water resources management has the least commitments totaling $ 129 million whereby a total of $ 804 million is required. The justification on the huge investments in water resources management and development follows an increasing multi-sector demands for water, environmental and water degradation due to pollution, over abstraction of water, poor land use practices and encroachment of land for agriculture around water sources and catchments, urbanization and industrial development that increases pressure on water sources.

The bias in urban leans more towards implementing projects in major towns and cities as opposed to supporting water supply and sanitation projects in small towns. Of the $ 3.2 billion commitments, 70% are signed financing agreements (confirmed secured support) while 30% are pledges (promises). The whole portfolio is comprehensive and composed of commitments from stakeholders including the Government of Tanzania, Development Partners, CSOs and others (Grants from foreign sources are 20% while concessional loans are 71% of all commitments. The sector lacks data on current commitments or releases from the Private sector. Sanitation and Hygiene's share of commitments is 40% of needs at $ 60 million and Programme Delivery Support has a commitment of $ 11 million which is 9% of needs.

Table 5-10: Commitment share

Funding modality	Amount of support ($ mill.)	Share
Basket	184	6%
GoT	343	11%
Earmarked	2703	84%
Total	3230	

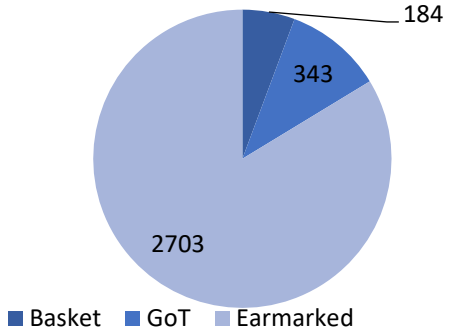


Table 5-11: Financing option shares

Financing option	Amount of support ($ millions)	Share
Foreign Loans	2102	65%
Grants	1128	35%
Total	3230	100%
Sub-Categories of grants		
Grants NGOs	248.90	7.7%
GoT Budget	2967.85	91.9%
OBA grant	13.68	0.4%
Total	3230	100%

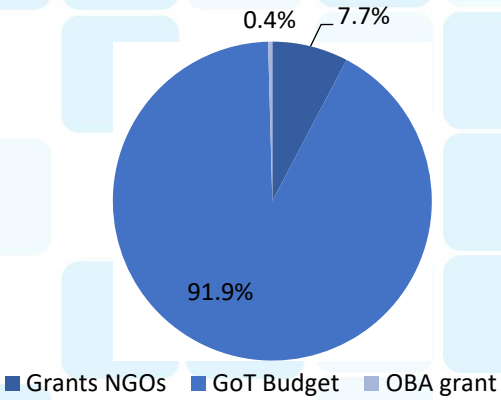


Table 5-10: Current portfolio size (as of June 2019)

No.	Development Partner	FA Amount [DP currency]	Original currency.	Total FA Amount in [USD] equiv.	Period of financing
1	Belgium	8,000,000	EUR	9,120,000	2016-20
2	UNICEF	26,830,000	USD	26,830,000	2017-21
3	Germany – KfW	140,752,500	EUR	160,457,850	2015 -23
4	Germany –GIZ	15,500,000	EUR	17,670,000	2015 -21
5	GCF	102,700,000	EUR	117,078,000	2018-23
6	EU (KfW)	51,260,000	EUR	58,436,400	2015-16
7	DfID	144,300,000	GBP	183,261,000	2016 -22
8	CRS	3,000,000	USD	3,000,000	2015-19
9	WSSCC	1,640,485	GBP	2,083,416	2018-21
		6,040,000	USD	6,040,000	
10	WaterAid	2,883,941	GBP	3,662,605	2018-21
11	World Bank	525,000,000	USD	525,000,000	2017-23
12	AFD	225,000,000	EUR	256,500,000	2015 -21
13	EIB	45,000,000	EUR	51,300,000	2016-21
14	EDCH KOREA	90,100,000	USD	90,100,000	2018-22
15	WWF – Tanzania	2,000,000	USD	2,000,000	2015-17
16	SNV	5,326,693	EUR	6,072,730	2017 -20
17	BADEA	15,000,000	USD	15,000,000	2015 -17
18	SAUDI	10,000,000	USD	10,000,000	
19	AfDB	259,715,000	USD	259,715,000	2011-19
20	INDIA	946,465,000	USD	946,465,000	2015-22
21	BADEA	106,340,000	USD	106,340,000	2014-18
22	OFID	8,000,000	USD	8,000,000	2014 -20
23	UNDP/GEF	2,000,000	USD	2,000,000	2015 -20
24	GoT	783,011	Million TZS	343,124,890	2018-21
25	**Total in US $**			**3,209,256,891**	

To guarantee steady financing and availability of resources to optimize liquidity levels for WSDP II implementation specifically water supply investments; the Government of Tanzania (GoT) operationalized the National Water Investment Fund (NWIF) in FY 2016/17. The fund is a hypothecated tax imposed through a levy on the purchase of fuel for vehicles. Currently set at TZS 50 per litre of fuel. The sector is realizing the benefits of the fund since significant funds (43% of total programme financing sources in 2016-17) are provided by this levy. The role played by the fund, though quite significant are still not enough to meet the overall WSDP funding needs (*WSDP II Midterm Review and 2016 WSSR*).

Financing requirements for the initial three years of WSDP II implementation (July 2016 – July 2019) were $ 2.2 billion (TZS 4.99 trillion). However, cumulative receipts for the initial three years have been dismal amounting to TZS 1.132 trillion ($ 0.53 billion) which is 23% of requirements. *(WSDP II document and Vote 49 Audit reports).*

SWAP establishes a platform to engage wide range of stakeholders to dialogue on sector development including planning and financing. In FY 2006/07, GoT and Development Partners (DPs) had agreed on a non-exclusive stakeholder joint financing of WSDP implementation. During the design of WSDP II in July 2014, MoW provided space for the private sector's explicit engagement in financing sector's developments.

In July 2018, due to the overall slow speed in mobilizing resources in the sector, a forum to enhance Public Sector Participation was organized. The forum brought together Government and private sector participants to discuss and share challenges and opportunities associated with private sector participation in the water sector's development process specifically financing. Among the specific objectives of the forum were to promote Public-Private-Partnership (PPP) in investing and operation of water projects (2018 PPP concept) as a strategy to further diversify financing sources in the sector. WSSAs, via a circular issued by Ministry of Finance are allowed to source additional capital investments. Outcome of the forum was a declaration statement with a task of establishing a taskforce to draw an implementation action plan. The final PSP Action plan has been endorsed by the Ministry on October 2019 (MoW, 2019).

Strategies to finance basins and enable them meet recurrent costs are making good progress. Compared with 2015, Basins have more than doubled their fees collections from an average of 2 Bn TZS to 4.6 Bn TZS in 2018 (*MoW's annual budget books)*. Although the collections are not uniform across basins, the fees provide a sizable contribution to the basins financing by enabling them meet portions of their recurrent costs. Details on current stakeholders' commitments are in the subsequent section.

The below table has details on resources required and progress attained in obtaining commitments to meet sector objectives. While details are in the annex, a significant leap in achieving commitments has been attained quite recently in FY 17/18.

Table 5-11: WSDP II requirements vs actual commitments (source MoW)

Component Name	WSDP II Needs/ requirements			Current commitments		Comparison	
	US$ mill.	TZS Bill.	Planned share (%)	US$ mill.	TZS Bill	Commitment (%)	Diff.
	A	B	C	D	E	F	F - C
Water Resources Management	804	1825.1	25%	128.95	292.7	4%	-21%
Rural Water Supply and Sanitation	862	1956.7	26%	759.34	1723.7	23%	-3%
Urban Water Supply and Sanitation	1348	3060.0	41%	2302.8	5227.4	71%	29%
Sanitation and Hygiene (S&H)	150	340.5	5%	60.2	136.7	2%	-3%
Program Delivery Support (PDS)	111	252.0	3%	11.1	25.2	0%	-3%
Total	**3275**	**7434**	**100%**	**3262**	**7406**	**100%**	

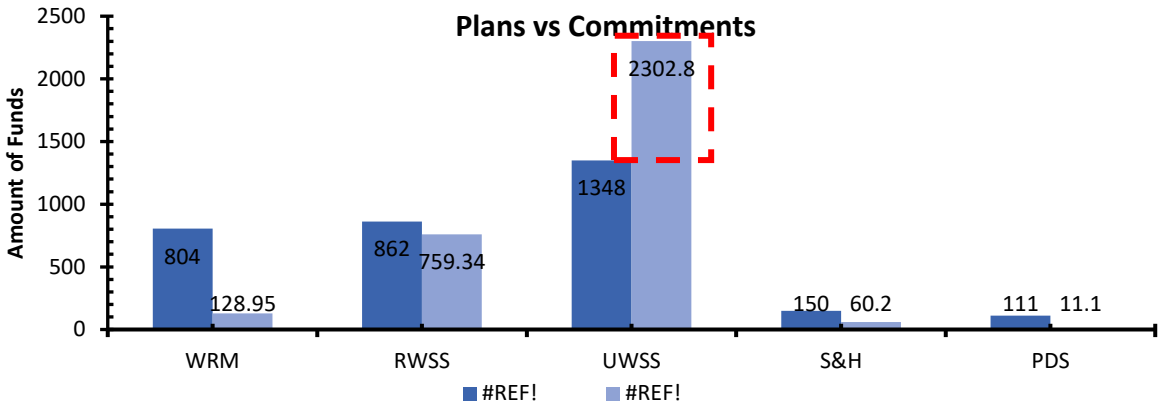


Figure 5-7: WSDP II requirement plans vs actual commitments

The table below provides information on releases (WSDP I and II) by sources of sector financing (basket, earmarked and government financing).

Table 5-12: Funding releases by source (local vs foreign)

Funding source	WSDP I releases (Sept 2015)		WSDP II releases June 2019	
	($ Millions)	% share	($ Millions)	% share
Local share (GoT)	364	26%	368	43%
Foreign (Basket)	684	48%	157	18%
Foreign (Earmarked)	367	26%	338	39%
Total	**1,415**	**100%**	**864**	**100%**

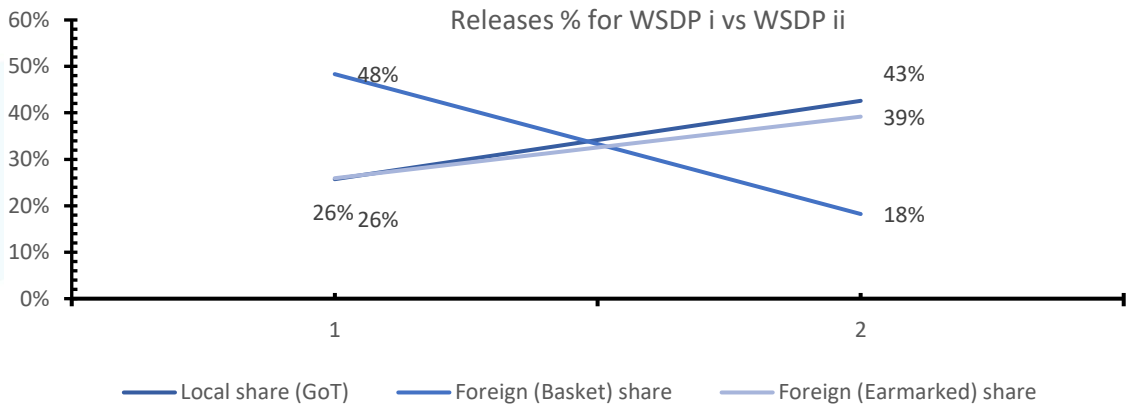


Figure 5-8: Figure 5 8: Funding releases by source (local vs foreign)

At the conclusion of WSDP I, Basket financiers had contributed 48% of US$ 1.42 billion releases total. Earmarked financing (direct project financing and some CSOs) had released 26% of the total releases in WSDP I.

Bulk of the DEV budget support in WSDP II is now provided as earmarked funding for specific projects. Current Earmarked releases amounts to 768Bn TZS (39%) of releases. Government of Tanzania is leading in terms of releases. Cumulatively 834 Bn TZS (42%) has been released so far. This is an improvement compared with 2011/12 when foreign funding accounted for 80% of the water sector budget and 90% of the development budget (*Rapid budget analysis March 2013*). Although achievements have been made towards attaining self-sufficiency, as indicated in the preceding chapter, resources are untimely available and in-adequate to meet the sector objectives.

Table 5-13: WSDP Commitments Vs Disbursements as of Sept 2015 and June 2019 (in Millions of US $)

Source	WSDP I commitment (Sept 2015)	WSDP I Releases (Sept 2015)	% contribution	Commitments (Sept 2015 - June 2019)	Releases as of June 2018	Releases share %	Commitments WSDP I & II (June 2007 - June 2019)	Total releases (June 2007- June 2018)
GoT	363.7	363.7	1.0	343.1	367.8	42	706.8	731.5
Basket	683.6	683.6	1.0	223.2	157.4	18	906.8	840.9
Earmarked	577.6	367.1	0.6	2690.1	338.4	39	3267.7	705.5
Private Sector	no data	N/A	N/A	no data	N/A	N/A	no data	N/A
Others	5.5	5.5	1.0		2.6	0	5.5	8.1
Total	**1630.4**	**1419.9**		**3256.4**	**866**	**100**	**4887**	**2286**

SWAP enables the provision of capital investment finance from Government (local sources) and Development Partners (foreign sources). The strategy to leverage Capital Investment Finance is to:

i. Increase the Government allocation for capital investment to the water sector
ii. Implement a financial planning mechanism to facilitate the equitable distribution of resources on accepted expenditure principles for the smooth execution of WSDP
iii. Develop appropriate sustainable financing mechanisms that provide for efficient and prioritized channeling of funds according to national plans
iv. Use the National Water Fund as a source for financing Water Supply and Sewerage Authorities, as well as other commercialized water schemes
v. Develop strong financial mechanisms to ensure full recovery of operational and maintenance costs and an increasing contribution to covering replacement costs

Within the context of the “current traditional" financing paradigm comprising the development budget and loans and grants provided by Development Partners, the SWAP established in July 2007 has provided a workable sector planning framework. However, to source investment finance” by increasing the government allocation and/or establishing a national water fund, rely too heavily on Government revenue and do not provide a solution to meet the investment demand. Indeed, even drastic increments of the current water sector local development budget

would, in practice, contribute only a small part of the capital required when compared to the latent demand in the sector.

It is now widely recognized in the water sector that there is an urgent need to further attract capital investment and that the necessary funds will not be forthcoming from either revenue or foreign loans or grants in either the short to medium term. Without finding new sources of capital investment for the sector, the current financing is perhaps too little even to keep pace with depreciation costs and population growth.

Raising capital by raising tariffs and fees is one option to raise funds for capital investments, but raising tariffs without simultaneously raising service levels is never popular. An alternative source of financing to fill the capital investment gap, but especially for Component 3 since WSSAs are run along solid business principles, would be to raise funds through treasury bonds and/or commercial loans.

Funds from Government and Development Partners allocated for Water Supply and Sanitation are not sufficient to achieve the set targets. In order to raise additional financing for the sector, MoW and implementing Agencies in the Water Sector are encouraged to enter into partnership with the private sector through PPP arrangements, leveraging the current strong political will and commitment from government to strengthen the partnership between public and private sector.

5.2.2 Sector Releases and spending

Contributions from both sources (local and foreign) show an upward trend. Cumulatively GoT exchequer issues for the period amount to TZS 0.84 trillion (averaging TZS 167 annually). Cumulative releases for the period up to FY 18/19 from foreign sources amount to TZS 1.13 Trillion (averaging TZS 225 billion annually). Exchequer receipts from Local sources are composed of GoT and NWIF disbursements. Cumulatively sector receipts during the period amounts to TZS 1.99 trillion (*Vote 49 Audit reports*)

It has been harder now to track total programme funding and expenditure, as substantial funds are being spent on earmarked terms. The above figures only provide the minimum confirmed value of tracked contributions thus not entirely reflective of the releases and spending situation in the sector. Releases categorized as (Grants NGOs) provided by a number of Earmarked partners and CSOs are not tracked hence not included in Vote 49 annual budgets and spending. The WSDP II funding landscape (Annexed) contains 8% of Grants NGOs. While contributions from the private sector and other stakeholders are highly valued, it has been difficult to track them and most of their interventions remains unrecorded. Details on sector financing and highlights of statutory annual audits are in the subsequent section.

Table 5-14: Trend of contributions in WSDP II

FY	14/15	15/16	16/17	17/18	18/19	Total
Exchequer Issues (Local Releases)	84.3[17]	122.7[18]	204	190.4	233.5	835.0
Foreign sources releases (Basket & Earmarked DPs)	206.6[19]	374.0	116.4	187.0	241.4	1,135
Totals	291.0	496.7	320	377	475	1,960

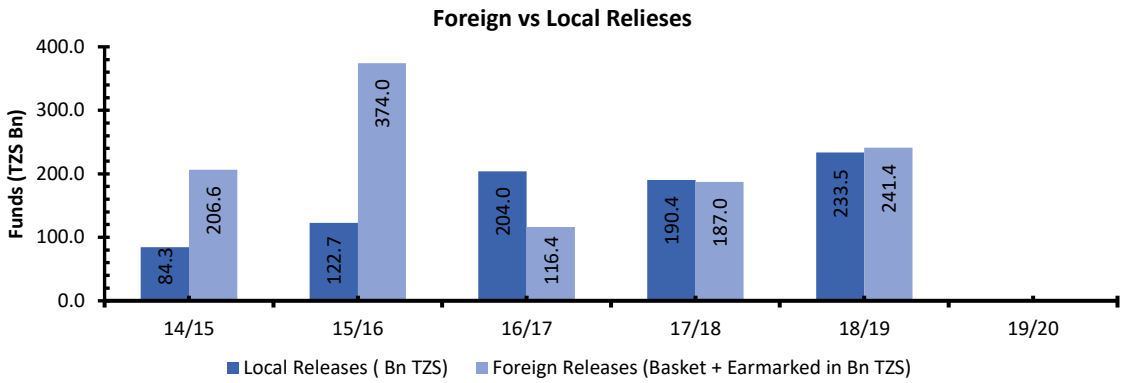


Figure 5-9: Trend of contributions in WSDP II.

Table 5-15: Sector spending since FY 2014/15

FY	14/15	15/16	16/17	17/18	18/19	Total
Sector spending (Bn TZS)	304.2	510.8	317.5	372.5	448.3	1953

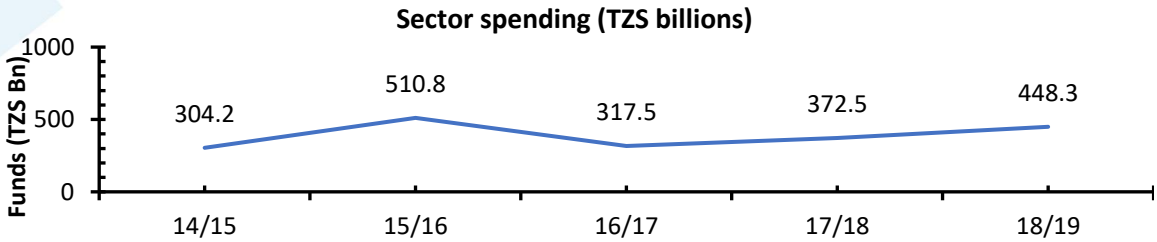


Figure 5-10: Sector spending trend since FY 2014/5

[17] Six Exchequer issues (in a non-uniform manner) were made during the year averaging TZS 14Bn per release.

[18] Eleven Exchequer issues (much consistent) were made averaging at TZS 11Bn each.

[19] Foreign sources and their respective shares: DfID (28.5%) World Bank (27.7%), KOICA (16.5%), AfDB (15.4%). Contribution from; Germany KfW, South Korea, NORAD (Norway), AFD, Geita Gold Mine and UNICEF amounts to a cumulative total of 11.9%.

Sector spending (DEV budget) has been increasing steadily since FY 16/17. A cumulative total of TZS 1.953 Trillion[20] is reported to be spent. Table below depicts the spending pattern in WSDP II. Due to decreasing allocations, spending for water resources hasa decreasing trend but fully consumes the entire amount received. Spending by the Programme Delivery Support component has been erratic fluctuating from 4%, 1% and ended up at 3% in FY 18/19. (*vote 49 Audit reports*).

Table 5-16: WSDP II Components allocations against spending

No	Financial Year -->	16/17	17/18	18/19	19/20
	Item description (below).	TZS Billions			
1	Allocations for Water Resources development and management	54.2	52.2	41.0	35.0
2	Spending for Water resources development and management	9.8	2.4	5.7	
3	Allocations for Water Quality	8.5	8.9	7.7	5.0
4	Spending for Water Quality	2.1	0.38	1.7	
5	Allocations for Water supply and sanitation (rural and urban)	813.0	536.4	549.3	547.9
6	Spending for Water supply and sanitation (rural and urban)	201.3	335.6	423.8	
7	Annual Vote 49 spending for Components 1,2,3 and 5	222.3	342.3	448.3	
8	Annual Vote 49 spending for Components 4		25.27	28.97	
9	Spending share for water supply and sanitation	91%	98%	95%	
10	spending share for water Resources management	5%	1%	2%	

Transfers from MoW to Implementing Agencies for the period FY 14/15 up to FY 17/18 totals TZS 1.057 trillion. A minimum of TZS 38.6 billion was transferred to Implementing Agencies for Water resources. Transfers to Implementing Agencies for water supply and sanitation for both rural and urban projects amounted to TZS 1.002 trillion. Cumulative spending for the sanitation and hygiene campaign (usichukulie poa Nyumba ni choo) amounts to a total of TZS 57 Bn. The spending occurred in FY 15/16,FY 17/18 and 18/19 (*Vote 49 Audit reports*).

[20] This is a minimum amount due to the fact that not all sector interventions are accounted for by MoW.

Table 5-17: Releases to WSDP Component Implementing Agencies.

Description (below rows) FY →	14/15	15/16	16/17	17/18	Total transfers to Components IA in billion TZS
	Billion TZS				
Transfers to WRM IA	15.5	8.32	11.947	2.8	38.6
Transfers to RWSS IA	69.82	67.9	105.4	182.3	425.4
Transfers to UWSS IA	71.74	256.1	96.04	153.4	577.3
Transfers to S&H		3.5		28.9	32.4
Spending for PDS			9	3.8	12.8
Total Annual transfers out to Components IA	157.06	335.82	222.387	342.3	1086.5
Annual receipts (from local, foreign and other sources)	304.2	510.8	317.5	372.5	1505.0

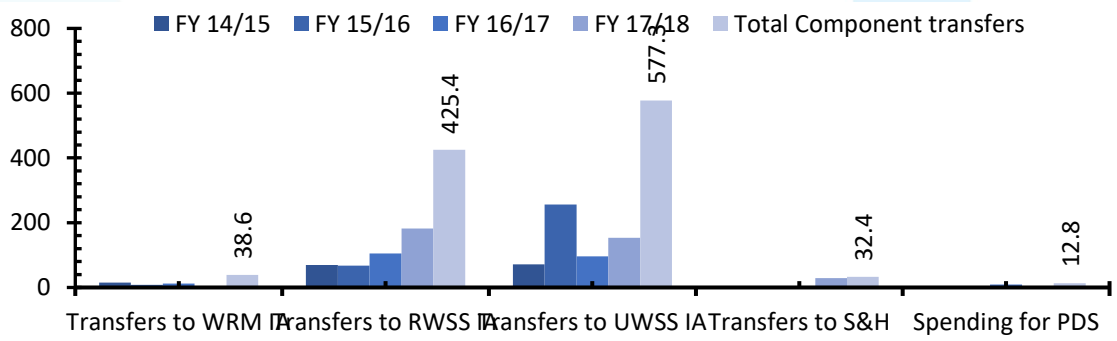


Figure 5-11: Releases to WSDP Component Implementing Agencies.

For the four-year period, share of transfers to Implementing Agencies for water supply and sanitation projects in urban and rural was 92% while transfers to Implementing Agencies of Water Resources Management (WRM) amounted to 4% and 3% for sanitation and hygiene.

5.2.3 Water Sector (Vote 49) audits

Annual audits for Ministry of Water (vote 49) are undertaken by the National Audit Office (NAO) as a statutory requirement. The audits aim at ensuring that implementing agencies in the sector have effective financial controls with strengthened financial management and reporting for complying with defined budgeting and financial management rules and regulations. NAO has the mandate to perform other types of audits such as special audits, value for money (performance audits), technical, procurement and others as deemed necessary.

During the period, clean (Unqualified opinions) have been obtained successively in the annual audits undertaken for vote 49. Issuance of Audit reports along with their Management Letters is done at the end of March (nine months) after the end of the respective FY. WSDP transactions are processed in the Integrated Financial Management System (IFMIS) where the financial statements are prepared. The financial statements are prepared in accordance to the Public Finance Act of 2001 (revised in 2004) and its regulations, International Public Sector Accounting Standards (IPSAS) Accruals basis and guidelines issued by Ministry of Finance. The Auditor's opinion gives assurance that financial statements are free from material errors or mis-statements and fairly represent compliance with the public procurement act No 7 of 2011. MoW submits vote 49 (WSDP II) draft Annual Financial Statements to the National Audit Office not later than three months after the end of every financial year for the audit process.

5.3 Issues in Planning and Financing and proposed next steps

Chapter 4 of this report has showcased the clear achievements in realizing water supply and sanitation plans in WSDP II. The achievement is attributed to a steady prioritization accorded whereby TZS 2.4 trillion (94% share of allocations) and over TZS 0.96 Trillion (81% of spending) was on water supply and sanitation projects. Although interventions on the sanitation and hygiene area are yet to be fully realized, funding is adequate. The urban component has an excess of (+71%) of commitments. The above factors, when contrasted with concerns raised in Chapter 3 of decreasing water resources due to growing population, looming adverse impacts of climate change, a need for an adjustment to future sector plans becomes essential. WSDP II activity plans for water resources will be reviewed with an objective of increasing allocations and prioritization to improve on the country's water security. Considering the long lead times to realize benefits of WRM interventions, there is a need for a fast call to action based on assurance and continued stakeholders support. To obtain a complete quantified picture of all stakeholder support in the sector, a simple but accurate mechanism to track the support will be institutionalized.

6 CHAPTER SIX | PERFORMANCE MONITORING AND REGULATION

This chapter explains how sector progress is assessed and reported. The reporting period is from FY 14/15 during the additional financing period but the main focus is WSDP II FY 16/17 until December 2019. Reported data in this report comes from three main sources of the M&E framework i) infrastructure, ii) evaluation studies and surveys initiated by MoW and iii) external surveys such as the HBS[21], JMP[22], National census). Assumptions and plans of WSDP II in January 2015 was a smooth institutionalization of the M&E framework where updates to the results matrix will be automatic and routinely done.

Unfortunately, the assumptions have proved futile as the challenges and complexities involved to institute a unified, widely accepted, comprehensive performance monitoring system that tracks progress in a uniform manner were underestimated. Despite dialogue agreements on enhancing monitoring and improving the reliability of sector data and reports, population of WSDP II baseline information was delayed. Fulfilling of the global requirements has made good progress since the SDGs sector indicators are now domesticated. The Chapter further explains on the institutional framework for regulating IA as a mechanism to strengthen their capacities to deliver water services and managing water resources effectively. The Chapter further discusses on existing safeguards arrangements and progress attained on this front. The key issues are highlighted for resolution.

CHAPTER SYNOPSIS

Planning & Financing

- Data disparities on rural access have been resolved. This is a milestone achievement for the results monitoring matrix.
- Field monitoring visits at all levels (compared to FY 14/15) have increased and proven to be effective. The outcome is seen on the accelerated deliveries in water supply.
- Earlier dialogue challenges have been resolved. Current structure fits the current context.
- Regulation of implementing Agencies for improved overall governance of water supply, sanitation and resources management institutions is proving to be effective.
- Compared to FY 14/15, safeguard has attained high levels of success. Cumulatively, TZS 41 billion of compensation has been paid and safeguard issues resolved and closed.

Issues:

- Obtain stakeholders approval of the Integrated M&E Framework:
- Revive and restate the dialogues Mechanism to its previous vibrant nature

[21] Household Budget surveys
[22] Joint Monitoring Platform

6.1 Performance Monitoring

The merits of a performance monitoring framework in guiding sector planning and implementation for complex programmes like WSDP II are known and appreciated. When the framework was introduced in FY 14/15 during the additional financing period of WSDP I, its main aim was to guide all sub-programs on effective planning; tracking implementation progress, improve processes, outputs, outcomes and impacts of services while promoting transparency and accountability. WSDP I ended with different access figures on rural performance. A disparity existed between BRN figures (which rebased the baseline) and those provided from consolidated routine monitoring data.

In July 2016, at the onset of WSDP II, the results monitoring matrix (a component of the sector M&E framework) was agreed to continue being the single tool for reference of sector progress. M&E, as an important intervention area in WSDP II was allocated a total of $ 1.746 million. However, a change in context in WSDP II specifically the bias of foreign financiers towards earmarked financing reduced flexibility in planning and exacerbated the financial resources challenge in a manner that adversely impacted initial planning and implementation of monitoring activities.

During the first year of WSDP II implementation (FY 16/17) M&E interventions were being refined. Tools namely results monitoring matrix and the draft M&E action plan were in place to assist on operational guidance and performance assessment respectively. However, they were being reviewed with a view of increasing clarity of the indicators as well as alignment with key outcomes to national priorities and global agenda such as National Development Plan and SDGs. (*2nd Aide Memoire of June 28 – July 6, 2017*).

While there is evidence that the overall monitoring process undertaken by stakeholders during the review period has been effective, earmarked financiers have their own mechanisms to fund and account for their monitoring activities. The resulting costs incurred in monitoring visits are not always itemized and disclosed.

Faced with resources constraints, MoW adapted to the situation with a flexible, less coherent approach in monitoring implementation progress. During the 2nd Joint supervision in 2017, it was accepted to monitor progress at component level and this decision has proved to be effective. As explained in the preceding chapters notable achievements on water supply access have been realized. Principally, the sector monitors performance using two broad mechanisms: self-monitoring (Institutional Agency) - and external monitoring (third party).

The above monitoring mechanisms are further undertaken using the following levels: *(draft M&E framework)*

i. Monitoring at community level (rural and urban)
ii. Monitoring at national level (MoW/ Headquarter level) (routine data consolidated)
    a. Dialogue mechanism (TWG, JSM, SC, JWSR)

b. Field monitoring (MoW and other national leaders)
c. Specific field surveys of multidisciplinary teams of experts
d. Technical supervision and internal technical audits
e. IT systems (IFMIS, MIS and others)

iii. Monitoring at LGAs and Regional Levels
iv. Monitoring at Basin level
v. Monitoring at utility level

As far as progress of monitoring is concerned, as of December 2018 the results monitoring matrix was still incomplete and not yet aligned with the SDG indicators. This has led to inconsistent and fragmented reports across the sub-sectors which do not necessarily provide a realistic picture of sector performance.

Recent feedback from implementing agencies is that the frequent visitations by stakeholders (MoW, Earmarked financiers and others) could be more coordinated. Much as the visits are very beneficial to them, they end up taking a huge chunk of the IA time leaving them with limited time to focus on important admin issues and other implementation activities. In December 2019, cognizant to the importance of a coherent approach, MOW agreed to revive and revert back to the M&E framework approach.

6.1.1 Monitoring levels.

During the period, effective and adequate monitoring at the community level (rural and urban) has been done. At the national level, consolidated routine data has been discussed at MoW meetings. At national level numerous internal reviews and assessments of field reports has been done at sections, departmental, management and ministerial meetings. A notable increase in field monitoring visits for supervision and launching ceremonies as reported in the media and evident in financial records is vivid. Unlike the situation in WSDP I, field visits by senior ministerial officials have proven to be effective at resolving implementation snags via escalations, resolving general issues and steering implementation in the right course.

Dialogue mechanism is a codified SWAP arrangement via a system of Technical Working Groups, Joint Supervision Missions and Joint Sector Reviews to ensure adequate coordination in the sector. Dialogue meetings in WSDP I were funded by basket financiers and the reduction of basket financing reduced the overall incentives for sector dialogue. At the onset of the second phase in FY 16/17, a sluggish dialogue was noted resulting to the dialogue mechanism falling to disuse. The relocation of MoWI to Dodoma has not helped, and with the shift to earmarked funding MoW has not managed to finance activities from its own resources. But the key reason, and one which affects both government and DPs, is that the dialogue was generally regarded as an integral part of the basket funding mechanism. (*WSDP II MTR*).

During the period in review, three joint supervision missions have been conducted in 2016, 2017 and 2019. Participation has been from Ministry of Water (MoW), Ministry of Health, Community Development, Gender Elderly and Children (MoHCDGEC), the President's Office Regional Administration and Local Government (PORALG), Ministry of Education Science and

Technology (MoEST), Development partners and other ministries, departments and agencies. As per the Aide Memoirs, performance rating of WSDP II implementation in these missions has been moderately satisfactory successively.

Overall dialogue meetings have not been very effective and vibrant as in WSDP I. To resolve the dialogue challenges, MoW representing the Government of Tanzania (GoT) and Development Partners Group supporting the Water Sector met in Dodoma in October 2018 to agree on the best structure and modalities to enhance WSDP implementation and revitalize the dialogue.

The GoT and DPs jointly agreed on reviewing the dialogue mechanism and structure it as below:

(i) To refocus the sector dialogue on the sector strategy-in light of the vision to achieve the SDGs;
(ii) To reduce MoW's reporting and compliance requirements burden to realistic levels based on minimum requirements;
(iii) To adopt a thematic approach and further reduce the number of sector dialogue meetings by making changes to their structure;
(iv) To ensure shared costs among stakeholders and agree on a protocol for cost sharing/contribution to the Dialogue between GoT, CSO, private sector DPs (Earmarked and Basket).
(v) To change the timing of the annual Joint Water Sector Review (JWSR) from November to March during the Maji week. Steering Committee (SC) was renamed to be Programme Management Committee (PMC) as a platform to discuss Programme related matters.
(vi) To support to PCDU as normal and JSM but Program Management will depend on individual stakeholder interest and readiness.

The above agreements were succeeded with the first Maji week event in March 2019 that introduced the scientific aspects in the sector. A dialogue calendar for FY 2019/20 was shared but to date a few dialogue meetings under the new setup have been held. More efforts are needed from both sides (MoW and DPs) to meet as scheduled

In September 2019, the Development Partners Group supporting the Water Sector gave a proposal to discontinue the traditional joint supervision mission arrangement and instead have bilateral missions that will be done on need basis.

Field monitoring by MoW and other national leaders, visits by multidisciplinary teams of experts, technical supervision and internal and external technical audit visits have been done. External technical visits to verify reports for performance based programmes (such as PbR and in future P4R) have contributed to resolving the data disparities and convergence to reliable data on access. Overall, there are improvements on reliability of information shared in dialogue settings and this is proof of effective systems of information flows across the sector.

Specific field surveys (IPSOS survey) have been undertaken in the sector. Overall, Institutional internal (self) and external monitoring by MoW, PORALG and Ministry of Health and education at LGA and regional levels has been done. Monitoring at basins and utility level (WSSA) has been done by MoW and EWURA respectively. EWURA compiles data and information from WSSAs annually and releases the Annual Water and Sanitation performance report. These reports are discussed during the EWURA event held during Maji week celebrations that collectively discuss sector performance. Aggregated data and information from the LGAs is channeled to RUWASA.

Reports from field visits, surveys and other sector studies are shared and discussed in management meetings. The contracts documents, contractual payments, progress reports, quality of works, technical specifications and coordination meetings are used to determine sector performance. In addition to reports, other deployed tools such as the IFMIS, MIS (web based) are used to store and disseminate information and data on the sector plans, budgets, contracts, and expenditures for decision making and supporting financial management and reporting.

As of December 2019, due to the recent sector reforms (introduction of NWIF, RUWASA, move of Executive Agencies of the Drilling and Dams Construction Agency (DDCA) and Maji Central Stores (MCS) to RUWASA), a shift of Financiers from Basket to Earmarked modality of funding that requires different and increased report requirements necessitates a need to review the M&E framework. All of the above factors give the justifications to review and update the draft M&E framework to manage and improve the supervision interactions and harmonize reporting needs with all implementing agencies

Due to the effectiveness of the current monitoring arrangement, the only issue to be tackled in the coming months is to feed the outcome of these wider sector monitoring initiatives to the results monitoring matrix for a coherent and coordinated sector wide information sharing.

Evaluation

Between May and October 2018, a midterm evaluation of WSDP II was undertaken. This evaluation was funded by external support and the key findings are as below:

i. *Programme strategy*: During the first year of Phase 2, revising the programme results framework to improve indicators alignment with the SDGs was yet to be completed.
ii. *Progress towards results:* The observed unrealistic budget framework for WSDP II and incomplete results framework made it difficult to measure programme performance against objective and targets, hence impacting overall efficiency in programme management. Clear budget and results framework for WSDP II was an immediate priority in the next missions.
iii. *Programme implementation and adaptive management*: Mechanisms for learning from programme experience and applying that learning to improve operational effectiveness was lacking.

iv. *Sustainability:* Due to largely unpredictability of funding, it was very difficult for implementing agencies to focus on longer term strategies for delivering sustainable outcomes. (*WSDP II MTR report*)

Performance on key indicators.

The key target and indicators in the water sector by 2020 as access to safe water in rural areas, 85%; Regional centers and Dar es Salaam, 95%; Proportion of rural households with improved sanitation facilities, 75%; regional centers, 50% and Dar es Salaam, 40%; Non-revenue water (NRW) for regional centers, 25%; and NRW for Dar es Salaam, 30%

The mission reviewed the sector performance against planned targets in 2020/21. Data provided by the Ministry of Water shows that overall progress achieved was below target. As of December 2018, access to basic water supply in rural areas was reported to have reached 64% against a target of 85% by 2020. In urban areas, for the same period reported access was behind target by 10% in both DAWASA and Regional centers and was 26% behind target in small towns. Achievements on sanitation were much lower as compared to water supply provision. Population with safely managed sanitation was 21% against a target of 40% by 2020/21. This level of progress requested significant efforts to move the sector forward - (*4th JSM Aide Memoire February 27 – March 22, 2019*).

6.2 Regulations

MOW takes the functioning regulatory systems as a central feature of good sector governance. The MOW has set the regulatory framework to have a set of rules, processes, and monitoring and enforcement mechanisms that ensure service providers adhere to national service and quality standards.

6.2.1 Water Supply and Sanitation Institutions

Regulation is applied to urban water utilities and the service providers by EWURA. The focus is on tariffs, service quality and consumer protection. EWURA is responsible for technical and economic regulation of the water and sanitation utilities in Tanzania. As stipulated under the Water Supply and Sanitation Act, No. 5 of 2019, RUWASA has the responsibilities which include registering and regulating the performance of community organizations.

6.2.2 Water Resources Institutions

To strengthen the capacities of water institutions for sound water resources management and development to promote good governance of water resources including encouraging participatory and transparent decision making, MoW carries out regulations of the water resource management institutions to grant secure water rights, improving water quality management, pollution control and strengthening the regulatory capacities. The Ministry of Water is carrying out the regulatory responsibilities through the DWR, National Water Board, BWBs, BWOs, Catchment Committees and WUAs. All of the above bodies are mandated with

powers to regulate, mediate rules and by-laws in the areas of their jurisdiction including conservation, protecting water sources, and enforcement of the law.

6.3 Environmental and Social Safeguards

Environmental and Social Safeguards compliance is essential in water projects as it provides mechanisms of ensuring that environmental and social management issues are adhered in accordance with the Environmental Management Act. No 20 of 2004 (EMA 2004) and its Regulations. The Ministry continues to advice, coordinate, mainstreaming and enhancing the compliancy of safeguards issues to all WSDP Implementing Agencies (IAs). The safeguards instruments/frameworks for water projects include Environmental and Social Management Framework (ESMF), Resettlement Management Framework (RMF) and the Guidelines of Good Environmental and Social Practices (GGESP

The Safeguards Section is placed under the Project Coordination and Delivery Unit (PCDU) under the Ministry of Water. This section enhances coordination of safeguards issues across the Ministry's departments and the implementing agencies. MOW has the capacity and professionals to carryout EIA for new projects, environmental audit for rehabilitation projects, hazard or risk assessment and environmental management plan (EMP). MOW interacts with procurement entities and provides funds, as required, to the concerned entities to consult NEMC and hire consultants to carry out an EIA.

6.3.1 Compliance and Requirements

The Ministry has reviewed and updated the safeguard instruments/frameworks for water projects which include environmental and social management framework (ESMF), Resettlement Management Framework (RMF) and the Guidelines of Good Environmental and Social Practices (GGESP).

The MOW uses ESMF as performance monitoring of a number of strategies in undertaking the assignments. These include an outline of a comprehensive checklist for the potential environmental and social impacts and their sources; systematic procedures for participatory screening processes for project sites and project activities for environmental and social considerations; a step-by-step procedure for forecasting the main potential environmental and social impacts of the planned project activities; environmental management plan to address negative externalities in the course of project implementation and operations within environs; monitoring system for implementation of mitigation measures; and outline of recommended capacity building measures for environmental planning management and monitoring of the project activities. MOW involves as a pre-requisite the participation of local communities at all stages in the development process.

The monitoring of the Resettlement Policy Framework (RPF) for land acquisition starts with determination of land ownership including screening of the project sites and activities. This is followed by property and asset valuation which would require approval of resettlement plans and monitoring of the resettlement plans. MOW insists on effective redress of complaints and grievances. The Public consultation and participation is a prerequisite.

Environmental and Social Safeguard compliance is driven by the enactment of Environmental Management Act of 2004 with its regulations such as the EIA and Audit Regulation of 2005 (amended 2018). At the beginning of WSDP in 2006 a number of initiatives were taken into consideration to mainstream environmental and social safeguards in the sector plans, strategies and project implementation. It is through WSDP where Safeguard frameworks such as ESMF and RMF as well as water Sector EIA guidelines were developed to ensure the compliance of all water sector projects implemented under WSDP.

The monitoring of the Resettlement Policy Framework (RPF) for land acquisition starts with determination of land ownership including screening of the project sites and activities. This is followed by property and asset valuation which would require approval of resettlement plans and monitoring of the resettlement plans. MOW insists on effective GRM system to redress of complaints and grievances.

6.3.2 Achievements and Results

Despite of the existing safeguard frameworks, a low pace of safeguards compliance was experienced in the water projects as a number of projects started without ESIA studies. Non-compliance on land acquisition and resettlement notably existed. To solve the non-compliance, it was agreed during WSDP I Restructuring in 2014 to have additional financing (about USD 500,000) to spearhead safeguards compliance.

Additional financing on safeguards management after restructuring in 2014 facilitated the compliance of safeguards from 2015 onwards where ESIA, EA and land acquisition were efficiently implemented in all urban WSS and WRM strategic projects. From 2015 to December, 2019, a total sum of TZS 41.302 Billion has been compensated to 12,365-project affected people.

Out of 14 NPs pending issues in 2015, 13 NPs have been cleared for resettlements and land acquisition compensations. This makes the compensation success of 93% of the 19 non-compliance urban water supply projects in 2015, it is only 2 projects are still under processing and 17 projects are cleared and approved. This gives about 89% of urban water compliance with ESIA. In the WRM by 2019, the three strategic dams of Kidunda, Farkwa and Ndembera/Lugoda are now 100% complying with ESIA conditions. With regard to water resources, SESA were prepared and approved to six river basins for effective operationalization of IWRMD Plans. This presents about 67% of approved SESA by Basins

The land acquisition is now one of the safeguard compliance with water projects at regional and municipal councils to include into urban planning areas for water infrastructures. The small water infrastructure and projects have to adhere to voluntary land donation protocol with the local communities as guided by the revised RMF. Actually it has been very difficult in the beginning of the WSDP as there were no clear KPIs and targets on safeguard compliance.

It is recommended now that one of the critical areas on safeguard that needs to be taken into consideration is ensuring that Municipal and Regional Master Plans will take in board the safeguard compliance to areas for water infrastructure development. This will minimize the

compensation and complains from the communities. The Ministry will continue mainstreaming safeguards issues in all strategic plans and development as well as continue with institutionalization of Environmental and Social Management in the Ministry and implementation agencies. Timely compensations have to go in line with timely resettlements to avoid double payments

Trend of Non-compliance on Environmental and Social Safeguards to Strategic Projects is shown by Appendix 6-7, while the paid compensation for land acquisition is shown by Appendix 6-8. Non-Payments for Compensation for Land Acquisition and Resettlements is shown by Appendix 6-9.

6.4 Next steps

This Chapter has identified key issues for further enhancement, discussion and actions to improve the sustainability and performance monitoring systems and safeguards:

1. *Approval of the Integrated M&E Framework*: The Ministry of Water has the draft M&E Framework which contains the programme results matrix. MoW will improve indicators, revise and align them with the SDGs. MoW plans to update and share with stakeholders the M&E framework. During the Maji week of March 2019, it was recommended the M&E Framework requires to be upgraded to establish baseline data and improve the output and outcome indicators.
2. *Sector Dialogues Mechanism:* Dialogue calendar is in place but dialogue has not been as vibrant post roundtable. More efforts are needed from both sides (MoW and DPs) to meet and carry out joint monitoring and evaluation missions as scheduled and agreed.
3. *Mainstreaming Safeguard Issues*: The resettlement and land compensations are among the critical area on safeguard that needs more attention. As the Ministry continues mainstreaming safeguards issues and institutionalization of Environmental and Social Management screening, it is advised to introduce GRM to all sector projects so as to minimize the grievances from the communities. Timely compensations done by the government are recommended to be followed by immediate resettlements to avoid double payments.

7. CHAPTER SEVEN | ORGANIZATIONAL CAPACITY DEVELOPMENT

This chapter covers the status of capacity development for Ministry of Water and its Implementing Agencies for the period of 2015 to 2020. This means that, the chapter has not included other sector actors who have influence on the same. These includes for instance Ministry of Health, Education and PO RALG who have a stake on sanitation part of the sector. Neither has it included capacity issues on players such as NGOs, CSOs, CBOs, the private sector and others. Within this scope, the chapter is intended to report status around all aspects of institutional capacity namely: Human Resources (skills and head count), Working Tools, Operating Systems, Working Environment and other cross cutting issues. Appendix 7-1 give a summary of status of these categories for the Water Sector Status Report.

CHAPTER SYNOPSIS

Human Resources

- As of 2018/19, Ministry had a total of 6,476 staff and still needs 798 individuals
- By end of 2019, Staff training have been conducted and some are ongoing i.e.: 610 certificates, 302 diploma and 128 degrees (53 Masters and 2 PhDs)
- Between 2015/16 and end of 2019, No. of women in strategic position has increased from 68 to 199 (Director position), 223 to 389 (Assistant Director and other Senior position) and 77 to 102 Board Members

Working Tools & Environment

- By end of 2019, a total of 121 cars (excluding RUWASA) are being maintained by MoW and IAs (most of them from 2015)
- Construction and rehabilitation of offices is at advanced stages to accommodate the Move to Dodoma Capital City,
- Infrastructure and tools for shifting to e-Government are at implementation stage with financial approvals already done on line,

7.1. Human Resources Capacity Development

The goal for human capacity development is centered around building knowledge, skills and attitudes of individuals, including empowering women, to deliver sustainable water resources management and development. In the ministry, this is guided by Public Sector Reform Program policy (GoT, 2000) from President's Office under the Public Service Management and Good Governance Ministry. In addition, the ministry has developed a unified Capacity Development Plan (MoW, 2017) that was informed by CD plans from respective units and was validated by mid July 2015 at Morogoro.

Although it was difficult to establish a strong adherence to the CD Plan, staff have undergone long term and short-term trainings (Figure 7-1). In 2019 for instance, the database held by MoW HQ indicated that, long term trainings included 610 certificates, 302 diploma and 128 degrees (53 Masters and 2 PhDs) as illustrated in Figure 7-1 and summarized in Appendix 7-2. In addition, HR Directorate had carried out an audit report (MoW, 2019) which was submitted in September 2019 covering period of FY 2017/18 and 2018/19. The report indicated that by FY 2018/19 MoW and IAs had a total of 6,476 staff and needed 798 more (Appendix 7-3). Further comparison between FY 2015/16 data[23] and the results of the audit report shows that, Regional Centers Utilities have the largest needs of staff and that overall needs per staff category is uniform across *(Figure 7-3)*.

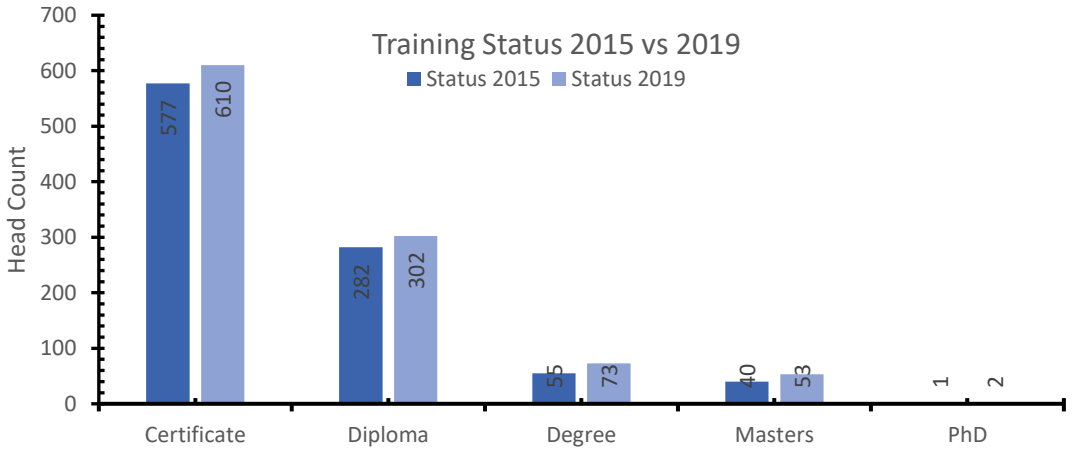


Figure 7-1: Trend of staff capacity building for long term courses [Source MoW HR Database]

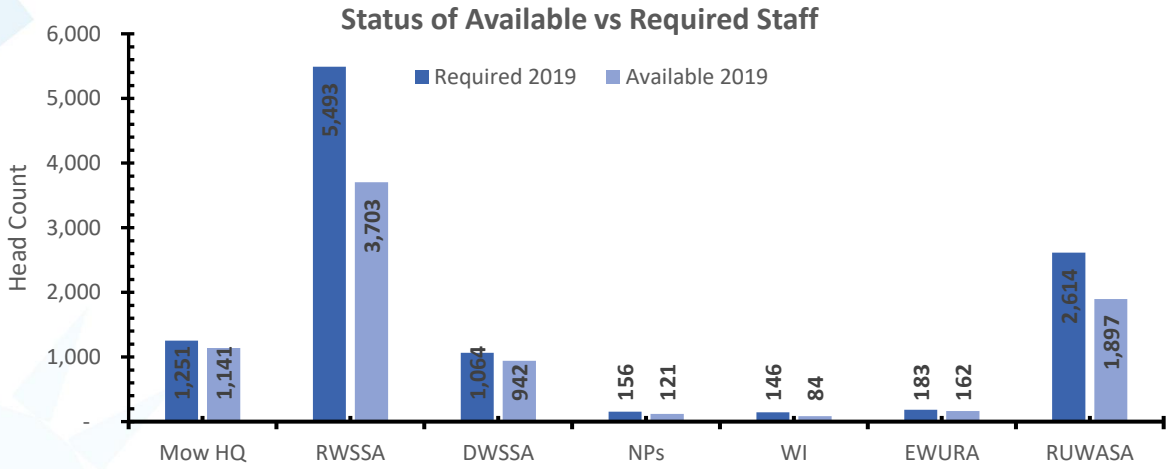


Figure 7-2: No of staff vs needs for MoW and IAs [Source MoW HR Audit]

[23] Held by MoW HR Department and updated every year

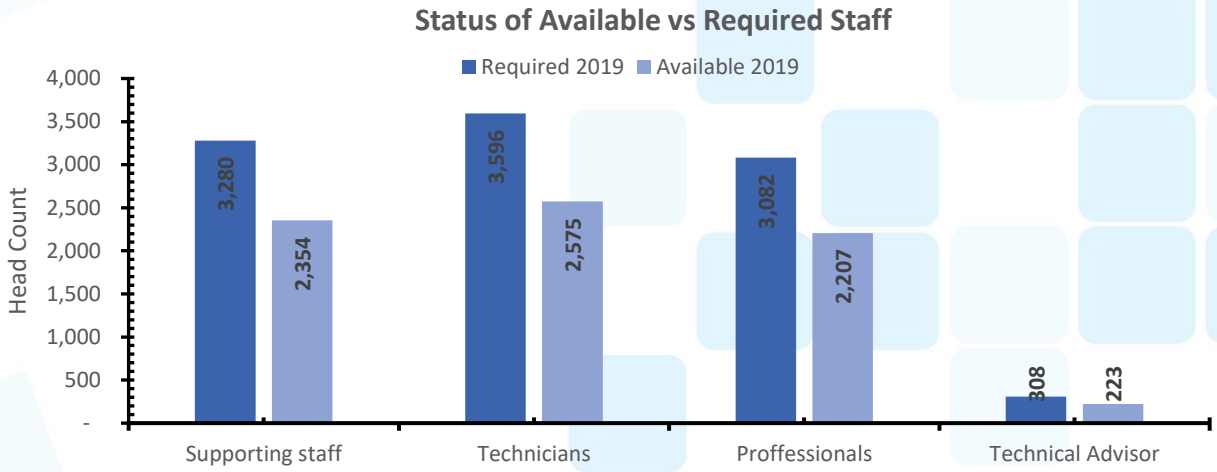


Figure 7-3: No of staff vs needs for different cadre [Source: MoW HR Database]

7.2. Working Tools and Systems

7.2.1. Working Tools

In the reporting period, the ministry and partners have continued to equip the sector with the necessary working tools. Appendix 7-1 give a summary of these tools that have been procured to capacitate sub sector implementers namely Water Resources Division, Water Quality Division and WI. More has been done in this area but supplied data included:

- Motor vehicles totaling 121 cars (excluding RUWASA who are carrying out verifications)
- Hydrologic flow measurements –ADCPs, boats, accessories for WamiRuvu and Rufiji Basins,
- Water Quality equipment – ACPs, AAS and others,

7.2.2. Information and Communication Technology (ICT)

As part of Institutional capacity development, the Ministry of Water and its institutions are using ICT to support improvement of internal operations and services delivery to the public (e-Government). Such initiatives are currently driven by the premise of e-Government Act, 2019 and related Regulations. According to the Government Standards and Guidelines, the use of ICT in public sector is evaluated in the following key areas: Internal ICT Policies and Guidelines; ICT Governance and Management; ICT Infrastructure; Cyber Security Management; and ICT Applications. The status in the water sector by December 2019 are as follows: -

(i) Internal ICT Policies and Guidelines:

ICT initiatives are implemented at the Ministry level based on Institutional ICT Policy approved in 2017 and its 3 years implementation plan 2017/18 – 2019/2020. Other ICT specific policies used include Acceptable ICT Use Policy and ICT Security Policy. All these Institutional policies and circulars were developed based on the National e-Government Standards and Guidelines. Other Ministry's Institutions/Agencies with ICT Policies include EWURA, Water Institute, and about 80% of the Regional Water Supply and Sanitation Authorities and few National Water Projects. However, all Districts and Township WSSAs do not have their institutional ICT Policies. All nine (9) Basin Water Boards adhere to MoW's ICT Policy and other National e-Government Standards and Guidelines.

(ii) ICT Governance and Management

The ICT activities at the Ministry HQ is coordinated by ICT Unit as per government guidelines. The ICT Unit is also responsible for supporting BWBs and Water Laboratory Offices in the absence of ICT Units and personnel at these institutions. Other Institutions with dedicated ICT Unit up to December 2019 include RUWASA, EWURA, Water Institute, and 50% of the Regional WSSAs. Districts and Township WSSAs do not have ICT units and personnel.

(iii) ICT Infrastructure

MoW and its Institutions/Agencies are optimizing ICT infrastructure in order to support ICT applications and business-relevant operations. The status is as follows: -

a) All institutions/agencies use computers and related accessories for the daily office operations and data management.
b) Institutions connected to the National Optic Fiber Cable for Internet services are Ministry HQ, NWF, RUWASA, EWURA, WI, and 80% of the Regional WSSAs. The remaining institutions especially some National Projects, Districts and Township WSSAs are not using OFC services.
c) Institutions connected to Government Independent Network (GovNet) for shared ICT applications such as e-Office, IFMS, etc are MoW HQ, EWURA, NWF, Water Institute, and RUWASA (DDCA). However, RUWASA, all WSSAs and National Projects are still not connected to the GovNet as a result cannot use shared ICT applications developed for Government institutions.

(iv) Cyber Security Management

Ministry HQ, EWURA, Water Institute, NWF, RUWASA, BWBs, and 90% of the Regional WSSAs are using firewall systems and licensed antiviruses. Some institutions/agencies use pirate security software instead of Licensed one as a result, threat to organization's ICT Security issues. Government requires that all its institutions/agencies should ensure that Cyber security management is given a priority in order to avoid threats for the institutional data and information such as those related to revenues. In order to achieve that the capacity within

institutions to manage Cyber security issues is needed such as expertise within institutions, licensed firewalls, antiviruses, etc.

(v) ICT Applications

The current ICT Applications that support institutional operations and business processes in the Water Sector include:

a) Water Sector Programme MIS (http://mis.maji.go.tz) used for supports reporting on WSDP financial management. This is used by all Institutions/Agencies in the Water Sector implementing WSDP.

b) The Water point Mapping System (https://wpm.maji.go.tz)/Central Data Management Tool (http://wpdm.maji.go.tz) for reporting on rural water points and service coverages. This is used by MoW, RUWASA (Districts and Regions), Development Partners, and other stakeholders.

c) Nile Basin Decision Support System (DSS) used as an analytical tool jointly developed by Nile Basin Initiative (NBI) and Member States to provide toolsets for the data processing, modeling, scenario management, optimization and multi-criteria decision making. As such its primary objective is to create a shared knowledge base, analytical capacity, and supporting stakeholder interaction, for cooperative planning and management decision making for the Nile River Basin. This is used by Ministry, Basin Water Boards and other Nile Basin Member States.

d) Water Utilities Information System (MajIS) as a tool to monitor performance of Water Supply and Sanitation Authorities (WSSAs). Monthly data and information are submitted by the respective WSSA's through the system and then annual performance reports generated and published electronically by EWURA. The system is used by Ministry, EWURA and WSSAs.

e) IFMS/EPICOR, e-Office, Budget Allocation System (SBAS), Human Capital Management System (LAWSON), Government Salary Payment Platform (GSPP), Government Mailing System (GMS), Government Bulk SMS (GovSMS), and Government Electronic Payment Gateway (GePG).

f) VAISALA and DAVIS System used to gather high-quality, real-time data that used in various weather observation activities ranging from forecasting. Vaisala and DAVIS systems help measurement, monitoring, and management of weather data. The system is used by Ministry and BWBs.

g) Water Utilities are using several systems including Billing Systems integrated with GePG; Customer Relationship Management; Call Centers; Accounting Packages; Human resources and payroll systems; Mobile meter reading applications; GIS applications; SCADA (Supervisory Control and Data Acquisition), and Electronic KPI dashboard. The use of electronic billing systems has improved billings and facilitates payment online without travelling to WSSA's offices for payment of bills.

7.2.3. Future ICT Plans

in order to address the existing challenges such as lack of connected institutions and existence of many electronic data management and reporting systems within the water sector that are not inter-linked, the Ministry of Water in collaboration with various development partners has initiated projects that are implemented based on e-Government Act, 2019 and its Regulations. The major projects under different stages of implementation include the following: -

a) Develop Unified Maji Information System: The Unified System is developed with technical support of e-Government Agency in collaboration with Internal Software Developers within Ministry and its Institutions/Agencies. The priority deliverables under Phase 1 are unified systems for Billing System as well as Water Projects and Contracts Management (dashboard of water projects. Other deliverables under this phase will be unified systems for water sources management; water distribution and supply management; and water sector services KPIs management.

b) Automation of existing 16 Water Laboratory Services in Tanzania.

c) Develop Operational DSS that will be capable of integrating hydro- meteorological data visualization and analysis platform for weather forecasting, climate prediction, flood/drought and stream flow forecasting and warning systems; water use permitting/varying support tools and water storage infrastructure operations. The integrated data visualization and analysis platform would help visualize and analyse archived, real-time, and forecasted hydro-meteorological parameters and integrate information from gauging/radar, satellite knowledge products, modelling outputs from global, regional, community-based disaster surveillance systems. It is also expected to improve the availability of information in the public domain using open data platforms to encourage downstream use of the data for further specialized analysis, interpretation and dissemination.

d) Connectivity of all institutions/agencies in the water sector to the Government Independent Network (GovNet) in order to use shared ICT Applications for the government institutions such as e-Office, Enterprise Resource Management Suite, etc. This will also facilitate cost effective use of Unified data management and reporting systems including internal communications between institutions within the Water sector and government at large.

e) Review the Institutional ICT Policies and Strategies based on e-Government Act, 2019 and related Regulations and develop an ICT Strategy and Enterprise Architecture for the Water Sector.

f) Promote the use of Geographic Information Systems for mapping of water resources, water distribution and supply infrastructure, and water service coverages; Prepaid Meters to avoid billing complaints from consumers; SCADA and other electronic systems to support controlling and management of Non – Revenue Water.

g) Capacity building and training for ICT technical staff and users on e-Services and Cyber security management.

7.3. Working Environment

Government operations have been moved to Dodoma Capital city in response to actualization of the plan to move its businesses to the capital city. This meant a heavy construction operation in Dodoma to accommodate the move. New buildings have been erected and rehabilitation of many others is ongoing. Maji house in Ubungo Dar es Salaam has been transferred to DAWASA's finalization and ownership while Ministry HQ has been constructed in Mtumba, Dodoma. However, still many staff are congested in available spaces, office furniture are being shared. To partly respond to this, Ministry staff have been scattered in several offices in the city which also hampers some operations e.g. movement of documents and holding of meetings which are typical government businesses.

In addition, construction and/or rehabilitation of laboratories have been done to upgrade them to ISO 17025:2017. By December 2018, constructions have been completed in Mwanza, Musoma, Bukoba and Kigoma, Furthermore, extension and rehabilitation of Dar es Salaam Water Laboratory is 99% complete and Songea Lab is 65% complete. On the other hand, there is ongoing construction of new laboratory buildings for Shinyanga (progress is 98%), Singida (96%), Sumbawanga (87%), Mtwara (85%), and Mbeya (80%).

The already accredited Mwanza Water Laboratory has successfully gone through periodic technical audits by Southern African Development Accreditation Service Board (SADCAS). The six water laboratories, i.e. Central Water Laboratory, Kigoma Zonal Water Laboratory and Regional (Musoma, Bukoba, Shinyanga and Singida) Laboratories are in the final stages for submitting their application forms for initial assessment regarding ISO/IEC 17025: 2017. Additionally, all Water laboratories, under the Ministry, continue to undergo through a performance assessment for delivery of accurate and reliable data i.e. Proficiency Test undertaken by SADCMET. This is an indication that Laboratories continue to produces reliable and accurate data and information for decision making on the development of water projects and management of water resources

7.4. Cross Cutting issues

7.4.1. Stakeholder Participation

The role played by stakeholders is paramount with regards to delivering sector commitments and forms a critical part of sector strength. In this area, the policy direction committed the ministry to institute mechanisms for effective and appropriate stakeholder participation in the wide range of the sector i.e. water resources management, provision of water and sanitation services and strengthening capacity of practitioners, policy makers and community institution.

The strategy adopted to achieve this goal for Stakeholder Participation included:

a. Stakeholders analysis and identification of shared risks,

b. Development of stakeholder's engagement strategy and communication strategy at all levels,
c. Promoting the role of women and youth in sector priorities,
d. Enhance collaborations with institutions from different sectors,
e. Creation of forums around issues,
f. Deliberate engagement of the private sector (both service providers as well as water using firms).

In terms of engaging the stakeholders, the ministry (directly or in collaborations with stakeholders) has established and/or facilitated a number of multi stakeholders' bodies/platforms. The following are some of them:

- Hosted the 6th Africa Water Week in Dar es Salaam between 18 – 22 July 2016,
- Conducted 1 Maji Week Events in 16th – 22nd March, 2019 at Dodoma,
- National Multi Sectoral Forum for Water Resources Management (towards each end of calendar year recent one in 3rd December 2019),
- Annual General Meetings (AGM) for Water Supply and Sanitation services conducted in December 2019,
- 2nd National Water Board Meeting was conducted as per WRM Act, 209
- Basin Water Boards (all 9 boards have been formed),
- Nine Basin Multi Sectoral Forums for Water Resources Management,
- Board for RUWASA and Water Institute launched on January 2020,
- Engaged with DPG and Bilateral donors at various occasions.

These forums were used to ensure that stakeholders understand and meet their obligations and are actively involved in the planning, design and development of sector priorities. This is with the aim of improve service delivery, increasing ownership and hence sustainability of programs. Achievements accrued from engagements of these sector stakeholders includes the increased financing and a growing awareness on water resources and water services delivery.

In addition, stakeholders continued to (among others), provide inputs for water tariffs through EWURA CCCs. Similarly, water allocations (discussed in chapter 3) continued to be approved by the multi-sectoral Water Boards. In this regard, the ministry intends to continue with these engagements that deliver mutual benefits to all parties.

7.4.2. Gender Mainstreaming

The policy guidance for the sector was to empower and entrust women in different levels of decision making and be conscious of other special needs in the community. A threshold of at least a third of composition of any representative bodies should be women has been put in the legislation developed towards the closure of the previous decade and current ones. Women

have continued to be the central part in practice as witnessed in most Water Boards and Community Institutions (Figure 7-4). They have held positions of authority like chair or deputy and mostly treasures. The latter is inherent of the traditional trust bestowed up on women to take care of coffers in most parts of Tanzania. In addition, other demographic groups such as the youth, the disabled and the poor are being treated with special considerations enshrined well in the pieces of legislation developed. This includes special tariffs or infrastructural designs that doesn't deny them access to water services.

The main areas for gender inclusion continued to focus on:

- Fair representation of both women and men in representative based bodies in the sector,
- Guaranteed consideration of the special groups with special needs e.g. disabled, the youth and senior citizens,
- Consultation of all the appropriate demographic groups in the selection and management of water resources and rural water supply schemes,
- Empowerment of women to participate in decision-making, planning, supervision and in the operation and maintenance of water projects,
- Consultation of both men and women in critical discussions on lifeline tariff and other affordability issues, related to the provision of services in urban and town situations.

The strategy to increase gender sensitivity has been to:

- Monitor relative involvement of men and women in various aspects of the water sector
- Promote active participation of women in water affairs
- Involve women and men equally in the provision of water and sanitation services
- Cultivate and promote a culture of gender equality in communities

To broadly illustrate the status of gender mainstreaming in the water sector to date, gender aggregated information on: (i) Employment of Women and Men in Water and Sanitation Authorities and (ii) Participation of Women at different levels is summarized in appendix 7-4.

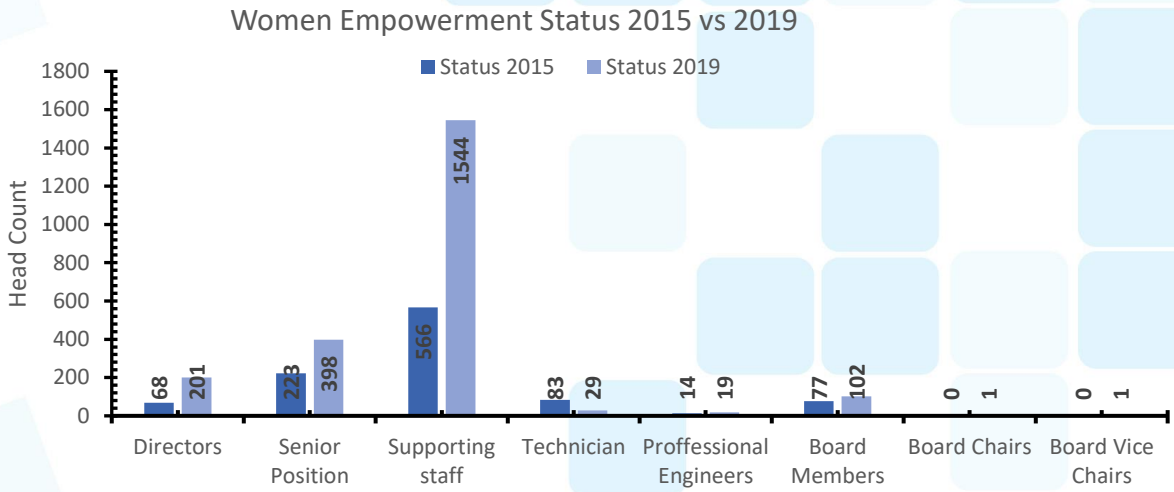


Figure 7-4: Trend of positions entrusted on women between 2015 and 2020 [Source: MoW HR Database]

7.4.3. HIV/AIDS

The sector policy direction was geared to reduce the spread of HIV and mitigate the impact of AIDS at all levels. Impacts includes loss of human capital, loss of leadership and reduced productivity. The strategy to reduce the spread of HIV and mitigate the impact of AIDS is to:

- Advocate behavior change among water sector stakeholders,
- Promote voluntary counselling and testing for water sector stakeholders,
- Provide care and support to staff living with HIV/AIDS.

Since 2015 MoW executed the following HIV/AIDS interventions:

- Mass sensitization and awareness creation to staff and the general public, during Maji week in March 2010
- Financial support to staff living with HIV/AIDS, to enable them to access supplements and other necessary needs for people living with HIV/AIDS

Furthermore, an initiative to integrate HIV/AIDS activities across the water sector has continued since 2011.

7.5. Key Issues

- Human resources in terms of head count and skills are paramount in delivering water sector targets. two things are critical to be considered in this category: (a) disaggregating the skills needed e.g. water supply vs sanitation engineer instead of categorizing on level of education only (e.g. technician vs engineer). The latter which is used by the ministry limits an understanding of actual skills needed. Furthermore,

capacity building of staff at MoW does not follow a developed CD Plan which even by itself doesn't consider other co implementers e.g. staff from PO RALG, Education and Health ministries – not to mention an understanding of skill set available to non-state actors as was carried out by Kimwaga et al, 2015.

- Within MoW and in the water sector generally, there is a tremendous amount of data, mainly in the form of reports that moves to and between departments and multiple IAs. This includes performance data that if reliable, will accurately measure internal compliance and performance along with applicable outcome, output and process indicators. Unfortunately, information delivery methods (mostly hard copy) are not reliable and are structured in a manner that is prone to duplications and hence lack integrity. However, the move to e-government platform may constitute part of the solution to this. It is worth noting that, mindset and attitude towards changes needs to be considered to spearhead this move.
- Working environment, tools and equipment are overwhelmed. However, recent support by sector stakeholders is bridging the gap by the day. These improvements should be seen to guide decisions e.g. improving forecasts, enforcing environmental sustainability and ease of doing business.

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APPENDICES

Appendix 1-1: List of Ministers and Permanent secretaries who have worked in the ministry responsible for water sector

NA.	JINA LA WIZARA	WAZIRI	MWAKA	KATIBU MKUU	MWAKA
1.	Kilimo	Bw. Dereck Bryeson	1961 – 1964	Bw. Ibrahim Sapi Mkwawa	01/12/1962 – 01/03/1964
2.	Ardhi, Makazi na Maendeleo ya Maji	Alhaji Tewa S. Tewa	1964 -1966	Bw. Dickson A. Nkembo	19/10/64 – 30/6/65
3.	Ardhi, Makazi na Maendeleo ya Maji	Bw. Said A. Maswanya	1966 -1968	Bw. Cleopa D. Msuya	1/7/65 – 6/12/67
				Bw. Ernest A. Mulokozi	6/12/67 – 24/3/68
4.	Ardhi, Makazi na Maendeleo ya Maji	Bw. Adulrahaman M. Babu	1968 -1970	Bw. David A. Mwakosya	25/3/68/ - 30/9/68
				Bw. Awinia Mushi	1/10/68 – 7/3/69
				Bw. Timothy Apiyo	8/3/69 - 10/11/70
5.	Maji na Nguvu za Umeme	Dkt. Wilbard K.Chagula	1971 –1974	Bw. Frederick Rwegarulila	5/11/70 – 8/11/75
6.	Maji na Nguvu za Umeme	Bw. I. Elinewinga	1974 – 1975		
7.	Maji, Umeme na Madini	Dkt. Wilbard K. Chagula	1976 -1978	Bw. Frederick Rwegarulila	9/11/75 – 1978
8.	Maji, Nishati na Madini	Bw. I. Elinewinga	1978 – 1982	Bw. Harith B. Mwapachu	16/8/78 – 1981
9.	Maji na Nishati	Bw. Al Noor Kassum	1982/83	Bw. Athumani Janguo	24/2/81 – 23/4/84
10	Maji, Nishati na Madini	Bw. Al Noor Kassum	1985/86	Bw. Fulgence M. Kazaura	24/4/84 – 5/11/85
11	Ardhi, Maji, Nyumba na Maendeleo Mijini	Dkt. Pius Ng”wandu	1985 -1987	Bw. H. Z. Talawa	6/11/85 – 23/3/87
12	Maji	Dkt. Pius Ng”wandu	1987- 1990	Inj. N. K. Msimbira	4/4/87 – 12/4/90
13	Maji	Bw. Christian Kisanji	1990	Bw. Paul J. Mkanga	13/4/90 – 13/11/90
14	Maji, Nishati na Madini	Lt. Kanali Jakaya M. Kikwete	1990	Prof. Mark J. Mwandosya	14/11/90 -13/12/92
				Bw. Ben Moshi	14/12/92 – 25/8/94
				Bw. Rafael O.S. Mollel	26/8/94 – 19/12/95
15	Maji, Nishati na Madini	Bw. Jackson Makweta	1995	Bw. J. Kipokola	20/12/95 – 10/5/97
16	Maji	Dkt. Pius Ng”wandu	1996	Prof. Idrissa Mtulia	20/12/95 – 21/1/01
17	Maji	Bw. Mussa Nkhangaa	1999	Prof. Idrissa Mtulia	20/12/95 – 21/1/01
18	Maji na Mifugo	Bw. Edward Lowassa	2001	Bw. Bakari A. Mahiza	1/2/01 – 9/11/03
				Bw. Vincent Mrisho	9/11/03 – 21/1/06

WSSR 2015 - 2020

19	Maji	Bw. Stephen Wassira	2005	Bw. Patrick Rutabanzibwa	21/1/06 – 1/12/08
20	Maji	Dkt. Shukuru Kawambwa	2007	Bw. Patrick Rutabanzibwa	
21	Maji na Umwagiliaji	Prof. Mark J. Mwandosya	2008 - 2010	Bw. Patrick Rutabanzibwa	
				Bw. Wilson Mukama	2 /12/ 2008 – 18/10/2009
				Eng. Christopher N. Sayi	19/10/09- 24/11/10
22	Maji	Prof. Mark J. Mwandosya	2011 – 2012	Eng. Chrisotopher N. Sayi	Nov 2010 – 15/10/2013
23	Maji na Umwagiliaji	Prof Jumanne Maghembe	2012-2015	Eng. Bashiri Mrindoko	16/10/2013 – 04/11/2014
24	Maji na Umwagiliaji	Prof Makame Mbarawa	2015	Eng. Mbogo Futakamba	05/11/2014
25	Maji na Umwagiliaji	Eng. Gerson Lwenge	2015- 2017	Eng. Emmanuel N.M. Kalobelo	2017
26	Maji na Umwagiliaji	Eng Isaack Kamwelwe	Okt 2017-30 Juni 2018	Eng Emmanuel N.M. Kalobelo	3/12/2017
27	Maji na Umwagilaji	Prof Makame Mbarawa	1 Julai, 2018 – hadi leo	Prof Kitila Mkumbo	04/12/2017 – hadi sasa

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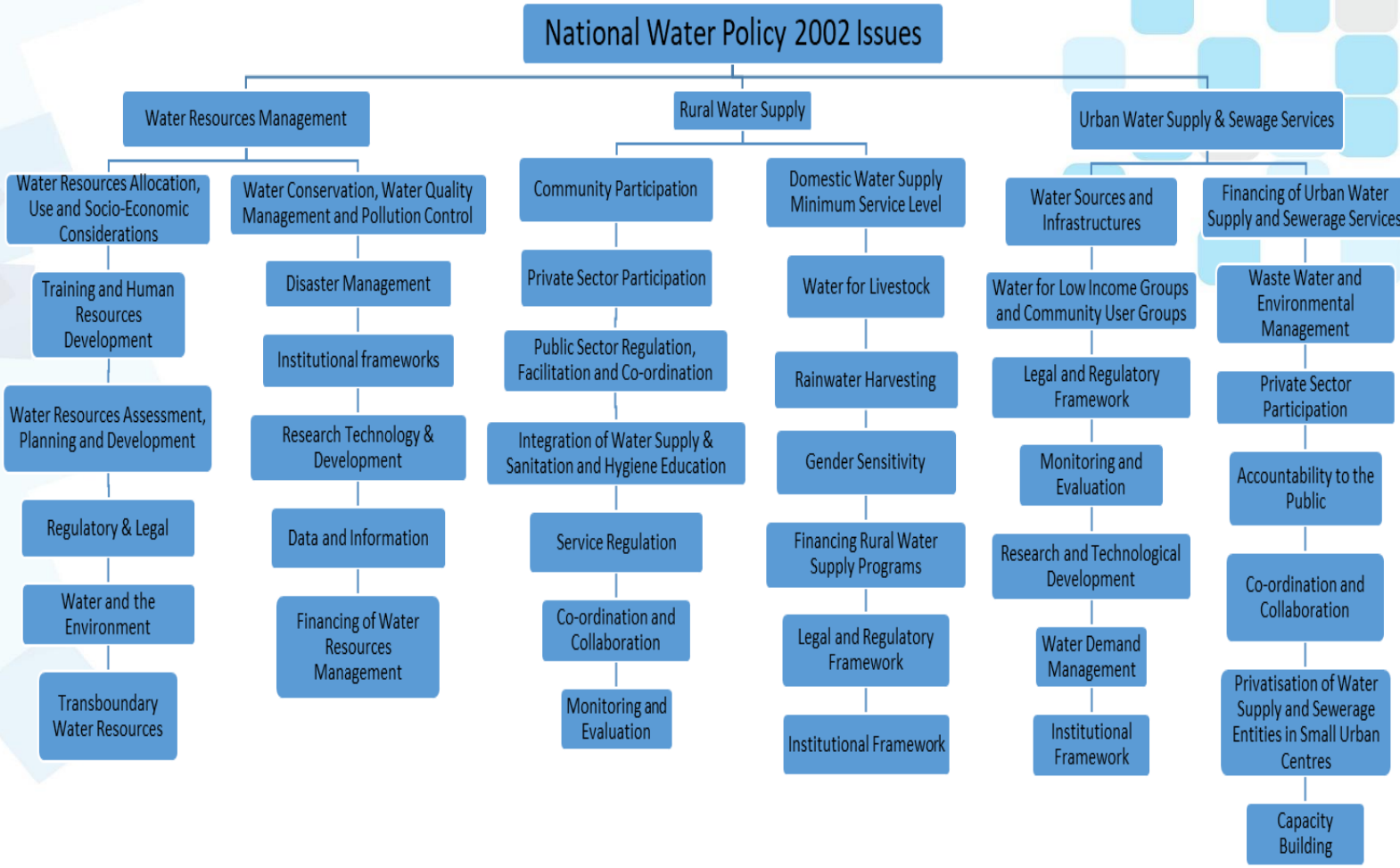
Appendix 1-2: Policy issues addressed by National Water Policy 2002



WSSR 2015 - 2020

Appendix 1-3: Water sector development program II achievements to date

WSDP II Target	Achievement by 2019
Target for Dar es Salaam	
To provide water supply services to 5,007,200 new beneficiaries in Dar es Salaam through 500,000 Household water connections, 26 boreholes and 10 kiosks; thereby increasing access from 68 percent in December 2013 to 95 percent by 2019; and reduce Non-Revenue Water from 55 percent to 25.	4,152,429 new beneficiaries 254,018 Household water connection 85% coverage 48.37% NRW
Target in Urban Centres	
To provide water supply services to 2,000,000 new beneficiaries in the 23 Urban Regional Centres through 200,000 Household water connections; thereby increasing access from 80 percent in December 2013 to 98 percent by 2019; and reduce Non-Revenue Water from 37 percent to 25 percent.	1,635,735 new beneficiaries 520,982 Household water connection 84% coverage 31.7% NRW
National Projects, District Head Quarters and Small Towns:	
to provide water supply services to 1,100,000 new beneficiaries in District Headquarters, Townships and areas served by National Projects through 110,000 Household water Connections; thereby increasing the access percentage from 53 percent in 2013 to 65 percent by 2019.	1,907,003 new beneficiaries 40,640 Household water connection 62% coverage 40.6% N RW

Appendix 1-4: Domesticated sustainable development goal number 6

SDG Indicator	Tier	Applicability	Domesticated Indicator
6.a.1 - Amount of water- and sanitation-related official development assistance that is part of a government-coordinated spending plan	Tier 1	Yes	OII - 1.91 Amount of water- and sanitation related official development assistance that is part of a government-coordinated spending Plan (S),
6.b.1 - Proportion of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management	Tier 1	Yes	OII - 1.22 Proportion of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management (P),
6.1.1 - Proportion of population using safely managed drinking water services	Tier 2	Yes	FYDP II 2016/17 - 2020/21 - 2.5.11 Access to safe water and sanitation in urban areas (% of total) (S), FYDP II 2016/17 - 2020/21 - 2.5.12 Access to safe water and sanitation in rural areas (% of total)(S), FYDP II 2016/17 - 2020/21 - 2.5.3 Population with access to piped or protected water as their main source in regional centres (%) (S), FYDP II 2016/17 - 2020/21 2.5.7 Dar es salaam population with access to piped or protected water as their main source (%) (S), FYDP II 2016/17 - 2020/21 - 2.5.5 Non Renewable Water (NRW) for regional centres (%)(S), FYDP II 2016/17 - 2020/21 2.5.6 Population with access to

SDG Indicator	Tier	Applicability	Domesticated Indicator
			piped or protected water as their main source in district capitals and small town areas (%) (S), FYDP II 2016/17 - 2020/21
6.2.1 - Proportion of population using safely managed sanitation services, including a hand-washing facility with soap and water	Tier 2	Yes	FYDP II 2016/17 - 2020/21 - 2.3.4.7 Access to safe water and sanitation in urban areas (% of total) (S), FYDP II 2016/17 - 2020/21 2.3.4.8 Access to safe water and sanitation in rural areas (% of total) (S), FYDP II 2016/17 - 2020/21 2.3.5.2 Proportion of the households with improved sanitation facilities in rural areas (%)(S)
6.3.1 - Proportion of wastewater safely treated	Tier 2	Yes	OII - 1.49 Number of discharge permits granted (S) FYDP II 2016/17 - 2020/21 - 2.3.5.4 Households connected to conventional public sewer systems in regional centres (%)(S) FYDP II 2016/17 - 2020/21 - 2.3.5.8 Household connected to conventional public sewer systems in Dar es Salaam (%)(S)
6.3.2 - Proportion of bodies of water with good ambient water quality	Tier 3	Yes	OII - 1.14 Number of focused water quality monitoring networks established (S), OII - 1.88 Proportion of bodies of water with good ambient water quality(P)
6.4.1 - Change in water-use efficiency over time	Tier 2	Yes	FYDP II 2016/17 - 2020/21 - 2.3.5.9 Non Renewable Water (NRW) for Dar es Salaam (%)(S) OII - 1.90 Change in water-use efficiency over time
6.4.2 - Level of water stress: freshwater withdrawal as a proportion of available freshwater resources	Tier 1	Yes	OII - 1.52 Level of water stress: freshwater withdrawal as a proportion of available freshwater resources (P)
6.5.1 - Degree of integrated water resources management implementation	Tier 2	Yes	OII - 1.24 Number of Integrated Water Resource Management Development Plans (IWRMDP)
6.5.2 - Proportion of transboundary basin area with an operational arrangement for water cooperation	Tier	Yes	OII - 1.24 Number of Integrated Water Resource Management Development Plans (IWRMDP)(S),
6.6.1 - Change in the extent of water-related ecosystems over time	Tier 3	Yes	OII - 1.50 Number of water sources demarcated and gazetted for protection and conservation. (S) FYDP II 2016/17 - 2020/21 - 2.3.5.10 Number of water sources demarcated and gazetted for protection and conservation (S),

Appendix 2-1: Summarizes water supply and sanitation plans, targets and respective achievements by 2019/20 (Modified from NFYDP 2016/17-2020/21)

SN	Water supply and sanitation	Baseline 2015/16	Planned 2020/21	Achievement 2019/20
1	Rural population with access water	72	85	71
2	Households in rural areas with improved sanitation facilities	25	75	62
3	Regional Centre's population with a water	86	95	84
5	NRW in Regional Centres	37	25	31.7
6	District capitals and townships population with access to water	60	70	62
7	Dar es salaam population with access water	72	95	85
8	Household connected to convention public sewer systems in Dar es Salaam	10	40	10

Appendix 2-2a: The Water Supply and Sanitation Act No. 5, 2019, status of prepared and published regulations

NO.	DESCRIPTION OF REGULATION TO BE PREPARED	IMPLEMENTATION STATUS
1.	The Water Supply and Sanitation (Commencement) Notice, 2019 (Section 1)	Done. Published as GN. No. 460 of 14/06/2019
2.	The Water Supply and Sanitation (Registration and Operations of Community Based Water Supply Organ) Regulations, 2019 (Sections 33(1)(f), 41. -(1) (a), 4 1 . -(1) (b), 43(2) and 41. (3))	Done. Published as GN. No. 829 of 8/11/2019
3.	Notices for Establishment/Extension Service Areas of Water Authorities (Section 9)	Done **Prepared the following orders/notices**: (i). GN. 658 dated 6th September 2019 - Iringa Urban Water Supply and Sanitation Authority) (Extension of Service Area and Dis-establishment of Authority) Notice, 2019; (ii). GN. 659 dated 6th September 2019 - Dodoma Urban Water Supply and Sanitation Authority) (Extension of Service Area and Dis-establishment of Authority) Notice, 2019; (iii). GN. 660 dated 6th September 2019 - Dar es Salaam Water Supply and Sanitation Authority) (Extension of Service Area and Dis-establishment of Authority) Notice, 2019; (iv). GN. 661 dated 6th September 2019 - Arusha Urban Water Supply and Sanitation Authority) (Extension of Service Area and Dis-establishment of Authority) Notice, 2019; (v). GN. 662 dated 6th September 2019 - Babati Urban Water Supply and Sanitation Authority) (Extension of Service Area and Dis-establishment of Authority) Notice, 2019; (vi). GN. 664 dated 6th September 2019 - MANAWASA (Extension of Service Area and Dis-establishment of Authority) Notice, 2019;

NO.	DESCRIPTION OF REGULATION TO BE PREPARED	IMPLEMENTATION STATUS
		(vii). GN. 665 dated 6th September 2019 - Manyoni Water Supply and Sanitation Authority) (Extension of Service Area and Dis-establishment of Authority) Notice, 2019; (viii). GN. 666 dated 6th September 2019 - Tanga Urban Water Supply and Sanitation Authority) (Extension of Service Area and Dis-establishment of Authority) Notice, 2019; (ix). GN. 667 dated 6th September 2019 - Tabora Urban Water Supply and Sanitation Authority) (Extension of Service Area and Dis-establishment of Authority) Notice, 2019; (x). GN. 668 dated 6th September 2019 - Maswa Water Supply and Sanitation Authority) (Extension of Service Area and Dis-establishment of Authority) Notice, 2019; (xi). GN. 669 dated 6th September 2019 - Tabora Urban Water Supply and Sanitation Authority) (Extension of Service Area and Dis-establishment of Authority) Notice, 2019; (xii). GN. 670 dated 6th September 2019 - Mwanza Urban Water Supply and Sanitation Authority) (Extension of Service Area and Dis-establishment of Authority) Notice, 2019; (xiii). GN. 671 dated 6th September 2019 - Mtwara Urban Water Supply and Sanitation Authority) (Extension of Service Area and Dis-establishment of Authority) Notice, 2019; (xiv). GN. 672 dated 6th September 2019 - Same - Mwanga Water Supply and Sanitation Authority (Establishment) Notice, 2019; (xv). GN. 673 dated 6th September 2019 - Kyela - Kasumulu Water Supply and Sanitation Authority) (Establishment) Notice, 2019; (xvi). GN 583 dated 9th August 2019 – Executive Agencies (DDCA)(Dis-establishment) Order 2019; and (xvii). GN. 585 dated 9th August 2019 - Moshi Urban Water Supply and Sanitation Authority (Extension of Service Area) Notice, 2019.
4.	Guidelines for the Establishment and Conducts of Affairs of Community Organization (Section 41(2))	Not yet Done
5.	The Water Supply and Sanitation (Guidelines for the Establishment and Conducts of Affairs of Community Organization) Notice, 2019 (Section 41(2))	Not yet Done
6.	The National Water Fund Regulations, 2019 (Section 55(5))	Done. Published as GN. No. 981 of 13/12/2019

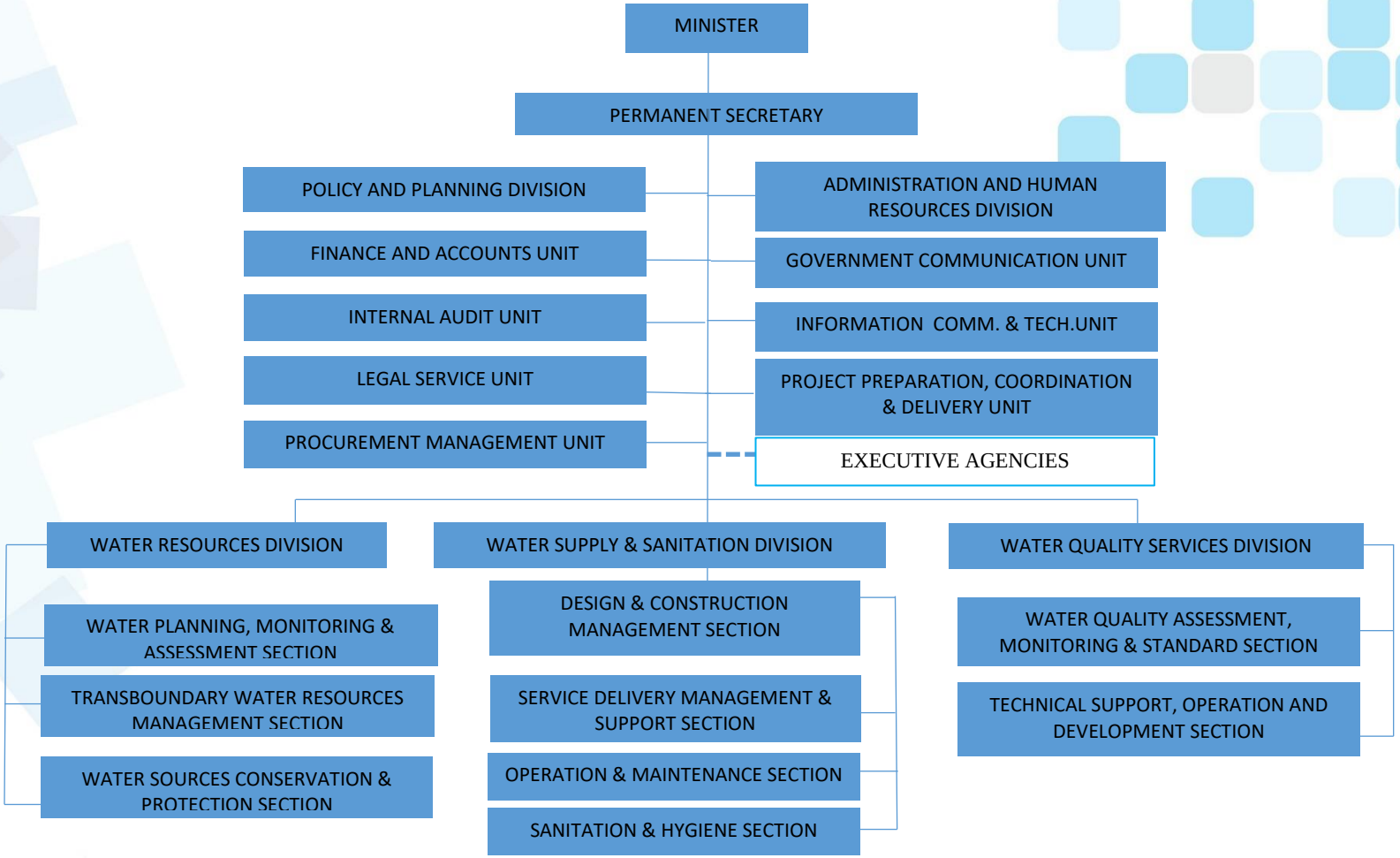
NO.	DESCRIPTION OF REGULATION TO BE PREPARED	IMPLEMENTATION STATUS
7.	The Water Supply and Sanitation (Procedure for Compounding Offences) Regulations (Section 69(3)(a) and 69 (4))	Not yet Done
8.	The Water Supply and Sanitation B (Forms and Notices) Regulations (Section 73. -(1)(a))	Not yet Done
9.	The Water Supply and Sanitation (Approval and Implementation of Water Supply and Sanitation Projects) Regulations (to include aspect of consideration of IWRM in Water Supply and Sanitation Projects) (Section 73. -(1) (b))	Not yet Done
10.	The Water Supply Regulations, 2019 (Sect.73. (1) (c))	Done. Published as GN. No. 828 of 8/11/2019
11.	The Water Supply and Sanitation (Provision and Management of Sewage and Wastewater Services) Regulations, 2019 (Section 73. -(1) (c))	Done. Published as GN. No. 827 of 8/11/2019
12.	Water Supply and Sanitation (Clustering of Water Authorities) Regulations, 2019; (Section 73. -(1) (c))	Done. Published as GN. No. 826 of 8/11/2019
13.	The Water Supply and Sanitation (Code of Workmanships) Regulations, 2019; (Sect. 73(1) (c))	Not yet Done
14.	The Water Supply and Sanitation (Stakeholders Engagement) Regulations, 2019 (Section 73. -(1) (c))	Not yet Done
15.	The Water Supply and Sanitation (Appointment of Board Members) Regulations, 2019; (Sect. 73(1) (c))	Not yet Done
16.	The Water Supply and Sanitation (Water Bowers) Regulations, 2019; (Section 73. -(1) (c))	Not yet Done
17.	Any regulations made under this Act may provide that the contravention of any of their provisions shall constitute an offence and may prescribe penalties in respect of an offence committed. (Section 73. -(2))	Ongoing. Any prepared regulations will contain such provision

Appendix 2-2b: The Water Resources and Management Act No. 11, 2009, status of prepared and published regulations

NO.	DESCRIPTION OF REGULATION TO BE PREPARED	IMPLEMENTATION STATUS
1.	Notice to be published in the Gazette to indicate when the Act shall come into operation. *(Section 1)	Done Published on 10/7/2009 GN 235
2.	Registration of WUA. *(Section 82)	Done - Published on 22/01/2010 GN 22
3.	Regulations made in respect of the Right to use water for domestic. *(Section 11(3))	Done Published on 21/05/2010 GN 190
4.	Appointment of Basin Water Officer in consultation with Basin Water Board. * (Section 24)	Done Published on 21/05/2010 GN 187
5.	Regulations made in respect of the right to rainwater harvesting. *(Section 12(2)	Done Published on 21/05/2010 GN 190
6.	Order prescribing the form and procedure for application of water use permit, ground water permit and drainage permit. * (Section 75(1)	Done Published on 21/05/2010 GN 190
7.	Approval and registration of water uses associations. *(Section 81)	Done Published on 22/01/2010 GN 22
8.	Regulations prescribing procedure of hearing appeals arising from decisions of BWBs. *(Section 106)	Done Published on 21/05/2010 GN 190
9.	Procedures for Nomination of Board Members of National Water Board and Basin Water Board (First Schedule 1(4); First Schedule 3(3); Second Schedule 1(6); and Second Schedule 3(3):	Done Published on 21/05/2010 GN 187
15.	Order to establish a Basin Water Board. *(Section 22)	Automatically completed vide transitional provisions section 112(2)(c)
16.	Order by the Minister upon Consultation with the Basin Water Board designate and declare such area as catchment or sub catchment. ***(Section 29(1))	Done/Ongoing Orders include Water Resources Management (Designation and Declaration of Mara river water catchment) Order, 2015; Water Resources Management (Designation and Declaration of Somoche water sub catchment) Order, 2015; Water Resources Management (Designation and Declaration of Tobora water sub catchment) Order, 2015 etc
	Water Resources Management (Water Resources Classification System) Regulations, 2018 (Section 32(1))	Done Published as GN 156 published on. 20/04/2018
17.	Notice to be published in the Gazette for the establishment of a protected zone. *** (Section 37(1))	Done/Ongoing Notices include Water Resources Management (Mindu dam protected zones), Notice 2015; Mbwinji and Mwena Springs protected zones), Notice 2015;

		Halewa/Swaya protected zones), Notice 2015; [(Imeta protected zones), Notice 2016 etc.
18.	Order to be published in the gazette to prohibit human activities to be conducted beyond sixty Meters from water Dam or reservoir or a water source. *(Section 34)	Done/Ongoing Orders include Prohibition of Human Activities Beyond Sixty Metres at Kawa Dam, 2012, GN.297 of 21/09/2012
19.	Order to be published in the Gazette to declare any area of Mainland Tanzania to be a Ground water-controlled area. * Section 38	Done/Ongoing Orders include Makutupora Groundwater Protected Zone is in place. Published on 21/09/2012 GN. 302
20.	Regulations regarding Water abstraction, use and discharge permit were prepared under this provision and is in place. (Section 111(1)	Done Published on 21/05/2010 GN 190
21.	Regulations to be made in consultation with relevant authorities to regulate the persons who are licensed to undertakes works relating to ground water prospecting, construction or Enlargement of a well or borehole (Section 62)	Done Published on 12/07/2013 GN 219
22.	Regulations made in respect of dam safety and prevention of flood risk, to establish a register of approved professionals to inspect and monitor dam with a safety risk, the provision for technical audit of the work approved professional persons and classifying dams into categories. * (Section 94)	Done Published on 02/08/2013 GN 237
23.	Regulations on Strategic Environmental Assessment (Section 8)	In accordance with procedure and regulations made under EMA/ Prepared by NEMC
24.	Regulations to be made to allow transfer of permit to a person who holds water use Permit, a discharge permit and a ground water permit to another person. (Section 73(1))	Done Published as GN 157 of 20/04/2018
25.	Control and management of storm water (Section 95)	Done - Published as GN 153 of 20/04/2018
26.	Regulations to be made to prescribe the trading of water use permit (Section 45(5)	
27.	Section 85	Powers of Basin water Boards in respect of monitoring and enforcing requirements for permits construction and alteration of works.
28	Water Resources Management (Water Well Quality Monitoring) Regulations, 2018. (Section 111)	Done Published as GN. 155 of 20/04/2018
29	Regulations to be made on charges to be levied (Section 96(4)	Done Published as GN. 825 of 8/11/2019

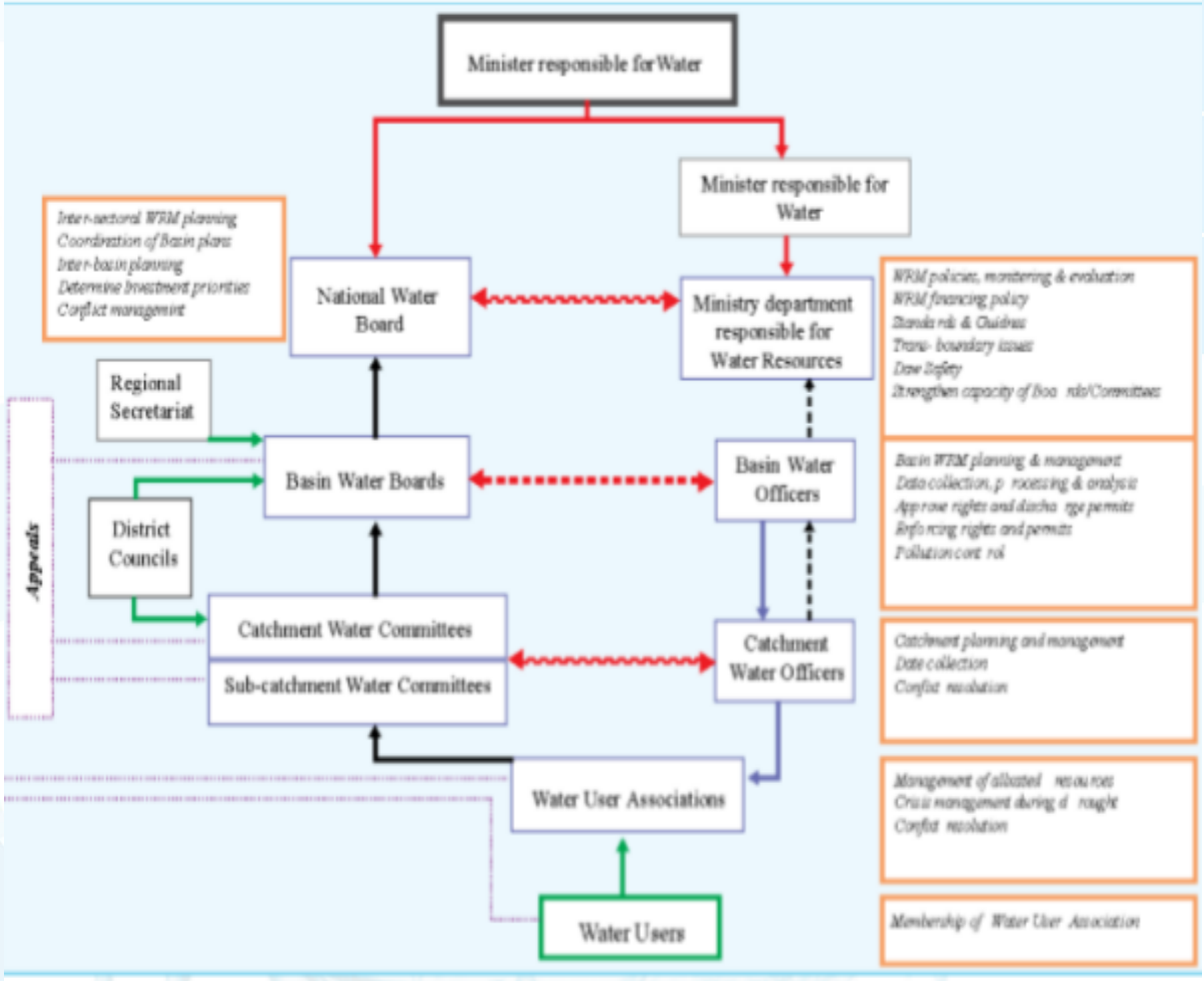
Appendix 2-3: Organization structure for the Ministry of Water



Source: Adapted from the approved Organization structure of the Ministry of Water, 2018

WSSR 2015 - 2020

Appendix 2-4: Institutional structure of Water Resources Management (WRD 2019)



Appendix 2-5: Regional Water Supply and Sanitation Authorities as of November 2019

No.	Region	Name of WSSA
1	Arusha	AUWSA
2	Dar es Salaam	DAWASA
3	Dodoma	DUWASA
4	Geita	GEUWASA
5	Iringa	IRUWASA
6	Kagera	BUWASA
7	Katavi	Mpanda
8	Kigoma	KUWASA
9	Kilimanjaro	MUWSA
10	Lindi	LUWASA
11	Manyara	BAWASA
12	Mara	MUWASA
13	Mbeya	Mbeya UWSSA
14	Morogoro	MORUWASA
15	Mtwara	MTUWASA
16	Mwanza	MWAUWASA
17	Njombe	NJUWASA
18	Rukwa	Sumbawanga
19	Ruvuma	SOUWASA
20	Shinyanga	SHUWASA
21	Simiyu	BAWASA
22	Singida	SUWASA
23	Songwe	Vwawa - Mlowo
24	Tabora	TUWASA
25	Tanga	Tanga UWSSA

Appendix 2-6: National Projects Water Supply and Sanitation Authorities as of November 2019

No.	Region	Name of WSSA
1	Njombe	Wanging'ombe
2	Shinyanga	Kahama - Shinyanga (KASHWASA)
3	Mara	Mugango Kiabakari
4	Mtwara	Masasi-Nachingwea (MANAWASA)
5	Pwani	Chalinze (CHALIWASA)
6	Simiyu	Maswa
7	Tanga	Handeni Truck Main (HTM)
8	Mtwara	Makonde

Appendix 2-7: District Headquarters and Townships Water Supply and Sanitation Authorities as of November 2019

NA	MKOA	JINA LA MAMLAKA
1	Arusha	Karatu WSSA
2	Geita	Ushirombo WSSA
3		Chato WSSA
4	Iringa	Mafinga WSSA
5	Kagera	Biharamulo WSSA
6		Muleba WSSA
7		Ngara WSSA
8	Kigoma	Kasulu WSSA
9		Kibondo WSSA
10	Kilimanjaro	Same-Mwanga WSSA
11	Manyara	Mbulu WSSA
12		Katesh WSSA
13		Orkesumet WSSA
14	Mara	Bunda WSSA
15		Mugumu WSSA
16		Tarime WSSA
17	Mbeya	Tukuyu WSSA
18	Morogoro	Ifakara WSSA
19	Mwanza	Sengerema WSSA
20	Njombe	Makambako WSSA
21	Shinyanga	Kahama WSSA
22	Simiyu	Mwanhuzi WSSA
23	Tabora	Igunga WSSA
24		Nzega WSSA
25	Tanga	Handeni WSSA
26		Korogwe WSSA

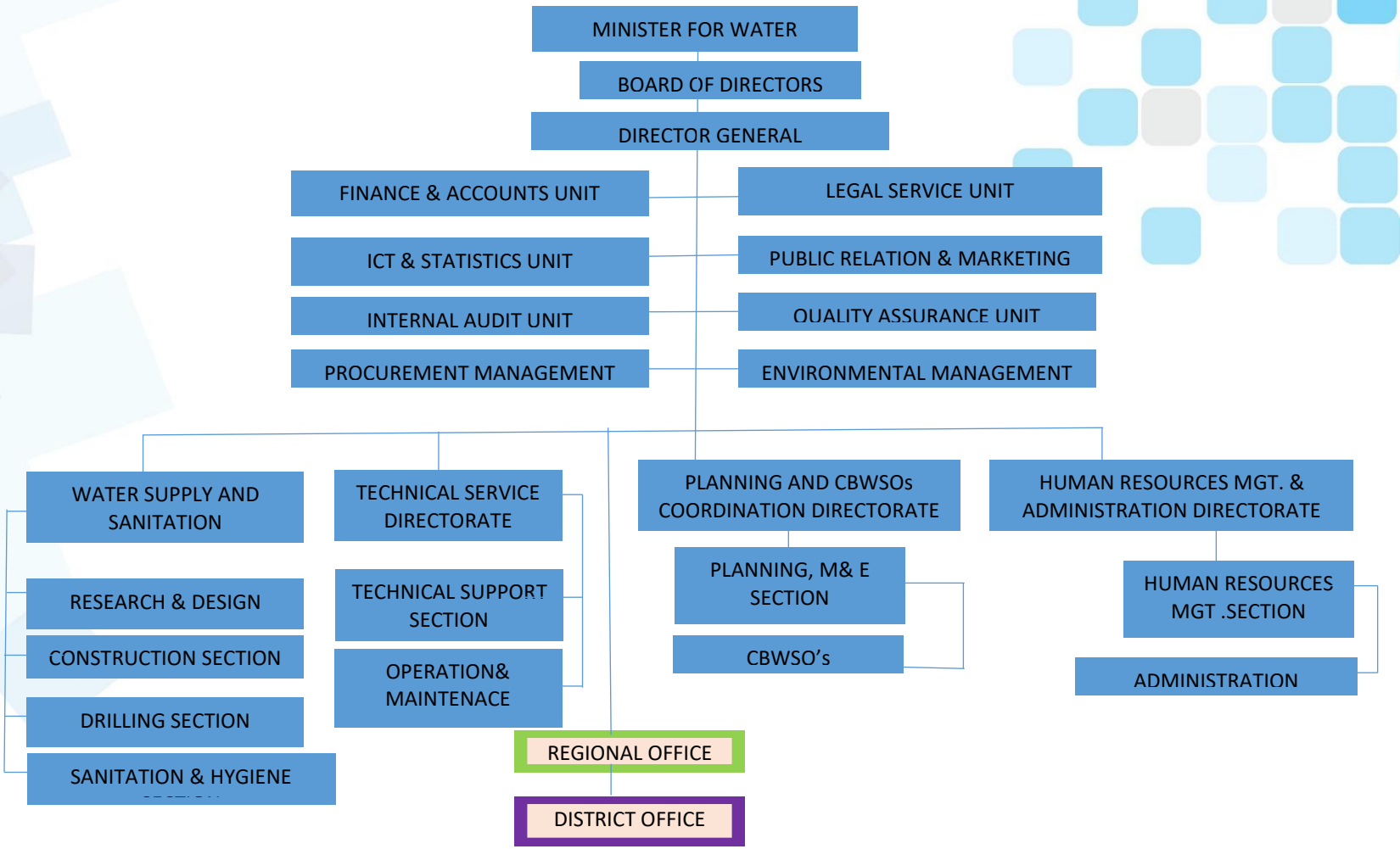
Appendix 2-8: Cancelled Water Supply and Sanitation Authorities as of November 2019

1. Usa River
2. Monduli WSSA
3. Longido WSSA
4. Chamwino WSSA
5. Kongwa WSSA
6. Same WSSA
7. Mwanga WSSA
8. Gallapo WSSA
9. Dareda WSSA
10. Bashnet WSSA
11. Magugu WSSA
12. Mikumi WSSA
13. Magugu WSSA
14. Kyela WSSA
15. Kasumulu WSSA
16. Kilosa WSSA
17. Nanyamba WSSA
18. Mangaka WSSA
19. Tandahimba WSSA
20. Newala WSSA
21. Isaka WSSA
22. Magu WSSA
23. Nansio WSSA
24. Ngudu WSSA
25. Kibaha WSSA
26. Kisarawe WSSA
27. Mkuranga WSSA
28. Bagamoyo WSSA
29. Iselamagazi WSSA
30. Tinde WSSA
31. Didia WSSA
32. Lalago WSSA
33. Sangamwalugesha WSSA
34. Malampaka WSSA
35. Isikizya WSSA
36. Sikonge WSSA
37. Urambo WSSA
38. Muheza WSSA
39. Pangani WSSA
40. Misungwi WSSA
41. Manyoni WSSA

Appendix 2-9: List of Water Supply and Sanitation Authorities tasked to supervise and capacitate other Authorities as of November 2019

S/N	Name of responsible Water Supply and Sanitation Authority	Name of Authorities to be supervised and capacitated
1	DUWASA	Mpwapwa and Kibaigwa
2	MANAWASA	Ruangwa
3	Mbeya UWASA	Chunya
4	NJUWASA	Makete
5	SOUWASA	Mbinga and Tunduru
6	SUWASA	Manyoni – Itigi cluster
7	Vwawa - Mlowo	Tunduma

Appendix 2-10: Organisation structure for the RUWASA



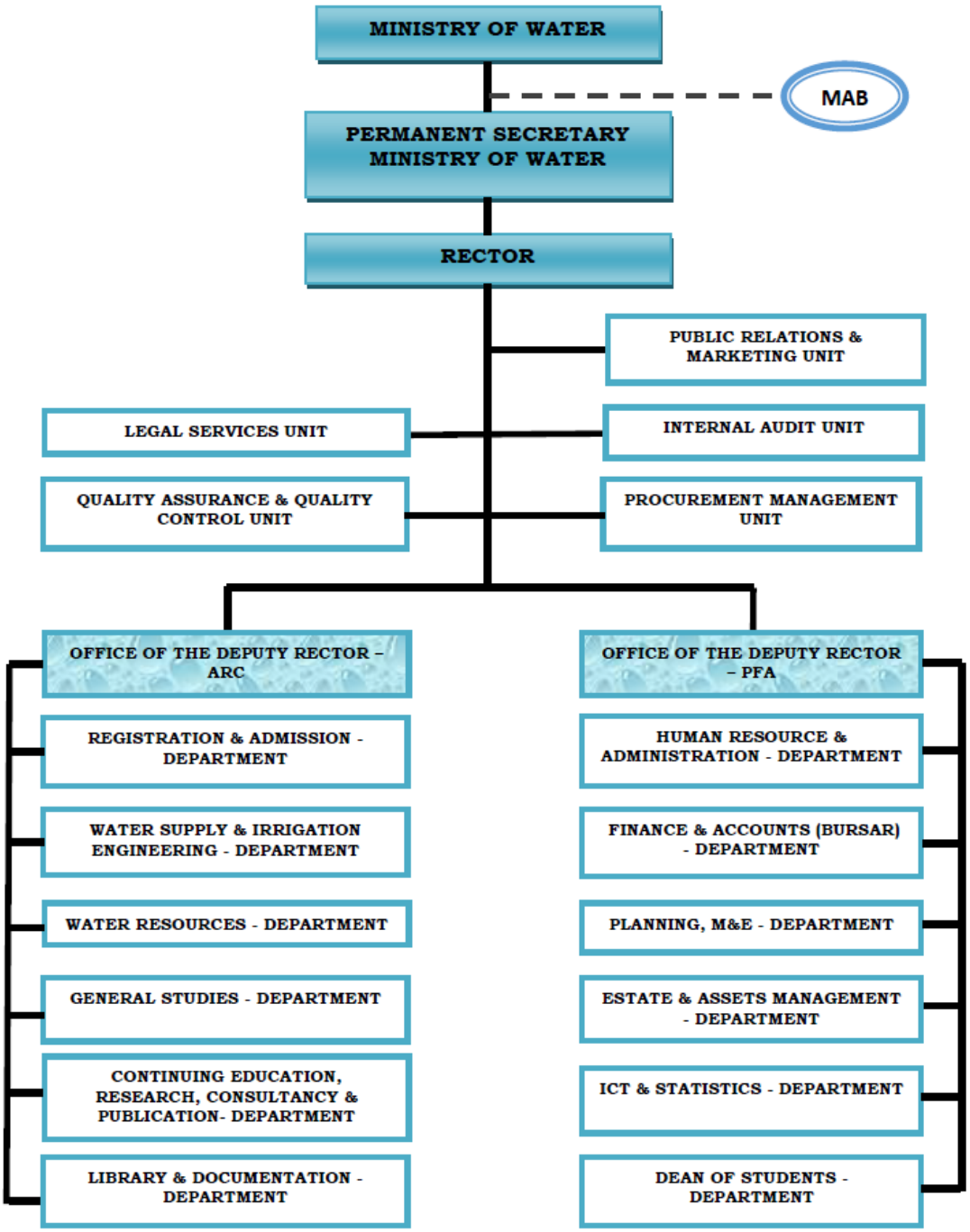
Source: Adapted from approved RUWASA Structure by PIC; 2019

WSSR 2015 - 2020

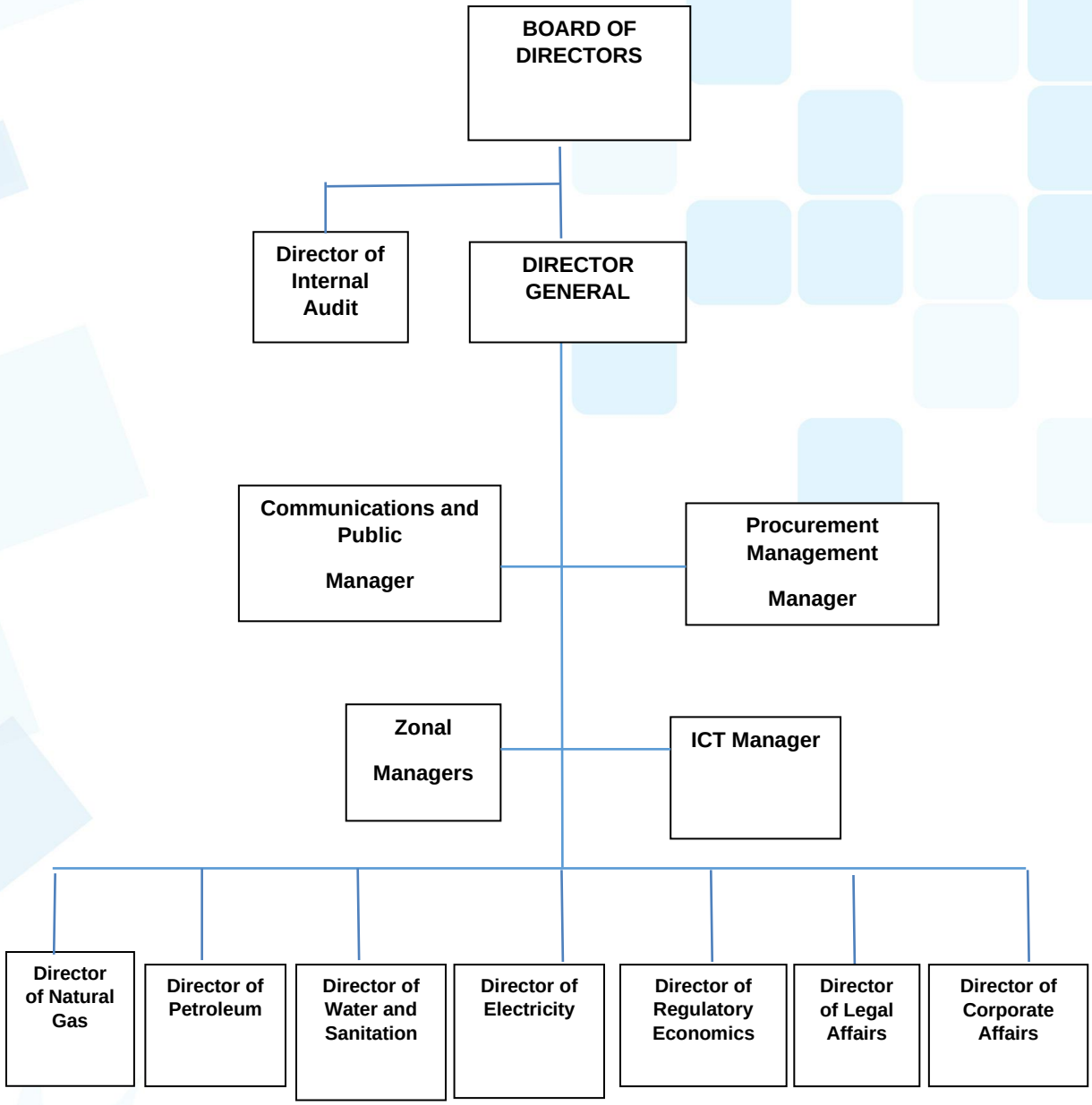
Appendix 2-11: Towns under RUWASA as of November 2019

Region	Towns Under RUWASA from Nov 2019
1. Arusha	Ngorongoro
2. Dodoma	Kondoa and Chemba
3. Geita	Katoro, Buseresere, Mbogwe and Nyangw'ale
4. Iringa	Mufindi
5. Katavi	Nsimbo, Tanganyika, Mlele and Mpimbwe
6. Kagera	Kyerwa (Rubwera), Kyaka, Bunazi, Kayanga and Karagwe
7. Kigoma	Uvinza, Kakonko, and Buhigwe
8. Kilimanjaro	None
9. Lindi	Kilwa Masoko and Liwale
10. Mara	Shirati, Utegi, Ingiri juu and Ingiri Chini
11. Manyara	Kibaya, Haydom and Dongobesh
12. Mbeya	Busokelo and Rujewa
13. Morogoro	Ulanga, Malinyi, Turiani, Dakawa and Gairo.
14. Mtwara	None
15. Mwanza	Buchosa
16. Njombe	Ludewa
17. Pwani	Kilindoni, Utete and Kibiti
18. Rukwa	Laela, Namanyere and Kalambo
19. Ruvuma	Namtumbo, Madaba and Nyasa
20. Shinyanga	Ushetu, Mhunze and Maganzo
21. Simiyu	Busega and Itilima
22. Singida	Miji ya Kiomboi, Nduguti na Ikungi.
23. Songwe	Miji ya Momba na Ileje (Itumba Isongole)
24. Tabora	Kaliua
25. Tanga	Lushoto, Mombo, Bumbuli and Songe (Kilindi)

Appendix 2-12: Organisation structure for the Water Institute



Appendix 2-13: Organisation structure for the EWURA



Appendix 2-14: List of selected local Non-State Actors in the water sector

Manufacturers	Local Consultants	Local Contractors
Tanzania Steel Pipes Limited	COWI Tanzania Limited	Jandu Plumbers Ltd.
PLASCO Tanzania LTD	NORPLAN Tanzania Limited	Jos. Hansen Group
Pipe Industries Co. Limited	EWAREMA Consultant	COSMO Engineering Co. LTD
Simba Pipe Limited	Howard Humphrey	D4N Company LTD
DPI Simba LTD	Inter consult Tanzania LTD	Fally Enterprises LTD
Falcon Industries LTD	Lahmeyer Consulting Engineers (T) Ltd	Maginga Business Holding
LODHIA Plastic Industries		TANSINO Logistic Limited
KIBOKO Plastics Ltd		F, M, Abri Company Limited
MM Steel LTD Tanzania		

Appendix 3-1: Water Resources in lakes of Tanzania

Lake	Surface Area (Km^2)		Available Water		Bordering Nations	Notes	Current Uses (Tanzania share)
	General	**Tanzania**	**Total**	**Tanzania**			
Victoria	68,800	35,720 (51%)		1428.8 Km^3	Kenya, Tanzania and Uganda	Lake Victoria is the largest freshwater lake in Africa. The second-largest freshwater lake in the world.	154,244,091 m^3/year (0.01%)
Tanganyika	32,900	13,489	18,900 Km^3	7,689 billion litres	Tanzania DRC Burundi Zambia	Is the second-deepest lake in the world and the second-biggest lake by volume. It water volume is equivalent to about 16% of all fresh water on the earth.	24,475,000 m^3/year (1%)
Nyasa	30,900,	8,105	7,775 Km^3		Tanzania Malawi Mozambique	The lake is the eighth largest freshwater in the world. It has about 560 Km long with a maximum width of 75 km and average depth of 706 m.	Consumptive water use is 0%
Rukwa	-	2,725.7	-	5.0076 Km^3	Tanzania	The lake is endorheic (closed) in the Rukwa Valley	
Basotu	-	11	-	29 MCM/year		Fresh	Consumptive use (0%)
Babati	-	16	-	32 MCM/year		The lake is known for its large hippopopulation.	Consumptive use (0%)
Jipe	30	14			Tanzania, Kenya		Consumptive use (0%)

Lake	Surface Area (Km^2)		Available Water		Bordering Nations	Notes	Current Uses (Tanzania share)
	General	**Tanzania**	**Total**	**Tanzania**			
Chala	4.2	2			Tanzania Kenya	It is a crater lake at the edge of Mount Kilimanjaro.	Consumptive use (0%)
Lakes with Saline water (too saline for domestic/irrigation uses)							
Eyasi	-	1190	-			The is endorheic	
Natron		832			-	It is a salt and soda lake.	
Manyara		556			-	Saline	
Kitangiri	-	190	-	150	-	Saline	

Appendix 3- 2:Water Use Permits for River Basins Indicated

SN	Categories	IDB				Lake Victoria			
		Groundwater		Surface Water		Groundwater		Surface Water	
		No. of Permits	Quantity of water (m^3/day)	No. of Permits	Quantity of water (m^3/day)	No. of Permits	Quantity of water (m^3/day)	No. of Permits	Quantity of water (m^3/day)
1	Domestic	244	23,977	90	23,552	163	6,511	44	10,934
2	Irrigation	41	49,023	73	153,109				
3	Domestic & Irrigation	3	424	6	41,340				
4	Construction	4	22	4	81	-		8	
5	Domestic & livestock	216	64,319	110	197,783				
6	Fishing farm			1	17,280				
7	Hotel	44	3,597	7	2,294				
8	Hydropower			6	393,120				
9	Industrial	5	567	3	597	26	680	31	72,749
10	Mining	10	1,100						
11	Bottling	1	60			2	21	1	4
12	Commercial					92	2,299	23	400
13	Institution					16	214	9	317
14	Public Supply					26	30,128	17	275,160
15	Irrigation and fish farming					6	276	64	477,555
16	Others (Mining, Hydropower & livestock)					51	9,274	36	46,076,651

SN	Categories	IDB				Lake Victoria			
		Groundwater		Surface Water		Groundwater		Surface Water	
		No. of Permits	Quantity of water (m^3/day)	No. of Permits	Quantity of water (m^3/day)	No. of Permits	Quantity of water (m^3/day)	No. of Permits	Quantity of water (m^3/day)
17	Community Water Supply					2	30	1	15
18	Impoundment					-		22	
19	Joint (Domestic & Industrial)								
20	Livestock								
Total		**568**	**143,089**	**300**	**829,156**	**384**	**49,434**	**256**	**46,913,785**

Appendix 3-3: Status of Water Resources in Lake Nyasa and WamiRuvu Basin

SN	Categories	Wami/Ruvu				Lake Nyasa			
		Groundwater		Surface Water		Groundwater		Surface Water	
		No. of Permits	Quantity of water (m^3/day)	No. of Permits	Quantity of water (m^3/day)	No. of Permits	Quantity of water (m^3/day)	No. of Permits	Quantity of water (m^3/day)
1	Domestic	1,050	6,040	29	1,408	20	18,902	210	830,120
2	Irrigation								
3	Domestic & Irrigation								
4	Construction	48		12		-		2	
5	Domestic & livestock								
6	Fishing farm								
7	Hotel								
8	Hydropower								
9	Industrial	336	19,098	8	3,144	3	1,791	54	63,555
10	Mining								
11	Bottling								
12	Commercial	577	10,401	10	159	3	172	1	111
13	Institution	26	499	1	21	-	-	3	13,393
14	Public Supply	163	101,111	40	542,591	2	1,398	30	36,756
15	Irrigation and fish farming	106	46,453	167	3,958,577	-	-	68	546,671

SN	Categories	Wami/Ruvu				Lake Nyasa			
		Groundwater		Surface Water		Groundwater		Surface Water	
		No. of Permits	Quantity of water (m^3/day)	No. of Permits	Quantity of water (m^3/day)	No. of Permits	Quantity of water (m^3/day)	No. of Permits	Quantity of water (m^3/day)
16	Others (Mining, Hydropower & livestock)	11	1,964	14	597,914	1	30	108	306,241,479
17	Community Water Supply								
18	Impoundment								
19	Joint (Domestic & Industrial)								
20	Livestock								
Total		**2,317**	**185,567**	**281**	**5,103,814**	**29**	**22,293**	**476**	**307,732,085**

Appendix 3-3: Status of Water resources in Pangani and Lake Rukwa Basins

SN	Categories	Pangani				Lake Rukwa	
		Groundwater		Surface Water		Ground & Surface Water	
		No. of Permits	Quantity of water (m^3/day)	No. of Permits	Quantity of water (m^3/day)	No. of Permits	Quantity of water (m^3/day)
1	Domestic	350	128,959	427	393,217	247	17,018
2	Irrigation	91	543,039	429	2,306,046	70	2,281,341
3	Domestic & Irrigation	18	19,097	145	277,932		
4	Construction	1	190	7	3,456		
5	Domestic & livestock						
6	Fishing farm	-		5	5,960		
7	Hotel					49	3,221
8	Hydropower	-	-	7	10,959,840	1	777,600
9	Industrial	67	93,835	33	47,758	11	4,408
10	Mining	-		1	216	32	9,156
11	Bottling						
12	Commercial	26	3,234	14	6,913	33	3,378
13	Institution					25	41,728
14	Public Supply	19	24,907	35	190,244	19	10,959
15	Irrigation and fish farming						
16	Others (Mining, Hydropower & livestock)						
17	Community Water Supply						
18	Impoundment						
19	Joint (Domestic & Industrial)	5	1,072	15	9,933		
20	Livestock	3	47	45	50,580		
Total		**580**	**814,379**	**1,163**	**14,252,095**	**487**	**3,148,809**

Appendix 3-4: Status of Water Resources in Rufiji and Ruvuma Basins

SN	Categories	Rufiji		Ruvuma	
		Ground & Surface Water		**Ground & Surface Water**	
		No. of Permits	**Quantity of water (m^3/day)**	**No. of Permits**	**Quantity of water (m^3/day)**
1	Domestic	133		137	
2	Irrigation	417		7	
3	Domestic & Irrigation				
4	Construction				
5	Domestic & livestock				
6	Fishing farm				
7	Hotel				
8	Hydropower	15		2	
9	Industrial	10		25	
10	Mining				
11	Bottling				
13	Institution				
14	Public Supply				
15	Irrigation and fish farming				
16	Others (Mining, Hydropower & livestock)	32		3	
17	Community Water Supply				
18	Impoundment				
19	Joint (Domestic & Industrial)				
20	Livestock	1			
Total		**608**	**-**	**174**	**-**

Appendix 3-5: Discharge Permits of River Basin

Discharge permits per BWB				
SN	Basin	All Permits	Permits between 2015-2020	Remarks
1	Pangani	44		
2	Rufiji	14	13	
3	Lake Nyasa	0	0	
4	Lake Rukwa	4	1	
5	Lake Victoria	29	28	
6	Lake Tanganyika	0	0	
7	Internal	9	9	
8	Wami-Ruvu	42	37	
9	Ruvuma	2	1	
	Total	144	89	

Appendix 3: List of Water Users Association as of 2020

N	Basin	Sub Catchments	Quantity	Water Sources covered	WUA 2015-2019	Villages Covered
1	Rufiji	Great Ruaha (28), Kilombero (7)	35	Great Ruaha, Ndembera, Little Ruaha, Mlowo, Halali, Kimani, Mgeta, Mkoji, Balali, Mbukwa, Mtitu, Mswiswi, Chimala, Muhu, Gwiru, Kihansi, Mbarali, Mpanga,Dudumizi and Mfyamba rivers	4	539
2	Pangani	Kikuletwa, Pangani, Zigi, Umba,	14	ikuletwa, Ruvu, Mkomazi, Umba, Zigi rivers; and Nyumba ya Mungu dam	4	1021
3	Lake Tanganyika	Mtunguruzi, Mungonya, Mkuti, and Makere	4	Mtunguruzi, Mungonya, Mkuti, and Makere	1	32
4	Ruvuma	Likonde, Lulindi, Mwiti, Lumeme North, Msinjewe West, Ukanda, Matogoro Mountains, Ruvuma Highland, Lumeme South.	8	River Likonde, River Lulindi, River ndanda, River Lumeme, River Msinjewe, Matogoro Mountains, River Ruvuma, River Lumeme	2	120
5	Rukwa	Songwe and Katuma	8	Myovizi river, Mlowo river, Lupa river, Katuma river, Ruanda river, Mpanda river, Mbalizi river, Mpanda	3	114

N	Basin	Sub Catchments	Quantity	Water Sources covered	WUA 2015-2019	Villages Covered
6	Lake Victoria	Tigithe, Tobora, Tigithe Duma/Bariadi, Duma/Bariadi, Sumve, Ngono-Kagondo, Mara-Simachalo, Mara-Simachalo, Mara-Simachalo, Matu/Ng'wandu, Matu/Ng'wandu, Nyangwale	14	Tigithe river, Tobora river, Simiyu river, Mirongo river, Ngono river, Mara Wetland, Somoche river, Simiyu and Duma river, Nyankanga Dam	1	149
7	Wami/Ruvu	Mkondoa, Wami, Ngerengere, Upper Ruvu.	21	Kisangata River, Ilonga RiverLumuma River, Miyombo River, Mkondoa River, Msowero River, Wami River, Mkindo River, Ngerengere River, Mgolole River, Ruvu River, Mbezi River, Mvuha River, Mgeta River.	7	201
8	IDB	Namanga, Lake Eyasi, Lake Manyara	3	Ngarenanyuki River, Mang'ola Spring, Mto wa Mbu Rivers and springs, Dams	0	36
9	Lake Nyasa	Mngaka, Songwe, Kitewaka	4	Luhira, Luwaita, Songwe, Kisongo	0	51
TOTAL			**111**		**22**	**2263**

Appendix 3-6: Water Resources Monitoring Network Status for 2020

Basin	River gauging stations	Rainfall stations		Weather stations	Groundwater stations	Lakes and Dams		Total per Basin
		Automatic	**Standard**			**Lakes**	**Dams**	
Pangani	60	5	41	13	11	3	3	136
Wami/Ruvu	45	11	31	32	19	0	1	139
Ruvuma	28	5	5	17	7	0	0	62
Rukwa	23	2	9	6	0	2	0	42
Tanganyika	32	3	8	14	0	1	2	60
IDB	36	3	8	8	31	3	2	91
Nyasa	28	4	10	5	0	3	0	50
Victoria	20	2	32	18	0	5	0	77
Rufiji	58	7	3	39	27	0	3	137
Total	**330**	**42**	**147**	**152**	**95**	**17**	**11**	**794**

Appendix 3-7: Achievements in Regional Cooperation and Trans-boundary Water Resources from 2015-2019

SN	Area	Performance	Remarks
1	Coordinate Ministry's participation in national and international dialogue, initiatives and projects pertaining to the management, development and use of trans-boundary water resources;	Chair of Nile Equatorial Lakes Subsidiary Action Plan – Coordination Unit – NELSAP-CU (2017/2018)	
		Chair of Zambezi Watercourse Commission – ZAMCOM (2018/2019)	Strategic Plan for the Zambezi Watercourse (2018-2040)
		Songwe River Basin Development Programme	1.1 African Ministers' Council on Water Strategy 2018-2030
		Chair of African Ministers' Council on Water - AMCOW (2016-2019)	
		Chair of AMCOW's African Water Facility	
		Kimbiji Aquifer System Monitoring Project in collaboration with SADC Groundwater Management Institute 2019	
		Nile Basin Hydromet Project in Lake Victora Zone	
		Preparation of the Shared Vision 2050 for the Songwe River Basin in 2015	
		and b) Preparation of the Ten Years SRBDP	
	SDG6		
2	Coordinate the preparation and implementation of trans-boundary water resources development, utilization of management projects;	Establishment of a Joint Songwe River Basin Commission 2018	The Secretariat is based in Kyela-Tanzania
		Strengthening Transboundary Cooperation and Integrated Natural Resources Management in the Songwe River Basin Project 2019-2023	USD 6.4 million Fund accessed from the Global Environment Facility (GEF), Euro 0.2 million and GBP 0.1 million from Stockholm International Water Institute (SIWI) and Climate Resilient Infrastructure Development Facility (CRIDF)
		Sustainable Water Partnership for the Mara River 2016-2021	
3	Coordinate formulation of international agreements and	Convention between the Government of the Republic of Malawi and the Government of the United Republic of Tanzania on the Establishment of a Joint Songwe River	

SN	Area	Performance	Remarks
	protocols on trans-boundary shared water course systems	Basin Commission, 2017 (in force as from 1st July, 2018)	
		The Nile Cooperative Framework Agreement, 2010 (Tanzania ratified in 2015)	
		Memorandum of Understanding between Tanzania and Malawi for the Implementation of Phase III of Songwe River Basin Development Programme (SRBDP), 2017	
		Memorandum of Understanding on Kagera River Basin Transboundary Integrated Water Resources Management and Development between Tanzania, Burundi, Rwanda Uganda and Nile Equatorial Lakes Subsidiary Action Plan – Coordination Unit – NELSAP- CU, 2016	
		Memorandum of Understanding between Tanzania and Kenya for the Management of Transboundary Water Resources of Mara River Basin, 2015	
		Memorandum of Understanding between Tanzania and DRC for the Construction of Lukuga Barr age, 2015	

Appendix 4-1: Access to Rural Water Supply Services as of 31st December 2019

N	Mkoa	Na.	Halmashauri	Idadi ya Watu Vijijini	Idadi ya Vituo vya Kuchotea maji	Idadi ya Vituo vya Kuchotea maji Vinavyofanya kazi	Idadi ya Watu Wanaopata huduma	Asilimia ya Watu wanaopata huduma ya maji
				(a)	**(b)**	**(c)**	**(b)**	**(b)/(a)**
1	ARUSHA	1	ARUSHA DC	323,198	1,886	1,694	263,500	82
		2	KARATU DC	230,894	816	786	188,500	82
		3	LONGIDO DC	129,402	579	504	109,000	84
		4	MERU DC	268,144	2,044	1,347	236,750	88
		5	MONDULI DC	154,212	580	532	98,000	64
		6	NGORONGO	174,278	759	577	134,250	77
			Jumla	**1,280,128**	**6,664**	**5,440**	**1,030,000**	**80**
2	DSM	7	ILALA MC		997	966		
		8	KINONDONI		372	283		
		9	KIGAMBONI		434	101		
		10	TEMEKE MC		508	278		
		11	UBUNGO MC		404	392		
			Jumla	**-**	**2,715**	**2,020**	**-**	**0**
3	DODOMA	12	BAHI DC	228,378	855	444	181,000	79
		13	CHAMWINO DC	345,195	1,224	784	286,000	83
		14	CHEMBA DC	235,711	854	332	133,000	56
		15	DODOMA CC	385,327	991	430	327,500	85
		16	KONDOA DC	184,890	483	273	106,250	57
		17	KONDOA TC	23,989	94	81	20,500	85
		18	KONGWA DC	283,465	1,333	971	182,750	64
		19	MPWAPWA DC	332,509	1,063	695	173,750	52
			Jumla	**2,019,464**	**6,897**	**4,010**	**1,410,750**	**70**
4	GEITA	20	BUKOMBE DC	265,938	531	320	180,000	68
		21	CHATO DC	437,967	645	469	267,250	61
		22	GEITA DC	490,044	512	283	320,750	65
		23	GEITA TC	200,028	165	109	170,250	85
		24	MBOGWE DC	274,777	545	409	182,250	66
		25	NYANG'HWALE DC	168,545	418	60	105,000	62
			Jumla	**1,837,299**	**2,816**	**1,650**	**1,225,500**	**67**
5	IRINGA	26	IRINGA DC	249,219	2,369	1,764	191,000	77
		27	IRINGA MC	20,711	135	111	17,750	86
		28	KILOLO DC	176,716	1,119	875	138,750	79
		29	MAFINGA TC	54,749	275	240	40,000	73
		30	MUFINDI DC	233,281	1,643	1,080	195,000	84
			Jumla	**734,676**	**5,541**	**4,070**	**582,500**	**79**

N	Mkoa	Na.	Halmashauri	Idadi ya Watu Vijijini	Idadi ya Vituo vya Kuchotea maji	Idadi ya Vituo vya Kuchotea maji Vinavyofanya kazi	Idadi ya Watu Wanaopata huduma	Asilimia ya Watu wanaopata huduma ya maji
6	KAGERA	31	BIHARAMULO DC	381,042	880	651	#252,750	66
		32	BUKOBA DC	333,907	1,082	881	185,501	56
		33	BUKOBA MC	35,432	242	218	25,500	72
		34	KARAGWE DC	369,963	992	785	216,500	59
		35	KYERWA DC	371,687	672	468	237,000	64
		36	MISSENYI DC	221,716	812	494	123,500	56
		37	MULEBA DC	540,310	1,156	859	445,350	82
		38	NGARA DC	391,169	1,046	729	215,350	55
			Jumla	**2,645,226**	**6,882**	**5,085**	**1,701,451**	**64**
7	KATAVI	39	MLELE DC	69,473	323	301	44,765	64
		40	MPANDA DC	198,716	747	472	101,225	51
		41	MPANDA TC	51,649	138	61	45,119	87
		42	MPIMBWE DC	86,420	357	352	70,610	82
		43	NSIMBO DC	102,425	346	181	55,200	54
			Jumla	**508,683**	**1,911**	**1,367**	**316,919**	**62**
8	KIGOMA	44	BUHIGWE DC	255,808	1,119	919	145,250	57
		45	KAKONKO DC	179,537	754	357	89,250	50
		46	KASULU DC	343,509	1,216	813	265,201	77
		47	KASULU TC	234,462	886	593	188,250	80
		48	KIBONDO DC	280,303	776	475	170,500	61
		49	KIGOMA DC	248,908	1,661	682	180,350	72
		50	KIGOMA MC	75,146	49	48	55,250	74
		51	UVINZA DC	412,198	747	613	353,250	86
			Jumla	**2,029,871**	**7,208**	**4,500**	**1,447,301**	**71**
9	KILIMANJARO	52	HAI DC	216,965	802	802	200,500	92
		53	MOSHI DC	425,814	2,262	1,924	361,000	85
		54	MWANGA DC	120,560	1,538	954	88,500	73
		55	ROMBO DC	231,951	785	467	206,750	89
		56	SAME DC	260,807	1,906	1,587	186,750	72
		57	SIHA DC	130,149	600	590	107,500	83
			Jumla	**1,386,246**	**7,893**	**6,324**	**1,151,000**	**83**
10	LINDI	58	KILWA DC	164,925	757	388	97,000	59
		59	LINDI DC	185,775	772	410	102,500	55
		60	LINDI MC	64,527	269	167	41,750	65
		61	LIWALE DC	92,162	360	180	55,000	60
		62	NACHINGWEA DC	173,595	783	190	115,500	67
		63	RUANGWA DC	136,706	901	547	91,750	67
			Jumla	**817,690**	**3,842**	**1,882**	**503,500**	**62**
11	MANYARA	64	BABATI DC	332,511	1,082	870	255,500	77
		65	BABATI TC	6,351	563	548	5,993	94
		66	HANANG DC	306,695	660	521	166,286	54
		67	KITETO DC	275,916	463	236	138,280	50
		68	MBULU DC	248,716	500	417	118,855	48
		69	MBULU TC	160,987	228	188	83,714	52

N	Mkoa	Na.	Halmashauri	Idadi ya Watu Vijijini	Idadi ya Vituo vya Kuchotea maji	Idadi ya Vituo vya Kuchotea maji Vinavyofanya kazi	Idadi ya Watu Wanaopata huduma	Asilimia ya Watu wanaopata huduma ya maji
		70	SIMANJIRO DC	195,207	673	355	107,500	55
			Jumla	**1,526,383**	**4,169**	**3,135**	**876,128**	**57**
12	MARA	71	BUNDA DC	229,340	833	468	157,000	68
		72	BUNDA TC	138,817	335	224	86,000	62
		73	BUTIAMA DC	249,292	634	227	156,750	63
		74	MUSOMA DC	226,486	278	210	172,500	76
		75	RORYA DC	252,586	553	148	167,000	66
		76	SERENGETI DC	294,409	1,241	840	180,000	61
		77	TARIME DC	317,455	399	186	226,500	71
		78	TARIME TC	18,679	81	66	14,500	78
			Jumla	**1,727,064**	**4,354**	**2,369**	**1,160,250**	**67**
13	MBEYA	79	BUSOKELO DC	93,524	827	558	78,500	84
		80	CHUNYA DC	290,478	660	505	226,250	78
		81	KYELA DC	221,490	1,855	804	151,000	68
		82	MBARALI DC	300,517	1,085	661	225,250	75
		83	MBEYA DC	305,319	1,520	1,378	234,500	77
		84	MBEYA CC	21,434	283	246	18,500	86
		85	RUNGWE DC	339,157	1,241	1,078	299,500	88
			Jumla	**1,571,919**	**7,471**	**5,230**	**1,233,500**	**78**
14	MOROGORO	86	GAIRO DC	193,011	201	193	118,250	61
		87	IFAKARA TC	125,139	563	333	83,250	67
		88	KILOMBERO DC	365,518	2,354	1,739	284,750	78
		89	KILOSA DC	329,214	1,704	1,006	251,500	76
		90	MALINYI DC	125,286	687	464	106,000	85
		91	MOROGORO DC	250,963	1,246	804	181,000	72
		92	MOROGORO MC	50,367	436	285	31,250	62
		93	MVOMERO DC	227,804	1,482	920	150,000	66
		94	ULANGA DC	160,853	800	564	121,000	75
			Jumla	**1,828,155**	**9,473**	**6,308**	**1,327,000**	**73**
15	MTWARA	95	MASASI DC	120,947	816	556	95,000	79
		96	MASASI TC	35,249	79	68	27,000	77
		97	MTWARA DC	119,648	495	229	87,250	73
		98	MTWARA MC	77,928	277	165	61,250	79
		99	NANYAMBA TC	106,208	577	467	76,750	72
		100	NANYUMBU DC	150,859	376	211	112,750	75
		101	NEWALA DC	132,540	448	214	73,500	55
		102	NEWALA TC	97,027	167	84	65,000	67
		103	TANDAHIMBA DC	227,514	1,134	262	195,500	86
			Jumla	**1,067,920**	**4,369**	**2,256**	**794,000**	**74**

N	Mkoa	Na.	Halmashauri	Idadi ya Watu Vijijini	Idadi ya Vituo vya Kuchotea maji	Idadi ya Vituo vya Kuchotea maji Vinavyofanya kazi	Idadi ya Watu Wanaopata huduma	Asilimia ya Watu wanaopata huduma ya maji
16	MWANZA	104	BUCHOSA DC	332,186	591	448	252,000	76
		105	ILEMELA MC	-	269	166	-	0
		106	KWIMBA DC	487,193	1,345	862	365,500	75
		107	MAGU DC	347,852	1,042	600	240,000	69
		108	MISUNGWI DC	302,873	664	434	238,500	79
		109	NYAMAGANA MC	-	111	21	-	0
		110	SENGEREMA DC	261,477	386	185	186,250	71
		111	UKEREWE DC	331,426	729	535	213,750	64
			Jumla	**2,063,007**	**5,137**	**3,251**	**1,496,000**	**73**
17	NJOMBE	112	LUDEWA DC	133,562	2,118	1,990	107,500	80
		113	MAKETE DC	84,790	1,207	1,166	71,500	84
		114	MAKAMBAKO TC	42,456	521	465	36,250	85
		115	NJOMBE DC	88,326	939	615	73,750	83
		116	NJOMBE TC	79,137	1,044	896	64,000	81
		117	WANGING'OMBE DC	167,731	2,433	2,271	157,750	94
			Jumla	**596,002**	**8,262**	**7,403**	**510,750**	**86**
18	PWANI	118	BAGAMOYO DC	127,883	712	380	75,000	59
		119	CHALINZE DC	224,426	732	386	156,500	70
		120	KIBAHA DC	85,661	566	566	71,500	83
		121	KIBAHA TC	38,296	183	163	25,000	65
		122	KIBITI DC	100,106	276	122	55,500	55
		123	KISARAWE DC	111,358	535	269	67,250	60
		124	MAFIA DC	75,237	382	319	44,750	59
		125	MKURANGA DC	249,044	974	683	185,750	75
		126	RUFIJI DC	122,213	723	529	67,250	55
			Jumla	**1,134,224**	**5,083**	**3,417**	**748,500**	**66**
19	RUKWA	127	KALAMBO DC	254,554	845	396	139,612	55
		128	NKASI DC	292,163	998	604	148,895	51
		129	SUMBAWANGA DC	305,846	746	362	218,358	71
		130	SUMBAWANGA MC	107,573	631	423	93,607	87
			Jumla	**960,136**	**3,220**	**1,785**	**600,472**	**63**
20	RUVUMA	131	MADABA DC	54,102	427	335	43,750	81
		132	MBINGA DC	141,759	564	409	102,250	72
		133	MBINGA TC	111,345	481	355	88,750	80
		134	NAMTUMBO DC	230,334	965	545	166,250	72
		135	NYASA DC	126,172	916	839	109,750	87
		136	SONGEA DC	134,434	995	669	107,250	80
		137	SONGEA MC	139,654	412	380	85,000	61
		138	TUNDURU DC	245,428	968	552	188,000	77
			Jumla	**1,183,228**	**5,728**	**4,084**	**891,000**	**75**
	SHINYANGA	139	KAHAMA TC	252,424	550	269	217,250	86

N	Mkoa	Na.	Halmashauri	Idadi ya Watu Vijijini	Idadi ya Vituo vya Kuchotea maji	Idadi ya Vituo vya Kuchotea maji Vinavyofanya kazi	Idadi ya Watu Wanaopata huduma	Asilimia ya Watu wanaopata huduma ya maji
21		140	KISHAPU DC	241,652	876	537	134,250	56
		141	MSALALA DC	262,751	537	409	172,250	66
		142	SHINYANGA DC	356,884	1,338	816	254,000	71
		143	SHINYANGA MC	98,559	451	371	77,750	79
		144	USHETU DC	266,247	634	417	184,250	69
			Jumla	**1,478,517**	**4,386**	**2,819**	**1,039,750**	**70**
22	SIMIYU	145	BARIADI DC	304,047	546	498	224,500	74
		146	BARIADI TC	105,059	602	550	82,500	79
		147	BUSEGA DC	242,438	816	409	175,250	72
		148	ITILIMA DC	382,020	1,240	1,080	260,000	68
		149	MASWA DC	398,025	1,525	1,192	248,000	62
		150	MEATU DC	299,741	908	699	234,750	78
			Jumla	**1,731,330**	**5,637**	**4,428**	**1,225,000**	**71**
23	SINGIDA	151	IKUNGI DC	274,726	1,145	649	182,250	66
		152	IRAMBA DC	252,361	761	556	225,000	89
		153	ITIGI DC DC	88,729	230	128	52,000	59
		154	MANYONI DC	216,448	712	381	135,250	62
		155	MKALAMA DC	232,537	759	613	153,250	66
		156	SINGIDA DC	289,267	1,141	1,013	253,250	88
		157	SINGIDA MC	79,911	222	169	52,250	65
			Jumla	**1,433,979**	**4,970**	**3,509**	**1,053,250**	**73**
24	SONGWE	158	ILEJE DC	99,039	711	537	74,250	75
		159	MBOZI DC	321,529	1,419	1,072	198,000	62
		160	MOMBA DC	156,246	276	94	123,500	79
		161	SONGWE DC	102,358	496	374	83,500	82
		162	TUNDUMA TC	81,310	177	150	57,500	71
			Jumla	**760,482**	**3,079**	**2,227**	**536,750**	**71**
25	TABORA	162	IGUNGA DC	374,805	938	509	227,250	61
		163	KALIUA DC	412,012	501	249	282,250	69
		164	NZEGA DC	423,539	1,156	820	285,000	67
		165	NZEGA TC	94,336	212	168	65,000	69
		166	SIKONGE DC	179,883	446	364	101,000	56
		167	TABORA MC	78,823	239	134	43,500	55
		168	URAMBO DC	218,178	398	162	160,500	74
		169	UYUI DC	384,484	650	347	236,750	62
			Jumla	**2,166,060**	**4,540**	**2,753**	**1,401,250**	**65**
26	TANGA	170	BUMBULI DC	77,651	373	302	49,635	64
		171	HANDENI DC	242,624	496	329	123,901	51
		172	HANDENI TC	75,998	291	180	45,648	60
		173	KILINDI DC	250,077	511	396	201,105	80
		174	KOROGWE DC	252,038	1,617	1,601	186,179	74
		175	KOROGWE TC	68,308	320	293	59,366	87
		176	LUSHOTO DC	496,441	877	781	304,851	61

N	Mkoa	Na.	Halmashauri	Idadi ya Watu Vijijini	Idadi ya Vituo vya Kuchotea maji	Idadi ya Vituo vya Kuchotea maji Vinavyofanya kazi	Idadi ya Watu Wanaopata huduma	Asilimia ya Watu wanaopata huduma ya maji
		177	MKINGA DC	118,065	856	672	72,096	61
		178	MUHEZA DC	205,107	678	455	105,089	51
		179	PANGANI DC	54,025	505	495	46,045	85
		180	TANGA CC	-	216	126	-	
			Jumla	**1,840,334**	**6,740**	**5,630**	**1,193,915**	**65**
	Jumla ya Mikoa yote			**36,328,023**	**138,987**	**96,952**	**25,456,436**	**70.1**

Source: NBS data 2012: Rural Population in Tanzania Mainland is estimated at a tune of 36,328,023 **which is** 67.4 Percent **of the Total Population by 2019 which is** 53,934,967.

Appendix 4-2: Access to Urban Water Supply Services at at 31st December 2019

Sr/No	Utilities	Total Water Connections (Number)					Domestic Water Connections (Number)					Public Water Kiosks (Number)				No. of people with access to clean and safe water	
		2014/15	2015/16	2016/17	2017/18	2018/19	2014/15	2015/16	2016/17	2017/18	2018/19	2014/15	Working Kiosks	2018/19	Working Kiosks	2014/15	2018/19
	A: Regional Water Supply and Sanitation Authorities																
1	Arusha	39,177	41,601	45,902	49,902	57,015	33,347	35,713	39,833	43,633	50,505	118	83	372	289	350,070	292,228
2	DAWASCO	142,960	156,059	262,476	286,115	261,294	137,783	150,778	256,290	211,043	254,018	223	203	510	431	1,418,430	4,934,092
3	Dodoma	30,504	33,276	36,084	39,205	43,837	28,248	30,748	33,378	36,672	40,240	346	346	304	304	351,680	423,394
4	Iringa	16,976	17,868	19,355	22,080	25,058	15,928	16,762	18,226	20,895	23,800	93	90	128	128	177,280	169,167
5	Kahama	11,405	12,704	14,157	15,773	17,622	10,512	11,771	13,114	14,668	16,366	38	33	83	83	111,720	112,540
6	Mbeya	43,890	48,658	50,403	53,089	65,389	42,753	47,451	49,230	51,903	62,895	158	158	88	88	459,130	424,430
7	Morogoro	25,632	27,428	28,880	30,127	31,476	24,014	25,917	27,117	28,306	29,630	146	63	177	67	252,740	219,135
8	Moshi	24,340	27,459	30,324	33,744	36,379	22,153	25,172	27,973	31,273	33,844	170	143	184	156	250,130	339,224
9	Mtwara	9,905	10,609	11,228	12,405	13,057	9,204	9,845	10,454	11,486	12,092	41	41	108	108	100,240	111,644
10	Musoma	10,352	10,796	12,050	13,416	15,251	9,520	9,922	11,249	12,442	14,240	19	0	13	13	95,200	146,300
11	Mwanza	51,516	58,220	67,465	74,313	81,310	47,332	53,862	62,465	68,747	74,853	144	141	185	357	501,520	987,486
12	Shinyanga	16,441	17,431	18,343	19,379	20,851	15,313	16,276	17,152	18,106	19,536	189	189	229	229	190,930	140,116
13	Songea	12,257	12,880	13,289	14,775	16,373	11,392	12,003	12,433	13,843	15,429	52	16	30	30	117,120	186,408
14	Tabora	14,379	15,584	16,851	18,328	19,691	13,434	14,551	15,784	17,221	18,556	139	79	183	94	150,140	232,279
15	Tanga	31,241	33,397	35,694	37,608	39,646	29,440	31,564	33,785	35,635	37,651	281	225	290	212	339,400	281,143
16	Bukoba	8,189	8,593	9,147	9,678	10,580	7,525	7,921	8,463	8,978	9,622	43	40	45	40	83,250	96,598
17	Kigoma	9,098	9,412	9,787	10,483	11,002	8,414	8,681	9,140	9,676	10,314	43	12	15	14	86,540	168,524
18	Singida	7,429	8,551	9,671	11,044	12,268	6,530	7,652	8,706	9,619	11,233	56	56	101	0	76,500	9,040
19	Sumbawanga	5,930	6,227	7,105	7,683	8,871	5,621	5,935	6,542	7,100	8,238	17	17	106	102	59,610	91,708
20	Babati	5,094	5,742	6,357	7,546	8,859	5,133	5,278	5,850	7,004	8,259	78	74	123	105	66,130	115,967
21	Lindi	2,604	2,813	3,404	3,663	4,059	2,323	2,269	3,019	3,151	3,523	79	79	206	161	39,030	64,911
22	Bariadi	727	761	888	945	1,141	624	648	753	811	976	17	13	15	15	8,840	16,890
23	Geita	513	1,911	2,873	4,384	5,961	467	1,791	2,609	4,184	5,577	5	3	13	11	5,270	80,828
24	Mpanda	3,677	4,203	4,384	4,620	5,176	3,357	3,905	4,080	4,358	4,865	40	40	48	48	41,570	41,190
25	Njombe	4,724	5,208	6,203	6,735	7,255	4,520	4,988	5,982	6,513	7,027	1	1	0	0	45,400	45,673
26	Vwawa - Mlowo				1,716	1,814				1,617	1,711			6	6	-	31,449
	TOTAL	**528,960**	**577,391**	**722,320**	**788,756**	**821,235**	**494,887**	**541,403**	**683,627**	**678,884**	**775,000**	**2,536**	**2,145**	**3,562**	**3,091**	**5,377,870**	**9,762,364**
	B: District and Small Towns Water Supply and Sanitation Authorities																
1	Biharamulo	887	938	978	1,089	1,260	810	860	921	945	1,150	6	5	12	12	9,350	14,500

A: Regional Water Supply and Sanitation Authorities

Sr/No	Utilities	Total Water Connections (Number)					Domestic Water Connections (Number)					Public Water Kiosks (Number)				No. of people with access to clean and safe water	
		2014/15	2015/16	2016/17	2017/18	2018/19	2014/15	2015/16	2016/17	2017/18	2018/19	2014/15	Working Kiosks	2018/19	Working Kiosks	2014/15	2018/19
2	Bunda	1,426	1,515	1,881	2,579	3,767	1,254	1,333	1,579	2,223	3,313	25	18	75	74	17,040	68,195
3	Chamwino	1,052	1,068	1,182	1,212	1,504	997	998	1,106	1,131	1,408	0	0	7	7	9,970	17,238
4	Chato					1,902					1,781			95	85		26,998
5	Chunya	1,003	1,090	1,204	1,270	1,312	943	1022	1,133	1,197	1,237	5	1	4	2	9,680	17,066
6	Dakawa	450	437	459	554	574	405	396	430	447	501	3	3	18	10	4,800	7,510
7	Gairo	223	217	224	226	229	3	3	2	3	3	176	168	168	168	42,030	13,455
8	Handeni	590	590	591	591	661	457	457	458	458	490	52	22	79	59	10,070	25,861
9	Ifakara	802	1,116	1,306	1,340	1,362	767	1021	1,199	1,220	1,240	20	18	48	35	12,170	21,150
10	Igunga	1,147	1,469	1,714	1,804	1,976	1,019	1,252	1,507	1,605	1,757	42	15	33	33	13,940	24,063
11	Itumba-Isongole	1,294	1,519	1,575	1,584	1,614	1,146	1,369	1,425	1,487	1,517	67	13	69	15	14,710	19,276
12	Karagwe	503	516	533	577	627	427	440	416	448	475	16	11	49	37	7,020	14,000
13	Karatu				179	237				123	166			17	17	-	4,912
14	Kasulu	3,241	3,470	3,626	3,720	3,863	3,018	3218	3,355	3,429	3,568	3	3	4	4	30,930	36,680
15	Katesh	1,535	1,811	1,898	2,056	2,147	1,415	1,673	1,739	1,889	1,967	25	7	32	14	15,900	12,220
16	Kibaya	394	374	480	523	622	333	304	408	446	530	19	18	36	34	7,830	19,688
17	Kibondo	1,353	1,559	1,925	2,018	2,058	989	1,183	1,186	1,197	1,037	8	8	11	10	11,890	10,796
18	Kilindoni	396	404	429	431	548	355	363	386	351	515	4	2	4	2	4,050	3,490
19	Kilolo	462	494	647	666	899	432	459	560	559	791	53	45	72	36	15,570	18,594
20	Kilosa	531	1,450	1,654	1,674	2,025	504	1,418	1,585	1,594	1,929	0	0	48	48	5,040	23,574
21	Kilwa Masoko	1564	1,602	1,738	1,723	1,824	1448	1,486	1,611	1,553	1,700	10	10	8	7	16,980	10,250
22	Kiomboi	749	767	817	900	915	686	699	749	807	827	18	4	18	4	7,860	5,962
23	Kisarawe	445	462	468	456	399	415	432	424	418	350	7	4	4	4	5,150	3,100
24	Kishapu	130	133	139	434	828	102	105	109	383	752	10	10	11	11	3,520	10,270
26	Kongwa	983	1,000	1,020	1,275	1,275	835	851	872	1,121	1,172	30	20	28	28	13,350	12,208
27	Korogwe	3,026	3,104	3,210	3,578	3,870	2,793	2,870	2,978	3,309	3,569	54	36	90	67	36,930	55,742
28	Kyela	3,471	3,548	3,608	3,656	2,457	3,237	3,314	3,432	3,492	2,299	70	4	12	12	33,370	25,990
29	Liwale	1689	1,821	1,932	1,735	1,873	1581	1,713	1,816	1,641	1,779	5	3	7	3	16,560	14,982
30	Loliondo	259	419	579	660	732	231	386	504	573	643	9	9	19	15	4,560	10,264
31	Ludewa	520	538	523	538	563	465	477	469	496	520	7	7	7	7	6,400	7,400
32	Lushoto	1,563	1,625	1,757	1,879	1,997	1,390	1,436	1,542	1,592	1,688	7	6	7	6	15,400	20,997
33	Mafinga	3,253	3,343	3,439	3,507	3,795	3,036	3,091	3,175	3,189	3,462	0	0	1	1	30,360	41,794
34	Magu	1,230	1,230	1,230	1,230	1,301	1,070	1080	1,080	1,080	997	30	15	30	27	14,450	14,082

A: Regional Water Supply and Sanitation Authorities

Sr/No	Utilities	Total Water Connections (Number)					Domestic Water Connections (Number)					Public Water Kiosks (Number)				No. of people with access to clean and safe water	
		2014/15	2015/16	2016/17	2017/18	2018/19	2014/15	2015/16	2016/17	2017/18	2018/19	2014/15	Working Kiosks	2018/19	Working Kiosks	2014/15	2018/19
35	Mahenge	945	700	921	731	943	921	798	696	707	639	2	2	3	1	9,710	6,640
36	Makete	1,282	1,364	1,416	1,536	1,604	951	1,033	1,332	1,452	1,479	0	0			9,510	10,857
37	Mangaka	17	17	22		7	0	-	-			17	12	6	4	3,000	1,000
38	Manyoni	1,700	1,821	1,947	2,062	2,438	1,571	1682	1,818	1,913	2,235	43	39	52	41	25,460	23,660
39	Mbinga	2,150	2,288	2,428	2,592	2,844	1,955	2,087	2,228	2,375	2,626	2	1	7	7	19,800	27,154
40	Mbulu	1,691	1,814	1,936	1,970	2,138	1,406	1,522	1,606	1,632	1,780	33	32	40	33	22,060	22,710
41	Misungwi	1,230	1,357	1,475	1,626	1,645	1,151	1,269	1,379	1,526	1,536	12	9	10	4	13,760	16,360
42	Mkuranga	110	134	218	283	290	105	109	185	246	250	0	0			1,050	2,500
43	Monduli	1,667	1,872	2,027	2,128	2,254	1,511	1,716	1,867	1,960	2,082	26	12	21	15	18,110	17,716
44	Mpwapwa	2,603	2,712	2,947	3,006	3,255	2,507	2,632	2,862	2,985	3,134	16	8	18	10	27,070	30,170
45	Mugumu	1,202	1,218	1,632	1,740	1,862	1,122	1,096	1,463	1,563	1,392	4	2	7	1	11,720	8,452
46	Muheza	2,140	2,179	2,179	2,179	2,198	2,052	2062	2,062	2,062	2,062	20	12	40	17	23,520	23,485
47	Muleba	1,407	1,637	1,806	2,039	2,280	1,296	1,467	1,595	1,829	2,085	21	20	23	18	17,960	22,650
48	Mwanga	1,731	1,926	2,167	2,343	2,475	1,554	1,752	1,990	2,143	2,274	13	11	16	16	18,290	15,203
49	Mwanhuzi	1,704	1,811	1,970	2,065	2,262	1,559	1,658	1,809	1,898	2,086	27	22	28	24	21,090	17,316
50	Namanyere	128	171	222	260	297	115	131	181	215	252	6	6	15	10	2,650	5,020
51	Namtumbo	1,142	1,193	1,188	1,233	1,294	1,005	1,058	825	1,145	1,202	52	0	-	0	10,050	14,582
52	Nansio	929	929	1,685	2,146	2,641	874	880	1,558	1,994	2,454	3	1	49	49	8,990	39,240
53	Ngara	2,202	2,414	2,554	2,682	2,801	2,009	2,198	2,361	2,458	2,562	34	28	33	30	27,090	34,620
54	Ngudu	726	940	1,159	1,287	1,495	531	864	1,074	1,197	1,443	3	3	11	2	6,060	15,030
55	Nzega	2,705	2,925	2,752	3,041	3,041	2,494	2,674	2,481	2,692	2,692	30	24	43	37	30,940	25,402
56	Orkesumet	74	128	132	155	128	16	63	63	63	75	41	41	23	14	10,410	4,579
57	Pangani	1,209	1,354	1,378	1,379	1,288	1,100	1,263	1,316	1,302	1,180	8	2	-	0	11,500	11,890
58	Ruangwa	769	839	922	991	1,098	705	775	866	923	1,021	16	10	20	15	9,550	8,855
59	Rujewa	1,606	1,620	1,635	1,635	2,418	1,407	1,421	1,384	1,533	2,273	148	55	148	50	27,820	20,411
60	Same	1,420	1,482	1,546	1,586	1,653	1,243	1,311	1,371	1,408	1,475	46	43	47	41	23,180	18,420
61	Sengerema	3,261	3,448	3,724	4,536	5,668	3,072	3,194	3,579	4,242	5,217	96	42	143	135	41,220	92,670
62	Sikonge	318	328	424	474	524	224	282	310	423	447	6	5	10	10	3,490	5,629
63	Songe	321	364	348	362	400	265	308	290	298	316	25	19	38	19	7,400	9,490
64	Tarime	1,351	1,501	1,570	1,768	1,867	1,256	1,260	1,449	1,471	1,717	4	4	9	6	13,560	15,536
65	Tukuyu	4,298	3,767	4,061	4,313	4,553	4,094	3,561	3,857	4,025	4,252	1	1	2	2	41,190	39,875
66	Tunduru	1,110	876	1,114	1,592	1,963	1,043	819	1,073	1,556	1,927	8	8	10	4	12,430	24,624

	A: Regional Water Supply and Sanitation Authorities																
Sr/No	Utilities	Total Water Connections (Number)					Domestic Water Connections (Number)					Public Water Kiosks (Number)				No. of people with access to clean and safe water	
		2014/15	2015/16	2016/17	2017/18	2018/19	2014/15	2015/16	2016/17	2017/18	2018/19	2014/15	Working Kiosks	2018/19	Working Kiosks	2014/15	2018/19
67	Urambo	292	310	276	302	328	206	225	157	176	190	21	18	40	40	6,560	11,140
68	USA River	1,971	2,046	1,713	2,222	2,550	1,805	1,876	1,543	2,055	2,403	33	23	19	19	23,800	20,620
69	Ushirombo	289	328	393	475	488	260	299	361	443	455	14	8	17	9	4,600	7,250
70	Utete	623	703	759	807	846	560	640	719	765	803	4	4	4	4	6,600	6,621
71	Vwawa	1,218	1,361	1,683			1,119	1,275	1,606			40	40			21,190	12,246
72	Bashnet	227	352	402	498	572	151	277	317	375	436	59	55	103	85	15,260	17,166
73	Gallapo	698	819	896	996	1,192	624	746	805	899	1,071	49	33	75	51	14,490	25,160
74	Ilula	824	942	1,167	1,139	1,186	736	896	1,038	1,056	1,072	63	49	70	56	19,610	17,440
75	Isaka	103	90	93	93	94	72	65	77	77	78	7	6	7	7	2,220	2,880
76	Kasumulu	848	848	852	854	858	767	792	795	794	798	0	0	26	1	7,670	8,180
77	Kibaigwa	1277	1,443	1,693	1,919	2,160	968	1,364	1,335	1833	1,971	63	58	85	85	24,180	28,555
78	Maganzo				25	215				0	165			25	25	-	5,990
79	Magugu	802	1,084	1,346	1,443	1,638	676	956	1,205	1,297	1,481	66	66	87	65	23,260	34,022
80	Makambako	4327	4,453	4,625	4,816	5,055	4058	4058	4,295	4,471	4,668	46	24	49	49	46,580	40,309
81	Mbalizi	4226	4,657	5,291	5,841		3940	4324	4,949	5,469		119	116			68,400	-
82	Mikumi	202	201	205	418	885	181	156	180	342	760	32	11	72	72	4,560	8,920
83	Mlowo	67	86	138			25	45	106			16	15			4,000	500
84	Mombo	688	627	643	689	718	612	540	508	603	630	22	15	16	14	9,870	10,122
85	Tunduma	656	668	673	698	715	524	524	544	214	231	45	12	25	9	8,240	5,010
86	Turiani		1,738	1,782	1,947	2,362		1,162	1,568	1,819	2,251			25	25	-	28,760
	TOTAL	**104,009**	**112,639**	**122,401**	**130,218**	**138,259**	**93,703**	**101,829**	**110,555**	**117,809**	**124,409**	**2,254**	**1,515**	**2,764**	**2,149**	**1,315,780**	**1,586,528**
	C: National Project Water Supply and Sanitation Authorities																
1	Chalinze	2,804	3,360	3,979	4,262	4,459	2,104	2,376	2,894	3,118	3,269	508	478	643	615	108,224	142,614
2	HTM	1,901	2,017	2,196	2,281	2,435	1,551	1,650	1,816	1,872	2,000	190	110	221	165	8,250	12,375
3	KASHWASA	50	64	66	71	74	3	3	3	65	0	0	0	NA	NA	NA	NA
4	Makonde	2,643	2,753	2,830	2,940	3,089	2,010	2,088	2,014	2,065	2,205	432	400	550	250	140,100	97,050
5	MANAWASA	4,269	5,745	7,635	8,853	10,020	3,825	5,158	6,919	8,052	9,126	109	14	366	335	41,750	175,010
6	Maswa	2,641	3,099	3,247	3,285	3,622	2,461	2,919	3,070	3,070	3,477	32	14	40	28	28,110	24,385
7	Mugango-Kiabakari	596	659	763	836	962	554	588	681	748	870	3	3	26	21	6,290	10,470
8	Wanging'ombe	4,028	4,123	4,651	4,841	5,393	3,205	3,295	4,013	4,178	4,700	476	93	510	479	20,675	47,450
	TOTAL	**18,932**	**21,820**	**25,367**	**27,369**	**30,054**	**15,713**	**18,077**	**21,410**	**23,168**	**25,647**	**1,750**	**1,112**	**2,356**	**1,893**	**353,399**	**509,354**

Appendix 4-3: NRW in Urban Water Supply Utilities

S/N	Utilities	NRW (%)				
		2014/15	2015/16	2016/17	2017/18	2018/19
	A: Regional Water Supply and Sanitation Authorities					
1	Arusha	44.9	43.29	41.04	47.04	44.11
2	DAWASCO	56.7	53.09	46	46.68	48.37
3	Dodoma	29.7	30.86	28.03	30.42	26.86
4	Iringa	33.5	31.03	28.79	31.23	25.64
5	Kahama	15	13.34	12.76	10.71	12.4
6	Mbeya	35.9	33.71	28.64	38.78	40.06
7	Morogoro	41	39.25	39.84	39.49	33.25
8	Moshi	24.1	20.68	23.09	21.69	20.36
9	Mtwara	28.8	30.71	29.96	28.42	24.53
10	Musoma	42.2	30.75	40.28	63.5	59.98
11	Mwanza	41.8	38.06	36.66	36.63	36.84
12	Shinyanga	22.6	16.01	20.13	16.7	13.25
13	Songea	26.9	20.81	21.7	21.04	20.33
14	Tabora	39.4	37.51	38.44	36.71	36.67
15	Tanga	22.6	26.75	24.09	25.74	28.07
16	Bukoba	53	48.6	45.81	49.51	52.55
17	Kigoma	30	29.25	28.59	28	28.12
18	Singida	40.8	30.05	36.7	26.54	28.16
19	Sumbawanga	32.7	40.52	30.97	30.98	43.21
20	Babati	31.8	41.81	48.16	43.69	38.56
21	Lindi	40.8	36.2	53.17	34.85	32.93
22	Bariadi	32.7	41.75	26.97	24.17	22.7
23	Geita	23	46.55	25	30.4	32.09
24	Mpanda	55.4	35.4	35.19	26.74	27.59
25	Njombe	52	36.1	35.3	28.24	30.29
26	Vwawa-Mlowo				34.7	34.72
	AVERAGE	**43.6**	**41.6**	**38.43**	**40.53**	**40.63**
	B: District and Small TownsWater Supply and Sanitation Authorities					
1	Biharamulo	33	36	23	18	12
2	Bunda	46	48	46	45	35
3	Chamwino	39	32	33	32	24
4	Chato					40
5	Chunya	32	30	35	33	42
6	Dakawa	67	30	34	12	34
7	Gairo	30	56	65	65	78
8	Handeni	51	50	25	31	19
9	Ifakara	32	50	33	11	17
10	Igunga	45	41	42	20	23
11	Itumba-Isongole	35	34	39	33	42
12	Karagwe	26	33	23	31	21
13	Karatu				35	26
14	Kasulu	49	46	42	42	34
15	Katesh	52	46	54	35	39
16	Kibaya	35	41	39	31	31
17	Kibondo	39	36	34	27	37
18	Kilindoni	45	38	34	44	17
19	Kilolo	35	47	32	32	32

S/N	Utilities	NRW (%)				
		2014/15	2015/16	2016/17	2017/18	2018/19
20	Kilosa	30	30	35	56	30
21	Kilwa Masoko	28	46	35	38	46
22	Kiomboi	35	32	25	26	34
23	Kisarawe	46	45	37	28	25
24	Kishapu	20	19	22	18	10
25	Kondoa	38	32	38	40	40
26	Kongwa	31	29	29	44	32
27	Korogwe	29	27	35	45	35
28	Kyela	33	30	36	52	30
29	Liwale	39	39	45	28	28.5
30	Loliondo	43	42	35	36	44
31	Ludewa	36	44	52	29	42
32	Lushoto	53	55	42	45	48
33	Mafinga	35	34	48	39	38
34	Magu	46	46	46	47	48
35	Mahenge	32	32	31	17	45
36	Makete	37	44	27	42	44
37	Mangaka	no data	no data	no data	no data	12
38	Manyoni	10	24	22	24	21
39	Mbinga	36	34	34	39	38
40	Mbulu	49	52	45	47	55
41	Misungwi	30	28	34	23	28
42	Mkuranga	24	53	50	28	9
43	Monduli	40	43	29	34	33
44	Mpwapwa	46	30	30	7	37
45	Mugumu	24	30	32	27.7	32
46	Muheza	28	50	68	62	53
47	Muleba	25	24	24	20	25
48	Mwanga	55	54	54.7	48.8	40
49	Mwanhuzi	25	20	19	16	14
50	Namanyere	45	38	37	63	65
51	Namtumbo	43	47	35	32	23
52	Nansio	37	28	38	28	23
53	Ngara	53	51	49	52	50
54	Ngudu	25	39	34	38	27
55	Nzega	25	25	24	25	34
56	Orkesumet	33	61	31	47	41
57	Pangani	58	67	73	61	58
58	Ruangwa	32	37	33	44	41
59	Rujewa	30	28	38	34	28
60	Same	48	46	45	43	34
61	Sengerema	47	39	40	22	36
62	Sikonge	39	45	17	11	22
63	Songe	36	49	27	49	48
64	Tarime	48	39	48	57	52
65	Tukuyu	44	44	38	35	29
66	Tunduru	32	34	45	35	30
67	Urambo	23	26	23	25	22
68	USA River	65	85	79	74	66

S/N	Utilities	NRW (%) 2014/15	2015/16	2016/17	2017/18	2018/19
69	Ushirombo	17	15	17	17	17
70	Utete	20	20	17	11	10
71	Vwawa	37	35	35	no data	
72	Bashnet	77	57	11	56	46
73	Gallapo	76	78	72	72	67
74	Ilula	50	56	43	33	37
75	Isaka	61	48	45	40	25
76	Kasumulu	45	45	45	44	37
77	Kibaigwa	20	26	21	18	13
78	Maganzo				21	2
79	Magugu	39	57	60	43	45
80	Makambako	32	31	30	30	31
81	Mbalizi	26	29	29	26	
82	Mikumi	no data	50	57	43	21
83	Mlowo	no data	49	30	no data	
84	Mombo	47	51	36	46	28
85	Tunduma	33	27	30	24	20
86	Turiani		34	27	22	26
	AVERAGE	**38**	**41**	**39**	**36**	**36**
	C: National Project Water Supply and Sanitation Authorities					
1	Chalinze	54.5	34.7	32.9	28.22	25.8
2	HTM	80.6	80.1	78.7	79.26	75.8
3	KASHWASA	6	10.6	7.8	9.32	8.8
4	Makonde	75	59	63.3	51.94	47
5	MANAWASA	26.4	28.2	25.8	24.75	25.4
6	Maswa	65.4	60	73.6	74.69	36.6
7	Mugango-Kiabakari	76	76	76.4	80.34	85.7
8	Wanging'ombe	79.7	75.9	67.4	62.61	53.6
	AVERAGE	**47.7**	**39.4**	**33.1**	**26.8**	**23.7**

Appendix 5-1: Funding Portfolio

No.	Development Partner	SUBJECT OF FINANCING AGREEMENT / BUDGET	Target Regions / Districts / Towns / Entity	FA Amount [in original DP currency]	Total DP support in original currency.	Total FA amount in [USD] equiv. calculated	Funding modality (basket or earmarked)	GoT-level financing option	IA-level financing option	Period of financing
1	Belgium	Water and Sanitation Kigoma Region Project (WASKIRP)	Kigoma Region (Rural Districts)	8,000,000	EUR	9,120,000	Earmarked	Grant DPs	GoT budget	2016-2020
2	UNICEF	Rural Water Supply Programme	Mbeya, Iringa, Njombe, Songwe, Temeke MC	4,960,000	USD	4,960,000	Earmarked	Grant DPs	GoT budget	2017-2021
		Sanitation and Hygiene Programme	Mbeya, Iringa, Njombe, Songwe, Temeke MC	21,670,000	USD	21,670,000	Earmarked	Grant DPs	GoT budget	2017-2021
		Programme Delivery Support Programme	Ministries and departments	200,000	USD	200,000	Earmarked	Grant DPs	GoT budget	2017-2021
3	Germany – KfW	OBA (Investment Finanicing Facility)	Nation-wide (special window)	12,000,000	EUR	13,680,000	Basket	Grant DPs	OBA grant	2015 -2020
		Regional Utilities Upgrading Programme Phase II	Mtwara, and Babati - Phase II	21,600,000	EUR	24,624,000	Earmarked	Grant DPs	GoT budget	2015-2020
		Regional Utilities Upgrading Programme Phase I	Lindi, Sumbawanga, and Kigoma- Phase I	81,260,000	EUR	92,636,400	Earmarked	Grant DPs	GoT budget	2015-2020
		Upgrading of WS-Schemes in Tunuduma and Vwawa	Tunduma and Vwawa	892,500	EUR	1,017,450	Earmarked	Grant DPs	GoT budget	2018-2019
		Simiyu Climate Resilience Project	Busega, Bariadi, Lagangabilli, Meatu Maswa	25,000,000	EUR	28,500,000	Earmarked	Grant DPs	GoT budget	2018-2023
4	Germany –GIZ	Support to he Development of the Water Sector	Nation Wide (policy level), pilot projects in Dodoma, Shinyanga, Korogwe)	9,500,000	EUR	10,830,000	Earmarked	Grant DPs	GoT budget	2015 -2019
		Water Security and Climate Resilience in urban areas.	Lakes Rukwa and Nyasa basins	6,000,000	EUR	6,840,000	Earmarked	Grant DPs	GoT budget	2019 -2022
5	GCF	Simiyu Climate Resilience Project	Busega, Bariadi, Lagangabilli, Meatu Maswa	102,700,000	EUR	117,078,000	Earmarked	Grant DPs	GoT budget	2018-2023
6	EU (KfW)	Regional Utilities Upgrading Programme Phase I	Lindi, Sumbawanga, and Kigoma- Phase I	51,260,000	EUR	58,436,400	Earmarked	Grant DPs	GoT budget	2015-2016
7	DfID	Construction, Extension and Rehabilitation	Nationwide	41,950,000	GBP	41,950,000	Basket	Grant (DPs)	GoT budget	2016-2020
		Support to sustainability.		14,000,000		14,000,000	Earmarked			2016-2020
		Technical Assistance (TA)-Government.		1,250,000		1,250,000	Earmarked			2016-2020
		Payment by Results (PbR)		78,600,000		78,600,000	Basket			2016-2020
		Support to Sanitation and Hygiene		8,500,000		8,500,000	Basket			2016-2020
8	USAID	Water Resources Integrated Project Initiative (WARIDI)	Component I, II, IV & V (WRM,RWSS,S&H, PDS) in 20 districts in Rufiji +Wami-Ruvu	60,000,000	USD	60,000,000	Earmarked	Grant (DPs)	Grant (NGO)	2015 - 2019
			Sustainable Agroforestry							
			Biodiversity conservation							
9	CRS	Water Resources Management, Rural Water Supply and capacity Building	Arusha (Longido), Manyara (Karatu), Dodoma (Bahi, Chamwino & Kongwa), Njombe (Njombe & Wanging'ombe) Iringa (Mufindi & Iringa Rural) and Mbeya (Mbarali)	3,000,000	USD	3,000,000	Earmarked	Grant DPs	Grant (NGO)	2015-2019
10	WSSCC	Sanitation and Hygiene - Rural	Arusha District Council(ADC) Arusha region	1,640,485	GBP	2,083,416	Earmarked	Grant DPs	Grant (NGO)	2018-2021

No.	Development Partner	SUBJECT OF FINANCING AGREEMENT / BUDGET	Target Regions / Districts / Towns / Entity	FA Amount [in original DP currency]	Total DP support in original currency.	Total FA amount in [USD] equiv. calculated	Funding modality (basket or earmarked)	GoT-level financing option	IA-level financing option	Period of financing
		Sanitation & Hygiene - Dodoma Region	Dodoma Region (Bahi, Chamwino & Kongwa districts)	6,040,000	USD	6,040,000	Earmarked	Grant DPs	Grant (NGO)	
11	WaterAid	Rural Sanitation and Hygiene	Babati District Council (BDC), Manyara region	98,881	GBP	125,579	Earmarked	Grant DPs	Grant (NGO)	2018-2021
			Nyangwale DC, and Geita DC. Geita region	1,868,782	GBP	2,373,353	Earmarked	Grant (DPs)	Grant (NGO)	
			Babati Town Council (BTC) Manyara region	242,418	GBP	307,871	Earmarked	Grant (DPs)	Grant (NGO)	
		Urban Sanitation and Hygiene	Temeke Municipal Council (TMC), Dar es Salaam region	659,764	GBP	837,900	Earmarked	Grant (DPs)	Grant (NGO)	
			Dar es Salaam and Manyara	14,096	GBP	17,902	Earmarked	Grant (DPs)	Grant (NGO)	
12	World Bank	Water Sector Support Project Phase II	Dar es Salaam Water Supply Improvement, Dar es Salaam, wastewater treatment, sewerage, and Off-Grid Sanitation	166,000,000	USD	166,000,000	Earmarked	Grant (DPs)	Grant (NGO)	2017-2022
			Integrated Water Resources Management aiming at institutions, information and investments.	50,000,000	USD	50,000,000	Earmarked	Loan (foreign)	GoT budget	
			Programme Delivery Support / Capacity Building	9,000,000	USD	9,000,000	Earmarked	Loan (foreign)	GoT budget	
		Sustainable Rural Water Supply and Sanitation (PforR)	WS&S Nation-wide	280,000,000	USD	280,000,000	Earmarked	Loan (foreign)	GoT budget	2018 - 2023
			Strategic support to rural sector nation-wide	20,000,000	USD	20,000,000	Earmarked	Loan (foreign)	GoT budget	
13	AFD	Support to urban water and sanitation sector	Nationwide in all regions	36,000,000	EUR	41,040,000	Basket	Loan (foreign)	GoT budget	2015-2018
		Support to urban water and sanitation sector	Capacity Building for Ministry/towns/LGAs	4,000,000	EUR	4,560,000	Earmarked	Loan (foreign)	GoT budget	2016-2020
		Upgrading urban water supply and sanitation in Morogoro town	Morogoro Water Supply & Sanitation Authority	70,000,000	EUR	79,800,000	Earmarked	Loan (foreign)	GoT budget	2018-2021
		Lake Victoria Initiative (Additional Financing)		30,000,000	EUR	34,200,000	Earmarked	Loan (foreign)	GoT budget	2016-2021
		Regional Utilities Upgrading Programme	Musoma, Bukoba	40,000,000	EUR	45,600,000	Earmarked	Loan (foreign)	GoT budget	2015-2019
		Lake Victoria Initiative	Lake Victoria -WATSAN, Mwanza, Musoma, Bukoba, Magu, Misungwi and Lamadi	45,000,000	EUR	51,300,000	Earmarked	Loan (foreign)	GoT budget	2015-2021
14	EIB	Lake Victoria Initiative		45,000,000	EUR	51,300,000	Earmarked	Loan (foreign)	GoT budget	2016-2021
15	EDCH KOREA	Wastewater Treatment System Development in DAR Project	Dar es Salaam	90,100,000	USD	90,100,000	Earmarked	Loan (foreign)	GoT budget	2018-2022
16	WWF – Tanzania	IWRM, Capacity Building, Institutional strengthening and Climate Change mainstreaming and adaption.	Mara River Basin, Ndembera and Mblai subcatchment in the Great Ruaha Basin	2,000,000	USD	2,000,000	Earmarked	Grant DPs	Grant (NGO)	2015-2017
17	SNV	WASH SDG - Urban Sanitation and Hygiene for Health and Development	Arusha and Shinyanga Urban Districts	3,756,533	EUR	4,282,448	Earmarked	Grant DPs	Grant (NGO)	2017-2022
		Sustainable Sanitation for All (SSH4A) 8 Districts	Districts of Misungwi, Itilima, Maswa, Msalala/Kahama, Shinyanga, Arusha Rural, Monduli and Hanang	1,570,160	EUR	1,789,982	Earmarked	Grant DPs	Grant (NGO)	2017-2020
18	BADEA			15,000,000	USD	15,000,000	Earmarked	Loan (foreign)	GoT budget	2015 -2017

No.	Development Partner	SUBJECT OF FINANCING AGREEMENT / BUDGET	Target Regions / Districts / Towns / Entity	FA Amount [in original DP currency]	Total DP support in original currency.	Total FA amount in [USD] equiv. calculated	Funding modality (basket or earmarked)	GoT-level financing option	IA-level financing option	Period of financing
19	SAUDI	Improving water supply in District Towns and 14-Village National Proect	Mugango/Kiabakari/Butiama and 14 villages	10,000,000	USD	10,000,000	Earmarked	Loan (foreign)	GoT budget	
20	AfDB	Sustainable urban ewater supply and sanitation delivery project (Arusha)	Arusha	233,915,000	USD	233,915,000	Earmarked	Loan (foreign)	GoT budget	2015-2019
		LV WATSAN II Multi-town sustainable Water Supply and Sanitation Project.	Sengerema, Nansio & Geita.	25,800,000	USD	25,800,000	Earmarked	Loan (foreign)	GoT budget	2011-2018
21	INDIA	Urban + Rural Water Supply and Sewerage	Tabora, Igunga, Nzega +89 villages	268,340,000	USD	268,340,000	Earmarked	Loan (foreign)	GoT budget	2015- 2020
		Multi-Town sustainable water supply and sanitation project (17 towns)	Muheza, Wanging'ombe, Makambako, Kayanga, Songea, Handeni, Njombe, Mugumu, Kilwa-Masoko, Geita, Chunya, Newala, Manyoni, Sikonge, Kasulu and Rujewa (+Zanzibar)	500,000,000	USD	500,000,000	Earmarked	Loan (foreign)	GoT budget	2018-2022
		Dar es Salaam & Chalinze - Urban Water Supply and Sewerage	DAWASA (Upper Ruvu, Chalinze III)	178,125,000	USD	178,125,000	Earmarked	Loan (foreign)	GoT budget	2018-2022
22	BADEA	Rural Water Supply	Same, Mwanga and Villages	98,340,000	USD	98,340,000	Earmarked	Loan (foreign)	GoT budget	2014-2018
		Urban Water Supply and Sewarage in Orkesumet	Orkesumet	8,000,000	USD	8,000,000	Earmarked	Loan (foreign)	GoT budget	2014-2019
23	OFID			8,000,000	USD	8,000,000	Earmarked	Loan (foreign)	GoT budget	2014-2020
24	UNDP/GEF	Water Resources Management	Wami / Ruvu and Pangani Basins	2,000,000	USD	2,000,000	Earmarked	Grant DPs	GoT budget	2015 -2020
25	GoT	All WSDP Components	Nationwide	783.011	Billion TZS	343,124,890	GoT	GoT Budget	GoT budget	2018-2021
26	**Total in US $**					**3,230,295,591**				

Appendix 6-1: Performance of Environmental and social safeguard on Strategic Projects (2015 – 2020)

Area of compliance	Type of project	No.	Name of Project	Screened Project Category			Non-compliance by 2014/2015	Compliance by 2019/2020	Non-compliance by 2019/2020	Complience (%)
				A	B	C				
Projects with ESIA Studies with Environmental Clearance (EIA Certificates)	Water Supply and Sanitation Projects	1	DAWASA -Lower Ruvu treatment and Transmission lines	A			19	17	2	89
		2	DAWASA -Upper Ruvu treatment plant & Transmission line	A						
		3	LVWATSAN (Bukoba Sewarage Project)	A						
		4	LVWATSAN (Mwanza City Water Suppply and Sanitation Project)	A						
		5	LVWATSAN (Musoma Sewarage Project)	A						
		6	LVWATSAN (Musoma Water Supply Project)	A						
		7	LVWATSAN(Satelite Towns: (Geita, Sengerema, Ukerewe, Magu, Lamadi, Misungwi water supply and respective sludge digester projects)		B					
		8	Simiyu Climate Resilient Water Supply Project,	A						
		9	Chalinze III Water Supply Project		B					
		10	Lake Victoria Extension Water Supply Project, Tabora, Nzega and Igunga	A						
		11	Musoma Water Supply Supply projects		B					
		12	Musoma Wastewater projects		B					
		13	Makonde National project		B					
		14	Mugango-Kiabakari-Butiama Water Supply Project		B					
		15	Orkesumet Water Supply Project		B					
		16	Morogoro Water Supply and Improvement Project		B					
		17	Same-Mwanga-Korogwe Water Supply Project		B					
		18	Arusha Water Supply and Sanitation Project	A						
		19	Kagongwa-Isaka Water Supply Project		B					
	Water Resources/Strategic Dams	1	Kidunda proposed dam	A			3	3	0	100
		2	Farkwa Proposed dam	A						
		3	Ndembela/Logoda proposed dam	A						
Land Acquisition & Resettlement	Water Supply and Sanitation Projects	1	Lindi Water Supply Project		B		12	12	0	100
		2	Kigoma Water Supply Projec		B					

Area of compliance	Type of project	No.	Name of Project	Screened Project Category			Non-compliance by 2014/2015	Compliance by 2019/2020	Non-compliance by 2019/2020	Complience (%)
				A	B	C				
		3	Kurasini proposed WWTP in Dar es Salaam	A						
		4	Kagongwa-Isaka Water Supply Projec		B					
		5	Arusha Water Supply and Sanitation Project	A						
		6	Bukoba Wastewater Project	A						
		7	Ngaya village (Shinyanga DC) Kahama Project			C				
		8	Njombe Urban proposed wasterwater ponds		B					
		9	Masasi -Nachingwea Water Supply Project		B					
		10	Lake Victoria Extension Water Supply Project, Tabora, Nzega and Igunga,	A						
		11	Musoma Sewarage Project		B					
		12	Mugango-Kiabakari-Butiama Water Supply Project		B					
	Water Resources/Strategic Dams	1	Singida Urban Water Supply and Sanitation (Misake&Mwankoko Well fields)		B		11	6	5	55
		2	Iringa Town (Ruaha River)		B					
		3	Ruhila Catchment (Songea)	A						
		4	Mpara wellfield (Kilwa Masoko)		B					
		5	Farkwa Proposed dam	A						
		6	Kidunda proposed dam	A						
		7	Tandahimba water sources		B					
		8	Mtwara-Mikindani (Mtawanya a& Mchuchu Wellfields		B					
		9	Omorungulu Catchment (Karagwe		B					
		10	Lugoda/Maruruma proposed Dam	A						
		11	Iherere (KASHWASA).		B					
Environmental & Social Audit	Water Supply and Sanitation Projects	1	Tabora (Igombe Water Treatment Plant)		B		6	6	0	100
		2	Dodoma Urban Water Supply Improvement Project	A						
		3	Moshi Wastewater treatment, Sumbawanga Water		B					
		4	Singida Water supply project		B					
		5	Chalinze II Water Supply Project		B					
		6	Sumbawanga Water Supply Project		B					
Screened Projects	Water Resources/Dams/Water Supply Project	1	Matwiga earth dam		B		44	44	0	100
		2	Nyambori earth dam		B					
		3	Wegero earth dam		B					

Area of compliance	Type of project	No.	Name of Project	Screened Project Category			Non-compliance by 2014/2015	Compliance by 2019/2020	Non-compliance by 2019/2020	Complience (%)
				A	B	C				
		4	Iguluba Earth dam		B					
		5	Mti mmoja earth dama		B					
		6	Ingondin earth dam		B					
		7	Kanyisambo earth dam		B					
		8	Mugeta earth dam		B					
		9	Habiya earth dama		B					
		10	Sekeididi earth dam		B					
		11	28 Indian proposed projects to financed by India	1	23	4				
		12	WSSP II Finaced projects (WRBB & DAWASA)	1	0	5				

Appendix 6-2: Paid compensation for land acquisition and resettlement (2015-2020)

NA:	Project	Amount (Tsh)	No. of PAP's
1	ARUSHA (Mradi wa Maji unaofadhiliwa na AfDB	2,690,747,549	629
2	LVWATSAN Projects	185,316,719	31
3	MANAWASA	160,426,906	126
4	Lindi Water Supply project	721,281,000	344
5	Kigoma Water Supply Project	200,000,000	1
6	Songea (Chanzo cha maji kinachotumiwa na SOUWASA)	1,913,832,491	803
7	Wilaya ya Kahama (Kijiji cha Ngaya) mradi wa KASHWASA	21, 493,344.00	40
8	Mwakonko na Misake (Singida)	311,816,562	59
9	Mugango-Kiabakari	66,450,210	10
10	Kurasini WWTP-Dar es Salaam	8,604,602,500	136
11	Lake Victoria Water supply project to Tabora, Nzega and Igunga (Shinyanga Region)	511,062,608	211
12	Lake Victoria Water supply project to Tabora, Nzega and Igunga (Tabora Region)	896,854,663	244
13	Kagongwa-Isaka Water Supply project	67,392,956	41
14	Bukoba Wastewater Treatment Project	2,040,019,633	195
15	Ngaya Village (Kahama Water Supply Project)	21,493,344	40
16	Mpara Wellfield (Kilwa Masoko	550,445,155	43
17	Njombe Wastewater Facility project	500,000,000	60
18	Chanzo cha Mto Ruaha – Iringa Mjini, (Bonde la Rufiji)	19,000,000	1
19	Arusha Water Supply Project	2,690,747,549	629
20	Kidunda proposed dam	11,402,169,044	6,363
21	Farkwa proposed dam	7,748,824,886	2,861
	TOTAL AMOUNT	**41,302,483,775**	**12,867**

Appendix 6-3: Pending compensation by December 2019

1	**Tandahimba**	**225,220,000**
2	Mtwara-Mikindani (Mtawanya & Mchuchu wellfields)	1,587,561,790
3	Bwawa la Lugoda na Maluluma Hydropower.	4,000,000,000
4	Iherere water source at Lake Victoria	800,000,000
5	Omurulongo water catchment in Karagwe District	223,764,486
	TOTAL AMOUNT	**6,836,546,276**

Appendices 7-1: Overall capacity development summary

No	Capacity Area	Status in 2015	Status by Dec 2019
1	Tools		
1.1	Vehicles MOW	Landcruiser 61	Same status
1.2	Vehicles BWBs	Bonde la Ruvuma na Pwani ya Kusini 6	Same status
		Bonde la Pangani 9	Same status
		Bonde la ziwa Victoria 5	Same status
		Bonde la Ziwa Nyasa 6	Same status
		Bonde la Rukwa 6	Same status
		Bonde la Kati 9	Same status
		Bonde la Wami/Ruvu 8	Same status
		Bonde la Rufiji 6	Same status
1.3	Vehicles RUWASA	N/A	536 Verification is on going
1.4	WI	5Vehicles (STK 7682,7683,7684,7685 na STL 6002).	Same status
2	Working Env (Offices)		
2.1	MoW HQ	Ubungo Maji Offices	Ubungo Maji House Dodoma MoW HQ

Appendix 7-2: Data for capacity building conducted between 2015 and 2019

Training	**2015/16**	**2016/17**	**2017/18**	**2018/19**	**2019/20**
Short course	1344	684	1117	1024	777
Certificate	6	9	9	13	10
Diploma	19	16	17	24	34
Degree	22	19	19	30	29
Masters	12	25	20	18	7
PhD	0	0	3	2	5
Total	**1403**	**753**	**1185**	**1111**	**862**

Appendix 7-3: Data showing staff needs for MoW and IAs

Human Resources	2015/16		2016/17		2017/18 (HR Audit)		2018/19 (HR Audit)	
	Need	**Availab.**	**Need**	**Availab.**	**Need**	**Availab.**	**Need**	**Availab.**
Mow HQ	1,532	1,916	1,532	1,427	1,522	1,416	1,322	1,315
RWSSA	2,167	1,251	2,172	1,402	2,278	1,987	4,043	3,473
DWSSA	929	821	970	861	983	875	1,064	942
NPs	508	479	518	489	532	503	549	501
WI	113	82	113	84	113	88	113	86
EWURA	183	158	183	162	183	169	183	159
RUWASA	-	-	-	-	-	-	-	-
Total	**5,432**	**4,707**	**5,488**	**4,425**	**5,611**	**5,038**	**7,274**	**6,476**

Appendix 7-4: Data indication of women empowerment 2015 – 2019

Staff	2015/16	2016/17	2017/18	2018/19	2019/20
Directors/Managers	68	68	167	199	199
Senoir Position	223	224	290	300	398
Supporting staff	566	571	598	646	711
Technician	83	79	64	67	29
Proffessional Engineers	14	14	17	20	19
Board Members	77	82	82	102	102
Board Chairs	0	1	1	1	1
Board Vice Chairs	0	0	0	0	0
Total	**1031**	**1039**	**1219**	**1335**	**1459**

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