



# UGANDA WATER ACCOUNTS REPORT







# **UGANDA BUREAU OF STATISTICS**

System of Environmental Economic Accounting

2017 to 2020 Water accounts Report

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## FOREWORD

The Uganda water accounts are one of the environmental-economic accounts produced by Uganda Bureau of Statistics (UBOS). The accounts compiled in accordance with the System of Environmental Economic Accounting (SEEA) and the SEEA-Water which was elevated to an international statistical standard in 2012. These accounts extend the boundaries of the System of National Accounts (SNA) framework to include environmental resources, which occur outside the economic production and asset boundaries measured by the SNA.

The accounts integrate data from different sources into a consolidated information set making it possible to link physical data on water to economic data. It consists of supply and use tables for both physical and monetary volumes. Water supply and use tables provide a framework to link core components of the National Accounts to physical information.

The physical water supply and use tables present aggregates of all available physical data (cubic metres) in terms of the supply and use of water within the economy for the accounting period. The tables illustrate the economic use of water and include: flows from the environment, own abstraction, water distribution, use of water (intermediate consumption), reuse/return flows and flows to the rest of the world.

The monetary supply and use tables which present aggregates of all available quantitative monetary data in terms of the supply and use of water within the economy are not presented in this report. They illustrate the economic transactions associated with the supply and use of water and the provision of sewerage, drainage and waste services.

The scope of the water accounts is limited to distributed water, reuse water and waste water, sewerage and drainage services. Distributed water is subdivided into; urban distributed water; rural distributed water; and bulk water (both urban and rural) according to National Water and Sewerage Corporation.

Data for the water accounts is sourced from a range of UBOS surveys, water authorities, and industries.

We appeal to the policy makers and general public to put to good use these accounts for informed decision making.

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## **Table of Contents**

FOREWORD	.ii
List of Tables	iv
List of Figures	v
List of Acronyms	vi
Executive summary	∕ii
1.0 INTRODUCTION	1
1.1 Physical Supply and Use Tables	1
1.2 Scope	1
1.3 Coverage	1
1.4 Monetary Supply and Use	2
2.0 PHYSICAL WATER SUPPLY AND USE, 2017 to 2020	4
2.1 Water Abstraction by Water Source	5
2.2 Water Abstraction by Purpose	7
2.3 Water Abstraction by Economic Activity	7
2.4 Water Supply by Economic Activity	9
2.5 Water Use by Economic Activity1	0
2.6 Water Consumption1	2
3.0 ECONOMIC PROFILES FOR WATER 1	4
3.1 Water Productivity 1	4
3.2 Water Use Efficiency (WUE) 1	5
4.0 THE DERIVED AGGREGATES AND INDICATORS 1	8
4.1 Water Consumption and Water Productivity1	9
4.2 Water Use Efficiency (WUE) 1	9
4.3 Water Consumption and Use Per Capita2	20
4.4 Water Consumption and Use per Household per Day2	21
Glossary2	22
Appendix 1A: 2017 Physical Supply Table for Water Accounts, '000 cubic metres	25
Appendix 1B: 2017 Physical Use Table for Water Accounts, "000 cubic metres	26
Appendix 2A: 2018 Physical Supply Table for Water Accounts, '000 cubic metres	27
Appendix 2B: 2018 Physical Use Table for Water Accounts, "000 cubic metres	28
Appendix 3A: 2019 Physical Supply Table for Water Accounts, '000 cubic metres	29
Appendix 3B: 2019 Physical Use Table for Water Accounts, "000 cubic metres	30
Appendix 4A: 2020 Physical Supply Table for Water Accounts, '000 cubic metres	31
Appendix 4B: 2020 Physical Use Table for Water Accounts, "000 cubic metres	32

## List of Tables

Table 1: Summary of Physical Supply and Use of Water (thousand cubic metres)	. 5
Table 2: Summary of Water abstracted by water resource and purpose (thousand cubic metres)	. 6
Table 3: Water Abstraction by Economic Activity (thousand cubic metres)	. 8
Table 4: Water Supply by Economic Activity (thousand cubic metres)	10
Table 5: Water Use by Economic Activity (thousand cubic metres)	11
Table 6: Water Consumption by Economic Activity (thousand cubic metres)	13
Table 7: Water productivity by Economic Activity – Uganda Shillings	15
Table 8: Water Use Efficiency (WUE) by Economic Activity - UGX	17

## List of Figures

Figure 1: Water Consumption and Water Productivity	. 19
Figure 2: Water Use Efficiency	. 20
Figure 3: Water Consumption and Use and Use Per Capita	. 20
Figure 4: Water Consumption and Use per Household per Day	. 21

## List of Acronyms

DWD	Directorate for Water Development
DWRM	Directorate for Water Resource Management
GDP	Gross Domestic Product
HEP	Hydro Electricity Power
UBOS	Uganda Bureau of Statistics
MDA	Ministries, Departments and Agencies
MWE	Ministry of Water and Environment
NFA	National Forestry Authority
NPISH	Non Profit Institutions Serving Households
NWSC	National Water and Sewerage Corporation
SEEA	System of Environment-Economic Accounting
SNA	System of National Accounts
UNSD	United Nations Statistics Division
RWS	Rural Water Supply
WUE	Water Use Efficiency
UNSC	United Nations Statistical Commission
UEGCL	Uganda Electricity Generation Company Limited

### **Executive summary**

Uganda's economy is to a great extent nature dependent driven mainly by agricultural production and agricultural related industrial activities. The primary agricultural production is mostly rain-fed dependent and any delay in the rain fall or drought spells doom for the country. In addition, many other economic activities are dependent on water availability. For instance, the energy sector is almost exclusively dependent on hydro power generation on river Nile. Therefore, when there is reduced precipitation in the country, the volumes of water in the hydro dams reduces and this mostly results in power shortages. All these justify the crucial priority that Uganda attaches to the water sector and this is the reason for prioritizing the water accounts among all accounts.

Compiling the priority water accounts for Uganda benefited from combined efforts of staff from a number of Ministries, Departments and Agencies. Of particular relevance, were the contributions of Uganda Bureau of Statistics, Directorate for Water Resource Management, Directorate for Water Development and National Water and Sewerage Corporation. These provided the data that were used to populate the different tables in the accounts. However, in other instances data were not readily available and other estimation procedures were used to fill the gaps. The compilation was proceeded by estimating and populating three important tables: i) the Water-data input, ii) the physical water supply table, and iii) the physical water use table.

Over the reporting period, the highest Gross Water Input of 261,209,916 million cubic metres was estimated in 2020 while the lowest of 212,317,874 million cubic metres was estimated in 2018. Similarly, total water consumption rose by 2.2 percent from 32,241,396 million cubic metres in 2019 to 32,963,414 million cubic metres in 2020.

Furthermore, water use efficiency (WUE) has been declining from the highest WUE of UGX 171,455 registered in 2018 to the lowest of UGX 110,463 was registered in 2020. The highest annual water use per capita of 6,417,932 cubic metres was registered in 2019 while the lowest of 5,482 cubic metres was registered in 2018. Similarly, the highest annual water consumption per capita of 836,426 litres was registered in 2017 and the lowest annual water consumption per capita of 764,180 cubic metres was registered in 2018. Over the period 2017 to 2020, the average water use per household per day rose from 47.8 litres in 2017 to 48.5 litres in 2020. Also the average water consumption per household per day rose from 25.5 litres in 2017 to 28.5 litres in 2020.

## **1.0 INTRODUCTION**

The Uganda Water Accounts are one of the environmental-economic accounts produced by Uganda Bureau of Statistics (UBOS) which is compiled in accordance with the System of Environmental Economic Accounting (SEEA). It consists of supply and use tables (collectively referred to as flow tables) for both physical and monetary volumes.

The Accounts integrates data from different sources into a consolidated information set making it possible to link physical data on water to economic data, such as those in National Accounts.

The Water Accounts have been developed using the central SEEA and the SEEA-Water. SEEA was first published by the United Nations in 1993 and was elevated to an international statistical standard in 2012. Environmental accounts extend the boundaries of the System of National Accounts (SNA) framework to include environmental resources, which occur outside the economic production and asset boundaries measured by the SNA.

Water supply and use tables provide a framework to link core components of the National Accounts to physical information. Physical data are presented in supply and use tables while some linkages to economic data are also made.

#### 1.1 Physical Supply and Use Tables

The physical water supply and use tables present aggregates of all available physical data in cubic metres of water supplied and used within the economy for the accounting period. The tables illustrate the economic use of water and these include: flows from the environment, own abstraction, water distribution, intermediate consumption, reuse/return flows and flows to the rest of the world.

#### 1.2 Scope

The Accounts present information on the supply and use of water in the economy in both physical and monetary terms and the entire geographical area of Uganda.

The water accounts include only the fresh (or inland) water.

#### 1.3 Coverage

Tables compiled include supply and use tables for;

Individuals and companies that directly extract water from surface water and groundwater sources for their own use (e.g. domestic, industrial, agricultural etc.), Households, government and businesses that use water supplied by water providers for domestic, industrial, agricultural or other uses, Water providers that extract water from surface water and groundwater for supply it to customers for use (e.g. domestic, industrial, or other use), Water providers that provide reused water to their customers; other large organisations which treat water and make it available for subsequent reuse; (e.g. NWSC), Other large organizations/industries discharging water directly to the environment (e.g. power stations, mines) and Major in-stream water users (e.g. aquaculture and hydro-electricity generation), where this information is available.

#### Items not covered by the supply and use tables include:

The volume of rainwater used by agricultural crops/pastures that are directly rain fed, Volume of rainwater flows to and from the rest of the world (exports and imports), reuse/recycling of water by individual entities or household (i.e. on farm); and soil water use.

#### 1.3.1 Data Sources

Data for this release are sourced from a range of UBOS surveys, water authorities, MDA's, and industry organisations. The main sources from UBOS include the 2016-17 Uganda National House Hold Survey (UNHS). 2018, 2019 and 2020 population projections and Annual Gross Domestic Product estimates

The main source from Government Ministries Departments and Agencies (MDA's) include; the Ministry of Water and Environment (MWE) annual reports, NWSC Water Supply and Sewerage data and reports, Urban and Rural Water Use Estimates (unpublished data) Directorate of Water Resource Management (DWRM) that provides Groundwater and Borehole Water Usage Data (unpublished data), Uganda National Metrological Authority (UNMA) for precipitation, temperature and relative humidity data for estimating evapotranspiration, UEGCL and MWE: Water and Environment Sector Performance Report 2019, 2020

Other data sources included; Food and Agriculture Organisations: 2016 National Aquaculture Sector Overview, Climate data development using FAO's-Climwat and Cropwat software applications and Annual/environmental/financial reports for the 2017 to 2020 financial year from major water providers and businesses.

The Water accounts estimates are prepared from a wide range of statistical sources. Some are closely related to the environmental accounting framework, but others are not. Most of the basic data are derived from statistical surveys or as a by-product of government administrative processes. Therefore, estimates were subject to modelling to fill some of the gaps from surveys or administrative collections.

#### 1.4 Monetary Supply and Use

The monetary supply and use section present aggregates of all available quantitative monetary data in terms of the supply and use of water within the economy. The tables illustrate the economic

transactions associated with the use of water and the provision of sewerage, drainage and waste services (also referred to as water related services). The monetary section covers:

- supply of distributed water and water related services in the economy by the following industries: Water Supply, Sewerage and Drainage Services, Mining, Manufacturing, Electricity and Gas Supply and Other Industries;
- expenditure on water and water related services by industries, households and governments; and
- Value added to the economy by the major water-using industries.

The scope is limited to distributed water, reuse water, waste water and sewerage and drainage services. Distributed water is categorized by urban, rural and bulk water (both urban and rural) according to NWSC.

## 2.0 PHYSICAL WATER SUPPLY AND USE, 2017 to 2020

Water supply is the amount of water leaving/flowing out from an economic unit. It is the sum of water supply to other economic units and the environment. Water supply within the economy is the Water which is supplied by one economic unit to another.

Water use is the amount of water intake of an economic unit. It is the sum of water use within the economy and the environment. Water use within the economy is the water intake of one economic unit, which is distributed by another economic unit. Water use from the environment is the water abstracted from water resources, seas and oceans, and precipitation collected by an economic unit, including rain fed agriculture.

Water abstraction is the amount of water that is removed from any source, either permanently or temporarily, in a given period of time for final consumption and production activities. Water used for hydroelectric power generation is also considered to be abstraction. Total water abstraction can be broken down according to the type of source, such as water resources and other sources, and the type of use.

Water consumption is that part of water use which is not distributed to other economic units and does not return to the environment (to water resources, sea and ocean) because during use it has been incorporated into products, or consumed by households or livestock. It is calculated as the difference between total use and total supply; thus, it may include losses due to evaporation occurring in distribution and apparent losses due to illegal tapping as well as malfunctioning metering.

In 2020, the amount of water abstracted from the environment rose to an estimated 261,209,916 million cubic metres from 255,463,815 million cubic metres that was abstracted in 2019. This represented a slight increase of 2.2 percent. Similarly, the amount of water supplied increased by 2.3 percent, from 223,222,443 million cubic metres in 2019 to 228,246,511 million cubic metres in 2020. Furthermore, the total amount of water used in the economy rose to 261,209,925 million cubic metres in 2020 from the estimated amount of 255,463,839 million cubic metres in 2019.

On the other hand, Total water consumption also rose by 2.2 percent from 32,241,396 million cubic metres in 2019 to 32,963,414 million cubic metres in 2020. Total water return flows to the environment also rose to 195,283,097 million cubic metres in 2020 from 190,981,047 million cubic metres in 2019, See Table 1 below.

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	2017	2018	2019	2020
Total abstraction	226,067,193,112	212,317,874,963	255,463,815,992	261,209,916,032
Total supply	194,550,017,697	182,718,806,445	223,222,443,920	228,246,511,174
Total use of water	226,067,197,810	212,317,883,198	255,463,839,998	261,209,925,328
Total Water Consumption	31,517,180,112	29,599,076,753	32,241,396,078	32,963,414,154
All return flows to environment	163,032,837,585	153,119,729,691	190,981,047,841	195,283,097,020

Table 1: Physical Supply and Use of Water (thousand cubic metres), 2017 to 2020

Source: Uganda Bureau of Statistics

The annual average amount of water returned to the environment constituted 74.8 percent of the total water abstracted. It is important to note that, between 2017 and 2020, on average, about 99.9 percent of the total water abstracted by economic agents from the environment, is re-supplied for economic activity within the economic agents themselves. Also 99.9 percent of water abstracted for hydro electricity generation is returned to the environment. However, the water that is abstracted and returned to the environment is usually returned at a higher temperature, which can have important implications for the environment.

#### 2.1 Water Abstraction by Water Source

During the period 2017 to 2020, precipitation has remained the main source of water abstracted with an annual average share of 99.95 percent. Precipitation has been increasing during the period under review with the exception of 2018 where a decline of 6.09 percent was registered leading to increases of 20.33 percent in 2019 and 2.24 percent in 2020.

Water abstracted from surface water bodies increased by 25.4 percent in 2020 to 138,702 million cubic metres from 110,605 million cubic metres in 2019. It is important to note that most of the surface water bodies from which the water is abstracted lie along River Nile, thus investment in alternative strategies must be exploited in case the allocations from such shared resources become more restricted in the future. In particular, Hydro-Electricity Generation (HEP) activity is the dominant source of pressure on river Nile and its catchment basins/lakes in Uganda. However, with the abundant other natural resources for energy, other options for electricity could be exploited.

Water abstracted from ground water resources increased by 1.3 percent in 2020 from an increase of 19.5 percent in 2019. The reducing growth can be attributed to reduced industrial activities during a year that was dominated by the pandemic adversaries. However, as the economy recovers from the pandemic shocks, levels of industrial activities and urban settlement are bound to increase as

well as increased pressure coupled with pollution of surface water bodies (increases costs of treating the water before its distribution and supply). Thus, exploitation of ground water sources could be an alternative, however, the stock and rate of recharge of the ground water resources should be established and monitored. Probably, investment should shift to ground water sources because of the low costs of treatment that is required, See Table 2 below.

Water Resource and purpose	e 2017	2018	2019	2020
Surface Water (a)	97,738,064	100,727,282	110,605,252	138,701,719
Supply and distribution	116,303	118,354	143,577	164,536
Own Use	97,621,761	100,608,928	110,461,676	138,537,183
Groundwater (b)	185,576	183,943	219,862	222,771
Supply and distribution	6,134	9,025	10,587	10,996
Own Use	179,442	174,918	209,275	211,775
DWRM	4,762	5,675	7,008	6,802
Other ground	17,838	17,998	18,955	19,214
Other Valley dams & water	33,775	33,775	38,699	40,989
Other springs, fountains & wells	123,066	117,469	144,613	144,771
Precipitation (c)	225,969,269,472	212,216,963,738	255,352,990,877	261,070,991,542
Supply and distribution				
Own Use	225,969,269,472	212,216,963,738	255,352,990,877	261,070,991,542
Total Abstracted Water (a+b+c)	226,067,193,112	212,317,874,963	255,463,815,992	261,209,916,032
Supply and distribution	122,437	127,379	154,164	175,531
Own Use	226,067,070,674	212,317,747,583	255,463,661,828	261,209,740,500

Table 2: Water abstracted by water resource and purpose (thousand cubic metres), 2017to 2020

Source: Uganda Bureau of Statistics

#### 2.2 Water Abstraction by Purpose

This section describes abstraction of water for two purposes, namely; own end use and supply & distribution. As indicated in Table 2 above nearly all (99.9 percent) water abstraction is directly by own-users while less than one percent is abstracted for supply and distribution purposes. Estimates further indicate that total water abstracted for supply and distribution purposes grew by 13.9 percent in 2020 following a 21.0 percent increase that was registered in 2019. Water abstracted for own use increased by 2.2 percent in 2020, from 20.3 percent increase that was registered in 2019. The increase in the abstraction for own use could be attributed to the pandemic where water was the only natural resource within the required Standard Operating Procedures (S.O. P's) to curb the spread of the pandemic. The trends have shown a positive correlation between the amount of water abstracted for own use and the levels of precipitation which is the dominant source of this water for rain-fed agriculture activities. Hence excluding precipitation from the discussion below.

Over the reporting period (2017 to 2020), an annual average of 111,943 million cubic metres of water representing an annual average share of 99.8 percent was abstracted from surface water bodies. Hydro-Electricity Power (HEP) generators abstracted the largest volumes with an annual average of 99.5 percent of water from surface water bodies. However, for better understanding of the composition of own-use abstractors, HEP generators were excluded, thereby allowing for the study of the composition of the other own-use abstractors. The results from this analysis indicated that water abstracted by own-users averaged 99.9 percent; implying that the volume of water abstracted for supply and distribution purpose is less than one percent for the period under review. Furthermore, the amount of water abstracted by households is not captured since households are not registered. Other major own-use abstractors are activities of manufacturing of food and beverages, mining & quarrying and construction.

#### 2.3 Water Abstraction by Economic Activity

The agriculture sector has continuously recorded the largest volumes of water abstracted averaging 99.38 percent of the total water abstracted annually since 2017. The amount of water abstracted for agricultural activities in 2020 increased by 2.24 compared to an increase of 20.25 in 2019. The main driver for the movements of water abstraction in the sector during this period was agriculture rain-fed crop growing, Livestock and Forestry activities with a growth of 2.24 percent. However, water abstracted for Agriculture irrigation activities has continued to decline since 2017 with an exception of 2019 where it increased by 69.10 percent recovering from the strong decline of 16.63 percent in 2018 and in 2020 a decline of 27.41 percent was registered, See Table 3.

The industry sector averaged at 0.62 percent of the total share of annual abstraction in the period 2017 to 2020. Similarly, 2020 showed an increase of 3.81 percent in the amount of water abstracted by the sector, there were increases in the annual abstractions in the sector of 11.94 percent in 2017 and 31.96 percent 2019, however in 2018 there was a decline of 5.40 percent. Water supply, Sewerage and management activities abstract the largest share of 91.88 percent of the amount of water abstracted for industrial activities and grew by 2.24 percent in 2020. The manufacturing of Food and Beverage activities had the strongest growth followed by Construction activities in 2020.

Table 3 below indicates that the services sector, continued to have a negligible share of the total water abstracted annually for the period under review. However, water abstraction by this sector grew by 4.24 from 4.14 million cubic metres in 2019 to 4.31 million cubic metres in 2020. Accommodation services was the main driver in the services sector with an increase of 26.85 percent in 2020, See Table 3 below.

	2017	2018	2019	2020
Agriculture	224,753,290,157	211,074,963,831	253,823,708,281	259,507,380,043
Agriculture (Irrigation)	186,263	155,288	262,585	190,610
Agriculture (Rain fed crop)	134,555,524,293	126,366,584,630	169,768,210,667	173,569,751,667
Agriculture (Livestock)	65,224,613,859	61,255,099,092	52,592,140,631	53,769,813,508
Agriculture (Forestry)	24,958,721,198	23,439,753,953	31,462,907,977	32,167,442,983
Agriculture (Fishing)	14,244,544	13,370,868	186,421	181,275
Industry	1,313,900,169	1,242,907,579	1,640,103,574	1,702,531,677
Crude oil and Mining	4,990	15,719	37,304	8,578
Manufacturing (Food & Beverages)	8,469	8,167	40,076	107,244
Manufacturing (Other)	9,894	10,655	7,414	7,443
Electricity	97,363,550	100,381,976	109,858,929	137,902,440
Water Supply; Sewerage & Waste Management Activities	1,216,498,125	1,142,476,634	1,529,935,581	1,564,212,055
Construction	15,142	14,428	224,270	293,918
Services	2,785	3,553	4,136	4,312
Accommodation	161	146	367	466
Public Administration	15	15	78	71
Education	166	176	270	260
Health	254	1,063	1,066	1,141
Other	2,189	2,153	2,356	2,375
Households	-	-	-	-
Total	226,067,193,112	212,317,874,963	255,463,815,992	261,209,916,032

Table 3: Water Abstraction by Economic Activity (thousand cubic metres), 2017 to 2020

Source: Uganda Bureau of Statistics

#### 2.4 Water Supply by Economic Activity

In 2020 water supply like water abstraction across economic activities was dominated by agriculture activities with an annual average of 99.30 percent supply followed by the industrial activities with 0.70 percent. Similar to the abstraction pattern, agriculture rain-fed crop growing activities dominated the water supply category with an average share of 65.34 percent of the total water supplied annually over the period 2017 to 2020. Agricultural activities registered an increase in the amount of water supplied from 221,613,293 million cubic metres in 2019 to 226,575,737 million cubic metres in 2020 resulting in a 2.24 percent increase. However, there was a decline of 27.41 percent in irrigation activities, See Table 4 below.

Water supply within the industrial sector grew by 3.83 percent in 2020 and was continuously dominated by Water Supply, Sewerage and Waste Management activities representing 91.75 percent of the water supplied to industrial activities and grew by 2.24 percent in 2020.

Water supplied to service activities grew by 17.91 percent in 2020.

Consequently, the total amount of water supplied increased by 2.91 percent in 2020, a continued increase from 10.09 percent in 2019 and a decline of 5.08 percent in 2018, See Table 4 below.

		vity (thousand cu	bic metres), 201	/ 10 2020
	2017	2018	2019	2020
Agriculture	193,260,640,487	181,498,941,659	221,613,292,732	226,575,737,778
Agriculture (Irrigation)	93,132	77,644	131,293	95,305
Agriculture (Rain fed crop)	121,099,971,864	113,729,926,167	152,791,389,601	156,212,776,500
Agriculture (Livestock)	52,179,663,835	49,004,053,433	43,651,447,247	44,628,913,946
Agriculture (Forestry)	19,966,974,315	18,751,800,514	25,170,324,592	25,733,952,026
Agriculture (Fishing)	13,937,341	13,083,901	-	-
Industry	1,289,310,152	1,219,801,132	1,609,081,110	1,670,701,280
Crude oil and Mining	3,493	11,004	26,113	6,004
Manufacturing (Food and Beverages)	8,043	7,816	26,949	60,775
Manufacturing (Other)	8,175	8,541	8,510	8,670
Electricity	97,266,312	100,281,709	109,749,299	137,764,774
Water Supply; Sewerage and Waste Management Activities	1,192,020,801	1,119,488,842	1,499,224,842	1,532,801,710
Construction	3,328	3,221	45,398	59,347
Services	67,058	63,654	70,077	72,116
Accommodation	484	766	895	946
Public Administration	6,407	5,851	6,474	6,701
Education	305	340	549	570
Health	571	796	1,159	1,212
Other	1,862	2,033	3,056	3,154
Households	57,428	53,868	57,944	59,533
Total	194,550,017,697	182,718,806,445	223,222,443,920	228,246,511,174

Table 4: Water Supply by Economic Activity (thousand cubic metres), 2017 to 2020

Source: Uganda Bureau of Statistics

#### 2.5 Water Use by Economic Activity

Total water use just like abstraction and supply, was greatly dominated by agriculture sector activities accounting for a 99.38 percent annual average share between 2017 and 2020. Within the agriculture sector, water use by irrigation activities declined by 27.41 percent in 2020. In agriculture sector water used corresponds with the water abstracted.

The total share of water used by the industry sector averaged 0.62 percent annually for the period under review. Water used by this sector increased by 3.81 percent in 2020 after an increase of 31.96 in 2019 and a decline of 5.40 percent in 2018. Water Supply, Sewerage and Waste Management Activities dominated the use of water in this sector with a share of 91.87 percent share of the total water use within the industrial sector in 2020.

For the service sector, water use share is negligible, however it increased by 2.98 percent in 2020 following an increase of 15.95 in 2019 and a decline of 5.23 percent for 2018. Notably, within the

service activities, Household's activities dominated water use accounting for an average of 75.67 percent share within the sector, followed by public administration activities with 12.57 percent share within the sector in 2020, See Table 5 below.

	2017	2018	2019	2020
Agriculture	224,753,290,195	211,074,978,408	253,823,737,239	259,507,410,016
Agriculture (Irrigation)	186,263	155,288	262,585	190,610
Agriculture (Rain fed crop)	134,555,524,293	126,366,584,630	169,768,210,667	173,569,751,667
Agriculture (Livestock)	65,224,613,896	61,255,113,669	52,592,169,589	53,769,843,481
Agriculture (Forestry)	24,958,721,198	23,439,753,953	31,462,907,977	32,167,442,983
Agriculture (Fishing)	14,244,544	13,370,868	186,421	181,275
Industry	1,313,739,036	1,242,745,034	1,639,917,529	1,702,324,572
Crude oil and Mining	5,742	16,406	38,668	9,989
Manufacturing (Food and Beverages)	15,395	14,495	52,643	120,251
Manufacturing (Other)	13,393	13,851	13,762	14,013
Electricity	97,363,676	100,382,091	109,859,158	137,902,677
Water Supply; Sewerage and Waste Management Activities	1,216,324,614	1,142,302,778	1,529,727,077	1,563,981,698
Construction	16,217	15,413	226,223	295,944
Services	168,579	159,756	185,230	190,741
Accommodation	1,792	2,796	3,332	3,550
Public Administration	22,899	20,913	23,164	23,975
Education	1,164	1,104	2,090	2,169
Health	2,139	2,802	4,495	4,715
Other	7,298	6,859	11,632	11,996
Households	133,287	125,283	140,516	144,336
Total	226,067,197,810	212,317,883,198	255,463,839,998	261,209,925,328

Table 5: Wate	r Use by Economic	Activity (thousand	d cubic metres), 201	17 to 2020
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Source: Uganda Bureau of Statistics

#### 2.6 Water Consumption

Water consumption is that part of water which is not distributed to other economic units and does not return to the environment, because it is either incorporated in products, or consumed by households and livestock. Total water consumption excluding households in 2020 was 32,963,329 million cubic metres from 32,241,313 million cubic metres in 2019, representing an increase of 2.24 percent following an increase of 8.93 percent in 2019 and a decline of 6.09 percent in 2018, See Table 6 below.

Over the period 2017 to 2020, water consumption in agriculture activities is directly proportional to water use in the same sector. Similar to water use, supply and abstraction, agriculture rain-fed crop and livestock activities drive water consumption in the economy.

Water consumption by industrial activities had an annual average share of 0.09 percent that was dominated by activities of Water supply; Sewerage and Water Management activities accounting for 99.60 percent share of the industry, over the period 2017 to 2020. Water consumption by industrial activities grew by 2.55 percent in 2020 after a 34.40 percent increase in 2019 and a decline of 6.08 percent in 2018.

Water consumption by service activities continues to be negligible compared to water consumption by agriculture and industrial activities. However, it grew by 3.02 percent in 2020 following an increase of 19.82 percent in 2019 and 5.34 percent decline in 2018. Household activities dominated (71.49 percentage share). Household water consumption increased by 2.70 percent in 2020 following a growth of 15.62 percent in 2019 and a decline 5.86 percent in 2018, See Table 6 below.

	2017	2018	2019	2020
Agriculture	31,492,649,708	29,576,036,749	32,210,444,507	32,931,672,238
Agriculture (Irrigation)	93,132	77,644	131,293	95,305
Agriculture (Rain fed crop)	13,455,552,429	12,636,658,463	16,976,821,067	17,356,975,167
Agriculture (Livestock)	13,044,950,061	12,251,060,236	8,940,722,342	9,140,929,534
Agriculture (Forestry)	4,991,746,883	4,687,953,439	6,292,583,384	6,433,490,957
Agriculture (Fishing)	307,203	286,967	186,421	181,275
Industry	24,428,883	22,943,902	30,836,419	31,623,292
Crude oil and Mining	2,249	5,402	12,555	3,985
Manufacturing (Food and Beverages)	7,352	6,679	25,694	59,476
Manufacturing (Other)	5,217	5,311	5,251	5,343
Electricity	97,364	100,382	109,859	137,903
Water Supply; Sewerage and Waste Management Activities	24,303,813	22,813,936	30,502,235	31,179,988
Construction	12,889	12,192	180,825	236,597
Services	101,521	96,102	115,152	118,625
Accommodation	1,308	2,030	2,437	2,603
Public Administration	16,491	15,062	16,690	17,275
Education	859	764	1,541	1,599
Health	1,568	2,006	3,336	3,503
Other	5,436	4,826	8,576	8,841
Households	75,859	71,415	82,572	84,803
Total excl. households	31,517,104,253	29,599,005,338	32,241,313,506	32,963,329,351

#### Table 6: Water Consumption by Economic Activity (thousand cubic metres), 2017 to 2020

Source: Uganda Bureau of Statistics

#### **3.0 ECONOMIC PROFILES FOR WATER**

It is important to compare the environmental performance of industries among each other overtime. This is achieved through use of environmental-economic profiles which compare direct economic benefits (share of value added) and environmental burden/costs (share of water use). The economic water profiles may be used for benchmarking industrial performance in order to promote water use efficiency and water conservation. They can also be used to guide the country on which industrial activities to expand. However, considerations about the natural resource availability, sustainability and the secondary contributions of the activity to the other activities must be considered. Economic profiles of water productivity and Water Use Efficiency for the water accounts are as presented below.

### 3.1 Water Productivity

Water productivity is an indicator that combines two elements, that is economic contribution and environmental burden into a single indicator. Water productivity furnishes the potential gains and losses from a reallocation of water. It is interpreted as a rough approximation of the socio-economic benefits generated by allocating water to a particular industry. It is, therefore, calculated by dividing the value added for a particular industry by the volume of water consumed by that industry; giving the value added per cubic metre of water consumed.

Over the period 2017 to 2020, water productivity ranged between UGX/m3 4.30 in 2020 to UGX/m 33.59 in 2017 representing an annual average growth of 4.27 percent. Water productivity for 2019 was UGX/m<sup>3</sup> 4.27 compared to UGX/ m<sup>3</sup> 4.24 in 2018. The activities with greater burden on water resources are, Livestock rearing with the lowest value (UGX/ m<sup>3</sup> 0.59), forestry (UGX/m30.83), agriculture Rain fed (UGX/m<sup>3</sup>1.11) and Water Supply, Sewerage and Waste Management Activities (UGX/m<sup>3</sup>99.96).

Activities with greater economic contribution and less environmental burden were mainly services activities that registered UGX/m 3595,357 in 2020 and an annual average water productivity of UGX/m3 610,504 over the period under review. Apart from other service activities (not classified), education activities had the greatest economic benefit and less environmental burden with water productivity of UGX/m3 3,732,835 of value added per cubic metre of water consumed, See Table 7 below.

Table 7: Water productivity by Economic	Activity in Uganda	Shillings per cubic	metre,
2017 to 2020			

	2017	2018	2019	2020
Agriculture	0.83	0.98	1.02	1.04
Agriculture (Irrigation)	8,882.90	11,393.69	7,240.76	10,619.40
Agriculture (Rain fed crop)	1.17	1.33	1.06	1.11
Agriculture (Livestock)	0.27	0.34	0.56	0.59
Agriculture Support Services				
Agriculture (Forestry)	0.84	1.01	0.87	0.83
Agriculture (Fishing)	6,514.20	8,479.62	18,252.38	17,590.10
Industry	1,215.50	1,457.62	1,167.57	1,199.85
Crude oil and Mining	595,887.12	286,638.45	138,296.25	518,669.01
Manufacturing (Food and Beverages)	1,181,308.14	1,455,595.22	408,968.81	190,798.39
Manufacturing (Other)	1,753,407.97	1,928,263.85	2,107,943.44	2,237,352.68
Electricity	14,962.52	16,614.63	16,222.94	13,446.63
Water Supply; Sewerage and Waste Management Activities	111.97	130.53	101.68	99.96
Construction	492,098.66	597,692.70	43,171.09	32,136.57
Services	571,870.32	667,514.48	607,272.58	595,357.03
Accommodation	2,636,028.90	1,820,325.58	1,545,285.34	1,175,590.15
Public Administration	174,084.21	209,655.89	219,623.09	238,242.41
Education	5,873,106.57	7,289,114.86	3,881,576.20	3,732,834.50
Health	2,335,668.67	2,080,451.38	1,370,748.80	1,306,121.61
Other	7,746,188.08	9,650,170.76	5,932,332.16	5,860,716.54
Households	12,175.44	13,766.49	12,929.77	12,811.91
Total	3.59	4.24	4.27	4.30

Source: Uganda Bureau of Statistics

#### 3.2 Water Use Efficiency (WUE)

According to the SDG Target 6.4, by 2030, it requires to substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity. This is to be monitored using SDG indicator 6.4.1 that defines Water Use Efficiency (WUE) as the value added divided by the volume of water used for a given industrial activity. It is important to note that only run-off water and groundwater (so called blue water) are considered when computing this indicator, (FAO, 2018). Therefore, the amount of water of agricultural production carried out in rain-fed conditions and the amount of water abstracted for hydro-power generation (except evaporation at the dam) are excluded.

In 2017, WUE was estimated at UGX/m<sup>3</sup> 155,010 of value added per cubic metre of water used, equivalent to US\$/m<sup>3</sup> 42.9. Service activities emerged as the most water use efficient activities with an estimate of UGX 546,285 of value added per cubic metre of water used. Under services, Education activities is the most efficient water use activity, and this was followed by accommodation, health then manufacturing activity. WUE activities of households emerged as the least efficient water use activities.

In 2018, WUE was estimated at UGX/m<sup>3</sup> 171,455, equivalent to US\$/m<sup>3</sup>46.0, the highest in the period under review. Service activities emerged as the most water use efficient activities with an estimate of UGX/m<sup>3</sup> 641,214 as well contributing a value-added share of 50.7 percent to Gross Domestic Product (GDP 2018). Excluding other activities, Education services emerged as the most efficient water use activity, this was followed by health, accommodation then manufacturing activity.

In 2019, WUE was estimated at UGX /m<sup>3</sup> 116,444, equivalent to US\$/m<sup>3</sup> 31.4 registering a decline of 32.08 percent in comparison to 2018. Again, service activities emerged as the most water use efficient activities with an estimated value addition of UGX/m<sup>3</sup> 587,606 per cubic metre of water used and claiming 50.1 percent share of the total GDP 2019. Education services (excluding other unclassified activities) emerged as the most efficient water use activity, this was followed by, accommodation, health then other manufacturing.

The lowest WUE was registered in 2020 estimated at UGX 110,463 of value added per cubic metre of water used, equivalent to US\$29.5 per cubic metre. Similar to the previous years, the service sector activities emerged as the most water use efficient activities estimated at UGX /m<sup>3</sup> 571,315. The drivers have remained the same; Education services followed by accommodation, health then manufacturing. Irrigated crop growing activities has had the least WUE in the entire period under review, See Table 8 below.

Industry	2017	2018	2019	2020
Agriculture	71,044	85,962	65,785	79,937
Agriculture (Irrigated crop)	4,441	5,697	3,620	5,310
Agriculture (Livestock)	103,564	85,512	74,281	75,296
Agriculture (Fishing)	13,371	18,188	19,962	19,289
Industry	91,531	92,752	56,442	46,927
Crude oil and Mining	233,393	94,387	44,903	206,901
Manufacturing (Food and Beverages)	564,111	670,707	199,611	94,369
Manufacturing (Other)	683,063	739,326	804,350	853,050
Electricity	9,330	9,594	11,302	9,370
Water Supply; Sewerage and Waste Management Activities	23,157	23,528	20,830	18,286
Construction	391,116	472,772	34,508	25,692
Services	546,285	641,214	587,606	571,315
Accommodation	1,923,589	1,321,503	1,130,319	862,182
Public Administration	125,372	150,997	158,241	171,656
Education	4,333,078	5,045,214	2,861,328	2,752,327
Health	1,712,066	1,489,483	1,017,355	970,390
Other	5,769,905	6,789,850	4,373,755	4,319,592
Activities of Households	13,012	14,993	14,371	14,072
Total, excluding households	155,010	171,455	116,444	110,463
Total, excluding households, US\$	42.9	46.0	31.4	29.5

## Table 8: Water Use Efficiency (WUE) by Economic Activity - UGX

Source: Uganda Bureau of Statistics

#### 4.0 THE DERIVED AGGREGATES AND INDICATORS

This section presents the social and economic aspects of water with discussions on some implications of the state of the water sector. The purpose is to provide an insight into the outcomes of the current water management and regulation in order to improve water management for sustainability.

Over the reporting period, the highest Gross Water Input of 261,209,916 million cubic metres was estimated in 2020 while the lowest 212,317,874 million cubic metres was estimated in 2018. Similarly, the highest Net Domestic Water use of 261,209,903 million cubic metres was reported in 2020 while the lowest 212,317,861 was reported in 2018. Due to lack of estimates of imported water, Gross Water Input is equal to Net Domestic Water.

	2017	2018	2019	2020
Gross Water Input '000 cubic metres	226,067,193,112	212,317,874,963	255,463,815,992	261,209,916,032
Net Domestic Water use '000 cubic metres	226,067,181,883	212,317,861,727	255,463,804,109	261,209,903,733
Water Consumption '000 cubic metres	31,517,180,112	29,599,076,753	32,241,396,078	32,963,414,154
Water productivity, Shs	3.59	4.24	4.27	4.30
Water Use Efficiency - Shs/cubic meters of value added	155 010	171 455	116 444	110 463
Annual Water use per capita, Litres	5,999,537	5,481,558	6,417,932	6.387,257
Annual Water consumption per capita, Litres				
	836,426	764,180	809,990	806,041
Water use per HH per day, Litres	44.77	42.08	47.20	48.48
Water Consumption per HH per day, Litres	25.48	23.99	27.74	28.49
% of losses in the supply and distribution chain	38.67	29.38	25.27	27.19
Nata A Mature a financial statements and a second				

#### Table 9: Summary of derived Aggregates and Indicators

Note 1: Volume of imported water is not included. Source: Uganda Bureau of Statistics

#### 4.1 Water Consumption and Water Productivity

Water consumption increased to 32,963,414 million cubic metres, leading to water productivity of UGX/m<sup>3</sup> 4.30. As indicated in Figure 1 below, water consumption and productivity has continued to grow. Agriculture and household activities which are composed of majorly own-use abstractors, outside the regulated and managed water system registered the highest amount of water consumption with corresponding lowest water productivity. Thus, in order to increase on water productivity for these economic units, the opportunities for improving water productivity should be identified and implemented. In addition, the extent of the water losses for these economic units should be assessed with the aim of reducing these losses. Such opportunities include investing in additional drip irrigation schemes in order to reduce irrigation run-off and evaporation. Consequently, irrigation will recharge the underground sources.



Figure 1: Water Consumption and Water Productivity

### 4.2 Water Use Efficiency (WUE)

The highest overall WUE of UGX 1571,455 was registered in 2018 while the lowest, UGX 110,463 was registered in 2020 implying that more water is used without a corresponding increase in GDP. Service activities registered the highest WUE while agriculture activities registered the lowest WUE as shown in the Figure 2 below.

#### Figure 2: Water Use Efficiency



#### 4.3 Water Consumption and Use Per Capita

The highest annual water use per capita of 6,417,932 litres was registered in 2019 while the lowest, 5,481,558 litres was registered in 2017. The highest annual water consumption per capita of 836,426 litres was registered in 2017 and the lowest annual water consumption per capita of 806,041 litres was registered in 2020 as shown in the Figure 3 below.



Figure 3: Water Consumption and Use and Use Per Capita

#### 4.4 Water Consumption and Use per Household per Day

Over the period 2017 to 2020, the average water use per household per day was 45.63 litres while the average water consumption per household per day was 26.42 litres as shown in the Figure below. It should be noted that a number of households in rural areas carry out their bathing and washing of clothes at open water resources. However, this amount of water was not included in these estimates due to absence of adequate information. Furthermore, water for livestock rearing has been deducted from household activities and added to livestock rearing activities. See Figure 4 below.



Figure 4: Water Consumption and Use per Household per Day

#### Glossary

**Abstraction**: The amount of water that is removed from any source, either permanently or temporarily, in a given period of time for final consumption and production activities. Water used for hydroelectric power generation is also considered to be abstraction. Total water abstraction can be broken down according to the type of source, such as water resources and other sources, and the type of use.

**Abstraction for distribution**: Water abstracted for the purpose of its distribution. Abstraction for own use: Water abstracted for own use. However, once water is used, it can be delivered to another user for reuse or for treatment.

Actual evapotranspiration: The amount of water that evaporates from the land surface and is transpired by the existing vegetation/plants when the ground is at its natural level of moisture content, which is determined by precipitation.

Economic unit: A unit that engages in production and/or consumption activities.

**Emission to water**: Direct release of a pollutant into water, as well as its indirect release by transfer to an off-site wastewater treatment plant.

**Evapotranspiration**: The quantity of water transferred from the soil to the atmosphere by evaporation and plant transpiration.

**Exports**: Water that exits the territory of reference through mains or other forms of infrastructure.

Fresh water resources: Naturally occurring water having a low concentration of salt.

**Hydrological cycle** (synonym: water cycle): The succession of stages through which water passes from the atmosphere to the Earth and returns to the atmosphere: evaporation from the land, sea or inland water, condensation to form clouds, precipitation, accumulation in the soil or in bodies of water, and re-evaporation. (UNESCO/WMO International Glossary of Hydrology, 2nd ed., 1992)

**Hydroelectric power generation**, water use for: Water used in generating electricity at plants where the turbine generators are driven by falling water. (USGS, available from http://pubs. usgs.gov/chapter11/chapter11M.html)

Imports: Water that enters the territory of reference through mains or other forms of infrastructure.

**Inflow**: Water that flows into a stream, lake, reservoir, container, basin, aquifer system, etc. It includes inflows from other territories/countries and inflows from other resources within the territory.

**Irrigation water**: Water artificially applied to land for agricultural purposes. (UNESCO/ WMO International Glossary of Hydrology, 2nd ed., 1992)

Lake: A generally large body of standing water occupying a depression in the Earth's surface.

**Outflow**: Flow of water out of a stream, lake, reservoir, container, basin, aquifer system, etc. It includes outflows to other territories/countries, to the sea and to other resources within the territory.

**Precipitation**: The total volume of atmospheric wet precipitation, such as rain, snow and hail, on a territory in a given period of time.

Recycled water: The reuse of water within the same industry or establishment (on site).

**Reused water**: Wastewater delivered to a user for further use with or without prior treatment. Recycling within industrial sites is excluded. Rivers and streams: Bodies of water flowing continuously or periodically in a channel.

**Run-off**: The part of precipitation in a given country/territory and period of time that appears as stream flow.

**Soil water**: Water suspended in the uppermost belt of soil, or in the zone of aeration near the ground surface that can be discharged into the atmosphere by evapotranspiration.

**Supply of water to other economic units**: The amount of water that is supplied by one economic unit to another and recorded net of losses in distribution.

**Surface water**: Water which flows over, or is stored on, the ground surface. It includes artificial reservoirs, lakes, rivers and streams, glaciers, snow and ice.

**Urban run-off**: That portion of precipitation on urban areas that does not naturally percolate into the ground or evaporate, but flows via overland flow, underflow or channels, or is piped into a defined surface water channel or a constructed infiltration facility.

**Wastewater**: Water which is of no further immediate value to the purpose for which it was used or in the pursuit of which it was produced because of its quality, quantity or time of occurrence. However, wastewater from one user can be a potential supply of water to a user elsewhere. It includes discharges of cooling water.

**Water consumption**: That part of water use which is not distributed to other economic units and does not return to the environment (to water resources, sea and ocean) because during use it has been incorporated into products, or consumed by households or livestock. It is calculated as the difference between total use and total supply; thus, it may include losses due to evaporation occurring in distribution and apparent losses due to illegal tapping as well as malfunctioning metering.

Water losses in distribution: The volume of water lost during transport through leakages and evaporation between a point of abstraction and a point of use, and between points of use and reuse. Water lost due to leakages is recorded as a return flow as it percolates to an aquifer and is available for further abstraction; water lost due to evaporation is recorded as water consumption. When computed as the difference between the supply and use of an economic unit, it may also include illegal tapping.

**Water returns**: Water that is returned into the environment by an economic unit during a given period of time after use. Returns can be classified according to the receiving media (water resources and sea water) and to the type of water, such as treated water and cooling water). Glossary 197

**Water supply**: Water leaving/flowing out from an economic unit. Water supply is the sum of water supply to other economic units and water supply to the environment. Water supply to the environment: see water returns. Water supply within the economy: Water which is supplied by one economic unit to another. Water supply within the economy is net of losses in distribution.

**Water use:** Water intake of an economic unit. Water use is the sum of water use within the economy and water use from the environment. Water use within the economy: Water intake of one economic unit, which is distributed by another economic unit. Water use from the environment:

Water abstracted from water resources, seas and oceans, and precipitation collected by an economic unit, including rain fed agriculture.

#### Appendix 1A: 2017 Physical Supply Table for Water Accounts, '000 cubic metres

	Agricultu					Crude oil and	Manufa cturing (Food and	Manuf acturin		Water Supply; Sewerage and Waste		Accom	Public					Ac cu m ul	R es t of th e W		
Industries by SIC	(Irrigatio	Agriculture (Rain fed crop)	Agriculture (Livestock)	Agriculture (Forestrv)	Agriculture (Fishing)	Minin a	Bevera ges)	g (Other)	Electricity	Management Activities	Constru ction	modatio	Adminis tration	Educa tion	Health	Other	Househol ds	ati on	orl d	Flows from the environment	Total Supply
(I) Sources of			()		(**************************************		3/	(0													
Abstracted Water																					
Resources																					
Surface Water								T				1	1		-		1			97,738,064	97,738,064
Soil Water																				185,576	185,576
Total																				97,923,640	97,923,640
Other water sources																					
Precipitation																				225,969,269,472	225,969,269,472
Total Total Supply																				225,969,269,472	225,969,269,472
Abstracted Water																				226,067,193,112	226,067,193,112
(II) Abstracted water																					
For distribution-										112.061											112.061
For distribution-										113,001											113,001
Other distributors										2,845											2,845
For own use	186,263	134,555,524,293	65,224,613,859	24,958,721,198	14,244,544	4,990	8,469	9,894	97,363,550	1,216,375,688	15,142	161	15	166	254	2,189					226,067,070,674
Total	186,263	134,555,524,293	65,224,613,859	24,958,721,198	14,244,544	4,990	8,469	9,894	97,363,550	1,216,491,594	15,142	161	15	166	254	2,189					226,067,186,580
to other economic																					
units of which:																					
Wastewater																					
Wastewater to							602	240	10		100	457	0.005	01	170	502	0.055				11.000
Own treatment							692	349	13		106	157	2,285	91	179	503	0,800				11,229
Reused water																					
For distribution																					
For own use								0.40	40		400	457	0.005		470	500	0.055				44.000
I otal							692	349	13		106	157	2,285	91	179	503	6,855				11,229
water																					
To inland water																					
resources		40.266.657.000	0 792 696 060	2 405 974 790	12 027 044		1 1 1 1	2.042	07.266.200	1 101 000 040											E2 040 400 0E7
Groundwater	93 132	40,300,057,288	9,783,886,969	2,495,871,789	13,937,341		4,411	3,913	91,200,300	22 455	+		-	+							23,949,420,357 48 209 110 443
Other sources	55,152	53,822,209,717	26,089,831,918	12,479,358,947		3,493	1,470	3,913	1	22,100	3,222	327	4,123	215	392	1,359	50,573				92,391,469,668
Total returns flows	93,132	121,099,971,864	52,179,663,835	19,966,974,315	13,937,341	3,493	7,352	7,826	97,266,300	1,192,020,801	3,222	327	4,123	215	392	1,359	50,573				194,550,006,468
of which: Losses in										22.455											22.455
distribution										22,455											22,455
abstracted water,																					
transpiration and																					
water incorporated	02 122	12 455 552 400	12 044 050 004	4 001 746 000	207 202	2.240	7 252	5.017	07.264	24 240 245	12 000	1 200	16 404	050	1 560	5 420	75.950				21 517 196 640
Evapotranspiration	93,132	13,433,352,429	13,044,950,061	4,991,740,883	307,203	2,249	7,352	5,217	97,304	24,310,345	12,889	1,308	10,491	029	800,1	5,430	75,859				31,317,180,643
of abstracted water	299	215,791,823	104,603,199	40,027,252	45,368	8	14	16	156,146	1,950,844	24	0	0	0	0	4	100				
Transpiration																					
Water incorporated																					
						10.73															
Total supply	372,527	269,111,048,587	130,449,227,755	49,917,442,395	28,489,088	1	23,863	23,287	194,727,226	2,432,822,739	31,359	1,953	22,914	1,330	2,393	9,487	133,287			226,067,193,112	678,201,584,033

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							Manufa			Water								C U			
							cturing (Food			Supply; Sewerage								m ul			
	Agriculture	Agriculture	Agriculture	Agriculture	Agriculture	Crude oil and	and Beverag	Manufa cturing		and Waste Management	Constr	Acco mmod	Public Adminis	Educa				at F io of	Rest of the	Flows to the	
(1) 0	(Irrigation)	(Rain fed crop)	(Livestock)	(Forestry)	(Fishing)	Mining	es)	(Other)	Electricity	Activities	uction	ation	tration	tion	Health	Other	Households	n V	Vorld	environment	Total Use
(I) Sources of Abstracted Water																				-	-
Inland Water																					
Resources																				-	-
Surface Water	185,939		67	3,296	37,422	2,515	7,175	8,067	97,363,426	122,123	7,073	20	45	66	168	709				-	97,738,064
Soil Water	324		33,998	8	112,243	2,475	1,293	1,827	124	23,391	8,069	141	15	100	00	1,481				-	185,576
Total	186.263		34.065	3.304	149.665	4.990	8,469	9.894	97.363.550	145.514	15.142	161	15	166	254	2.189				-	97.923.640
Other water sources	,		. ,		.,	,	-,		,,	- 1 -	-,					,				-	-
Collection of		404 555 504 000																			005 000 000 (70
Precipitation		134,555,524,293	65,224,579,794	24,958,717,894	14,094,879					1,216,352,612										-	225,969,269,472
Total Use of		134,333,324,293	03,224,379,794	24,930,717,094	14,094,079					1,210,352,012											223,909,209,472
Abstracted Water	186,263	134,555,524,293	65,224,613,859	24,958,721,198	14,244,544	4,990	8,469	9,894	97,363,550	1,216,498,125	15,142	161	15	166	254	2,189				-	226,067,193,112
(II) Abstracted water																				-	-
Distributed Water-			10			750	6.019	2 101	126		1.056	1 574	22 0 47	005	1 701	5 020	69 550				112.061
Distributed Water-			19			152	0,910	3,494	120		1,030	1,574	22,047	905	1,791	5,029	08,550		_	-	113,001
other Water supply																					
industry			19				8	4	0		20	57	37	93	94	79	2,434			-	2,845
For own use	186,263	134,555,524,293	65,224,613,859	24,958,721,198	14,244,544	4,990	8,469	9,894	97,363,550	1,216,313,385	15,142	161	15	166	254	2,189	62,303			-	226,067,070,674
(III) Wastewater and	180,203	134,000,024,293	05,224,013,890	24,958,721,198	14,244,544	5,742	15,395	13,393	97,303,070	1,210,313,385	10,217	1,792	22,899	1,164	2,139	7,298	133,287			-	220,007,180,380
reused water																				-	-
Wastewater																				-	-
Wastewater received										11 220											11 220
Own treatment										11,229									_	-	
Reused water																				-	-
Distributed reused																				-	-
Own use										11.000										-	-
I otal										11,229										-	11,229
water																				-	-
Return flows of water																					
to the environment																				-	-
I o inland water																				_	_
Surface Water																				53,949,426.357	53,949.426.357
Groundwater																				48,209,110,443	48,209,110,443
To other sources																				92,391,469,668	92,391,469,668
Total returns flows																				194,550,006,468	194,550,006,468
(v) Evaporation of abstracted water.																					
transpiration and																					
water incorporated																					
Into products																				31,517,186,643	31,517,186,643
abstracted water																				-	_
Transpiration																				-	-
Water incorporated																					
into products	070 507	000 444 040 505	400 440 007 755	40.047.440.005	00.400.000	40 704	00.000	00.007	404 707 000	0.400.000.700	04.050	4.050	00.011	4 000	0.000	0.407	400.007			-	-
i otal use	372,527	269,111,048,587	130,449,227,755	49,917,442,395	28,489,088	10,731	23,863	23,287	194,727,226	Z,432,822,739	31,359	1,953	22,914	1,330	2,393	9,487	133,287			∠∠6,067,193,112	078,201,584,033

#### Appendix 2A: 2018 Physical Supply Table for Water Accounts, '000 cubic metres

							Manufa			Water Supply:								A c c u es m t u of l th		
	Agricult ure (Irrigatio	Agriculture (Rain	Agriculture	Agriculture	Agriculture	Crude oil and	(Food and Beverag	Manufa cturing		Sewerage and Waste Management	Constru	Acco mmod	Public Adminis	Educa			Househol	a e ti W o orl	Flows from the	
Industries by SIC	n)	fed crop)	(Livestock)	(Forestry)	(Fishing)	Mining	es)	(Other)	Electricity	Activities	ction	ation	tration	tion	Health	Other	ds	n d	environment	Total Supply
Abstracted Water																				
Inland Water Resources																				
Surface Water																			100,727,282	100,727,282
Groundwater Soil Water																-			183,943	183,943
Total																			100.911.225	100.911.225
Other water sources																			,	,
Precipitation																			212,216,963,738	212,216,963,738
Total Total Supply																			212,216,963,738	212,216,963,738
Abstracted Water																			212,317,874,963	212,317,874,963
(II) Abstracted water																				
For distribution-										118 927										118 927
For distribution-										3 452										3.452
For own use	155,288	126,366,584,630	61,255,099,092	23,439,753,953	13,370,868	15,719	8,167	10,655	100,381,976	1,142,349,254	14,428	146	15	176	1,063	2,153				212,317,747,583
Total	155,288	126,366,584,630	61,255,099,092	23,439,753,953	13,370,868	15,719	8,167	10,655	100,381,976	1,142,471,633	14,428	146	15	176	1,063	2,153				212,317,869,962
(III) Supply of water to other economic units of which:																				
Wastewater																				
Wastewater to			4 450				4 4 9 7	<b>F7</b> 4			470	050	0.000	1.10	004	007	0.050			40.005
Own treatment			1,458				1,137	574	21		173	259	2,086	149	294	827	6,258			13,235
Reused water																				
For distribution																				
For own use			1 /58				1 137	574	21		173	250	2 086	1/0	20/	827	6 258			13 235
(IV) Return flows of			1,430				1,137	574	21		175	233	2,000	149	234	021	0,230			13,233
water																				
To inland water																				
Surface Water		37,909,975.389	9,188,259.745	2,343,975.064	13,083.901		4,007	3,983	100,281.688	1,119,455.529										50,675,039.308
Groundwater	77,644	25,273,316,926	15,313,766,242	4,687,950,128	. ,		1,336	,		33,312										45,275,145,589
Other sources	77.044	50,546,633,852	24,502,025,988	11,719,875,321	40.000.004	11,004	1,336	3,983	100.001.000	4 4 4 9 4 9 9 4 9	3,048	507	3,765	191	501	1,207	47,610			86,768,608,312
of which: Losses in	77,644	113,729,926,167	49,004,051,975	18,751,800,514	13,083,901	11,004	6,679	7,966	100,281,688	1,119,488,842	3,048	507	3,765	191	501	1,207	47,610			182,718,793,209
distribution										33,312										33,312
(V) Evaporation of																				
abstracted water,																				
water incorporated																				
into products	77,644	12,636,658,463	12,251,060,236	4,687,953,439	286,967	5,402	6,679	5,311	100,382	22,818,937	12,192	2,030	15,062	764	2,006	4,826	71,415			29,599,081,754
Evapotranspiration of abstracted water	269	218.833.790	106.077.770	40,591,508	45,950	27	14	18	173.835	1,978,367	25	0	0	0	2	4	103			
Transpiration	200	210,000,700	100,011,110	10,001,000	10,000	<u> </u>	1-1	10		1,070,007		<u> </u>	<u> </u>				100			
Water incorporated																				
Into products	310 577	252 733 160 260	122 510 212 761	16 879 507 005	26 7/1 727	32 125	22 662	24 507	200 764 067	2 284 770 412	20.9/1	2 0/2	20.028	1 270	3 865	0.012	125 282		212 317 874 062	636 053 633 133
i otai suppiy	010,011	202,100,100,200	122,010,212,701	10,079,007,800	20,141,137	02,120	22,002	24,007	200,704,007	2,204,113,412	20,041	2,042	20,320	1,213	0,000	3,012	120,200		212,017,074,000	000,000,000,120

#### Appendix 2B: 2018 Physical Use Table for Water Accounts, "000 cubic metres

		-																A	R		
	Agriculture	Agriculture	Agriculture	Agriculture	Agriculture	Crude oil and	Manufa cturing (Food and Bevera	Manufa cturing		Water Supply; Sewerage and Waste Management	Constr	Acco mmod	Public Adminis	Educa				c c u m ul at io	t of th e W orl	Flows to the	
(1) 0	(Irrigation)	(Rain fed crop)	(Livestock)	(Forestry)	(Fishing)	Mining	ges)	(Other)	Electricity	Activities	uction	ation	tration	tion	Health	Other	Households	n	d	environment	Total Use
(I) Sources of Abstracted Water																					
Inland Water Resources																					
Surface Water	154,876		110	3,296	26,545	13,216	6,536	8,684	100,381,799	124,226	6,223	8		66	989	708					100,727,282
Groundwater	413		34,013	15	107,247	2,504	1,631	1,971	177	25,987	8,204	138	15	110	74	1,445					183,943
Soil Water																					
Total	155,288		34,123	3,311	133,792	15,719	8,167	10,655	100,381,976	150,213	14,428	146	15	176	1,063	2,153					100,911,225
Collection of																					
Precipitation		126,366,584,630	61,255,064,969	23,439,750,642	13,237,076					1,142,326,421											212,216,963,738
Total		126,366,584,630	61,255,064,969	23,439,750,642	13,237,076					1,142,326,421											212,216,963,738
Total Use of Abstracted Water	155,288	126,366,584,630	61,255,099,092	23,439,753,953	13,370,868	15,719	8,167	10,655	100,381,976	1,142,476,634	14,428	146	15	176	1,063	2,153					212,317,874,963
(II) Abstracted water																					
Distributed Water- NWSC			14,578			686	6,316	3,190	115		964	2,587	20,857	826	1,635	4,591	62,581				118,927
Distributed Water- other Water supply																					
industry							12	6	0		22	63	40	102	103	115	2,990				3,452
For own use	155,288	126,366,584,630	61,255,099,092	23,439,753,953	13,370,868	15,719	8,167	10,655	100,381,976	1,142,289,542	14,428	146	15	176	1,063	2,153	59,712				212,317,747,583
(III) Wastewater and	155,266	120,300,304,030	01,200,110,009	23,439,753,955	13,370,000	10,400	14,495	13,001	100,362,091	1,142,209,542	15,413	2,790	20,913	1,104	2,002	0,009	120,200				212,317,009,902
Wastewater																					
Wastewater received																					
from other units										13,235											13,235
Own treatment																			_		
Distributed reused																					
Own use																					
Total										13,235											13,235
(IV) Return flows of water																					
Return flows of water																					
to the environment																		_	_		
resources																					
Surface Water																				50,675,039,308	50,675,039,308
Groundwater																				45,275,145,589	45,275,145,589
To other sources																				86,768,608,312	86,768,608,312
(V) Evaporation of																				182,718,793,209	182,718,793,209
abstracted water,																					
transpiration and water																					
incorporated into products																				29,599,081,754	29,599,081,754
Evapotranspiration of																				.,	
abstracted water																					
I ranspiration																					
products																					
Total use	310,577	252,733,169,260	122,510,212,761	46,879,507,905	26,741,737	32,125	22,662	24,507	200,764,067	2,284,779,412	29,841	2,942	20,928	1,279	3,865	9,012	125,283			212,317,874,963	636,953,633,123

#### Appendix 3A: 2019 Physical Supply Table for Water Accounts, '000 cubic metres

	Agricult						Manufa cturing (Food			Water Supply; Sewerage									Rest		
Industrias by SIC	ure (Irrigatio	Agriculture	Agriculture	Agriculture	Agriculture	Crude oil and Mining	and Bevera	Manufa cturing	Electricity	and Waste Management	Construc	Acco mmod	Public Adminis	Educa	Hoolth	Othor	Househol	Accu mulati	the Worl	Flows from the	Total Supply
(I) Sources of	11)	(Rain led clop)	(LIVESIOCK)	(Folestry)	(Fishing)	IVIIIIIIg	ges)	(Other)	Electricity	Activities		allon	tration		пеаш	Other	us	011	u	environment	
Abstracted Water																					
Resources																					
Surface Water								-					-		-	-				110,605,252	110,605,252
Groundwater																				219,862	219,862
Soil Water								-												440.005.444	440.005.444
I otal																				110,825,114	110,825,114
Differ water sources																				255 352 000 877	255 352 000 877
Total																				255,352,990,877	255,352,990,877
Total Supply																				200,002,000,011	200,002,000,011
Abstracted Water																				255,463,815,992	255,463,815,992
(II) Abstracted water																					
For distribution-NWSC										160,284											160,284
For distribution- Other										0.004											0.004
distributors	262 595	160 769 210 667	52 502 140 621	21 462 007 077	196 401	27 204	40.076	7 414	100.959.020	6,004	224.270	267	70	270	1.066	2.256					6,004
Total	262,565	169,768,210,667	52,592,140,031	31,462,907,977	186 / 21	37,304	40,076	7,414	109,858,929	1,529,761,416	224,270	367	70	270	1,000	2,300					255 463 828 116
(III) Supply of water to	202,000	103,700,210,007	52,552,140,051	31,402,307,377	100,421	57,504	40,070	7,414	103,030,323	1,523,347,703	224,270	507	10	210	1,000	2,000			-		233,403,020,110
other economic units of																					
which:																					
Wastewater																					
Wastewater to			0.000				4.055	00.4			101	005	0.000	404	005	040	0.000				44.000
treatment			2,896				1,255	634	23		191	285	2,302	164	325	912	2,896				11,882
Own treatment																					
For distribution							1											_			
For own use																					
Total			2,896				1,255	634	23		191	285	2,302	164	325	912	2,896				11,882
(IV) Return flows of																					
water																					
To inland water resources																					
Surface Water		50,930,463,200	13,148,025,407	3,146,290,574			15,416	3,938	109,749,276	1,499,129,877											68,833,677,689
Groundwater	131,293	33,953,642,133	7,888,815,244	6,292,581,148			5,139			94,965											48,135,269,922
Other sources	404.000	67,907,284,267	22,614,603,700	15,731,452,870		26,113	5,139	3,938	100 710 075	4 400 00 1 0 1	45,206	609	4,172	385	834	2,144	55,048				106,253,484,427
I otal returns flows	131,293	152,791,389,601	43,651,444,351	25,170,324,592		26,113	25,694	7,877	109,749,276	1,499,224,842	45,206	609	4,172	385	834	2,144	55,048				223,222,432,037
or which: Losses in										0/ 065											01 065
(V) Evaporation of										94,903											94,903
abstracted water,																					
transpiration and																					
water incorporated																					
into products	131,293	16,976,821,067	8,940,722,342	6,292,583,384	186,421	12,555	25,694	5,251	109,859	30,490,111	180,825	2,437	16,690	1,541	3,336	8,576	82,572				32,241,383,954
Evapotranspiration of		040 070 040	75 400 704	45 460 607	204 0 47	EA	50		157 607	2 405 045	200		_	_	_		05				
Transpiration		243,078,048	/ 5,488,701	45,160,627	201,947	54	58	11	157,157	2,195,915	322	1	0	0	2	3	95				
Water incorporated into																					
products																					
Total supply	525,171	339,536,421,335	105,184,310,219	62,925,815,953	372,842	75,972	92,718	21,175	219,718,087	3,059,662,658	450,493	3,699	23,242	2,359	5,561	13,988	140,516		1	255,463,815,992	766,391,471,981

#### Appendix 3B: 2019 Physical Use Table for Water Accounts, "000 cubic metres

Image and bases     Appendix		-																				
Image and set of the								Manufa cturing			Water Supply;											
Approxima     Approxima <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td>Crudo</td><td>(Food</td><td>Manufact</td><td></td><td>Sewerage</td><td></td><td>Accom</td><td>Bublic</td><td></td><td></td><td></td><td></td><td>Acc</td><td>Post</td><td></td><td></td></t<>							Crudo	(Food	Manufact		Sewerage		Accom	Bublic					Acc	Post		
Image in protect (signed)     Conc (signed)    <		Agriculture	Agriculture	Agriculture	Agriculture	Agriculture	oil and	Beverag	uring		Management	Construc	modati	Admini	Educa				latio	of the	Flows to the	
	(1) 0	(Irrigation)	(Rain fed crop)	(Livestock)	(Forestry)	(Fishing)	Mining	es)	(Other)	Electricity	Activities	tion	on	stration	tion	Health	Other	Households	n	World	environment	Total Use
Nick Construct     Nick Co	(I) Sources of Abstracted Water																					
Distant     21.100     100     22.22     07.15     34.53     77.80     5.307     1140.75     21.542     22.6     61     690     70     100     21.000     20.00	Inland Water																					
Game     Mode     Mode <th< td=""><td>Surface Water</td><td>261,899</td><td></td><td>110</td><td>2.222</td><td>37.315</td><td>34,539</td><td>37,869</td><td>5.357</td><td>109.858.797</td><td>149,775</td><td>215,296</td><td>229</td><td>2</td><td>68</td><td>989</td><td>787</td><td></td><td></td><td></td><td></td><td>110.605.252</td></th<>	Surface Water	261,899		110	2.222	37.315	34,539	37,869	5.357	109.858.797	149,775	215,296	229	2	68	989	787					110.605.252
Sh Mark     More	Groundwater	686		38,894	15	133,142	2,765	2,207	2,057	131	28,929	8,974	138	76	201	76	1,569					219,862
108     26/20     108/20     2.00     108/20     108/20     108/20/20     20     108     2.00     108/20/20     2.00     108/20/20     2.00     108/20/20     2.00     108/20/20     2.00     108/20/20     2.00     108/20/20     2.00     108/20/20     2.00     108/20/20     2.00     108/20/20     2.00     108/20/20     2.00     108/20/20     2.00     108/20/20     2.00     108/20/20     2.00     108/20/20     2.00     108/20/20     2.00     108/20/20     2.00     108/20/20     2.00     108/20/20     2.00     108/20/20     2.00     108/20     2.00     108/20     2.00     108/20     2.00     108/20     2.00     108/20     2.00     108/20     2.00     108/20     2.00     108/20     2.00     108/20     2.00     108/20     2.00     108/20     2.00     108/20     2.00     108/20     2.00     108/20     2.00     108/20     2.00     108/20     2.00     108/20     108/20     108/20     108/20     108/20     108/20 </td <td>Soil Water</td> <td>000 505</td> <td></td> <td>00.000</td> <td>0.000</td> <td>470.457</td> <td>07.004</td> <td>40.070</td> <td>7</td> <td>400.050.000</td> <td>170 70 1</td> <td>004.070</td> <td>0.07</td> <td>70</td> <td>070</td> <td>1 0 0 0</td> <td>0.050</td> <td></td> <td></td> <td></td> <td></td> <td>440.005.444</td>	Soil Water	000 505		00.000	0.000	470.457	07.004	40.070	7	400.050.000	170 70 1	004.070	0.07	70	070	1 0 0 0	0.050					440.005.444
Subset     Image is an interpretation     Subset is an interpr	I otal Other water	262,585		39,003	2,236	170,457	37,304	40,076	7,414	109,858,929	178,704	224,270	367	/8	270	1,066	2,356					110,825,114
Procention     Image: 100 / 82 / 100 / 83 / 42 / 100 / 43 / 42 / 100 / 44 / 100 / 44 / 100 / 40 / 40 /	sources																					
Line     Line <thline< th="">     Line     Line     <thl< td=""><td>Precipitation</td><td></td><td>169,768,210,667</td><td>52,592,101,628</td><td>31,462,905,741</td><td>15,964</td><td></td><td></td><td></td><td></td><td>1,529,756,878</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>255,352,990,877</td></thl<></thline<>	Precipitation		169,768,210,667	52,592,101,628	31,462,905,741	15,964					1,529,756,878											255,352,990,877
Absorband   Solution   Solution <t< td=""><td>Total Lise of</td><td></td><td>169,768,210,667</td><td>52,592,101,628</td><td>31,462,905,741</td><td>15,964</td><td></td><td></td><td></td><td></td><td>1,529,756,878</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>255,352,990,877</td></t<>	Total Lise of		169,768,210,667	52,592,101,628	31,462,905,741	15,964					1,529,756,878											255,352,990,877
Int   Answer   Int   Int <t< td=""><td>Abstracted Water</td><td>262,585</td><td>169,768,210,667</td><td>52,592,140,631</td><td>31,462,907,977</td><td>186,421</td><td>37,304</td><td>40,076</td><td>7,414</td><td>109,858,929</td><td>1,529,935,581</td><td>224,270</td><td>367</td><td>78</td><td>270</td><td>1,066</td><td>2,356</td><td></td><td></td><td></td><td></td><td>255,463,815,992</td></t<>	Abstracted Water	262,585	169,768,210,667	52,592,140,631	31,462,907,977	186,421	37,304	40,076	7,414	109,858,929	1,529,935,581	224,270	367	78	270	1,066	2,356					255,463,815,992
winder burby     winder (1)     winder (2)     1,364     1,264     6,37     22     1,314     2.85     2.01     1.40     2.85     9.30     9.005     9.30 <th< td=""><td>(II) Abstracted</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>	(II) Abstracted																					
NYNSO   Image: state s	Water Distributed Water																					
Distribution     Distribution     Solution	NWSC			28,958			1,364	12,546	6,337	229		1,914	2,855	23,015	1,642	3,248	9,120	69,056				160,284
other which specty makes     specty makes     s	Distributed Water-																					
Toriginal (1)   22:85   19:789 210.87   23:89 (20)   23:80   20:00   23:80   69:273   25:43:581 187   25:581 187   25:58:43:581 187   25:58:581 187 <t< td=""><td>other Water</td><td></td><td></td><td></td><td></td><td></td><td></td><td>21</td><td>10</td><td>0</td><td></td><td>39</td><td>110</td><td>70</td><td>170</td><td>191</td><td>156</td><td>5 228</td><td></td><td></td><td></td><td>6.004</td></t<>	other Water							21	10	0		39	110	70	170	191	156	5 228				6.004
Total     262.58     163.768.210.667     52.592.168.188     31.462.207.977     186.421     38.668     52.643     13.762     108.859.158     226.228     3.332     23.164     2.00     4465     11.682     440.516     Component of the compone	For own use	262,585	169,768,210,667	52,592,140,631	31,462,907,977	186,421	37,304	40,076	7,414	109,858,929	1,529,715,195	224,270	367	70	270	1,066	2,356	66,223				255,463,661,828
(III) Watewater   IIII IIII IIIIIIIIIIIIIIIIIIIIIIIIIII	Total	262,585	169,768,210,667	52,592,169,589	31,462,907,977	186,421	38,668	52,643	13,762	109,859,158	1,529,715,195	226,223	3,332	23,164	2,090	4,495	11,632	140,516				255,463,828,116
Bit Resolution     Image: second sec	(III) Wastewater																					
Water working other units     Mail	Wastewater																					
received from   other units   Image: state of the st	Wastewater																					
Unter funds     Index	received from										44.000											44.000
Reused Dom tase Image: Construction of the sector of the	Own treatment										11,882											11,882
Distributed reused   Image: constraint of the constraint o	Reused water																					
Own use Image: Constraint of the stand o	Distributed reused																					
(W) Return flows (W) Return flow (W) Return flow (W) Return flow	Own use Total										11 882											11 882
of water   Image: Constraint of the cons	(IV) Return flows										11,002											11,002
Neturn 100% of water to the environment   Image: Construction of sources   Image: Construction of construction of sources   Image: Construction of construction of sources   Image: Construction of construction of construction of sources   Image: Construction of construction of construct	of water												-									
anvironment   Image: sources in the source in th	Return flows of																					
To inlad water resources   To inlad water   Image: second	environment																					
resolutions   a <td< td=""><td>To inland water</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	To inland water																					
Groundwater   Image: constraint of the sources in th	resources Surface Water																				68 833 677 689	68 833 677 689
To other sources   Image: Constraint of a constrant of a constraint of a constraint of a constraint of a constrain	Groundwater																				48,135,269,922	48,135,269,922
Total returns flows   Image: Constraint of abstracted water, transpiration and water incorporated into products   Image: Constraint of abstracted water, transpiration of abstracted water incorporated into products   Image: Constraint of abstracted water, transpiration of abstracted water incorporated into products   Image: Constraint of abstracted water, transpiration of abstracted water incorporated into products   Image: Constraint of abstracted water, transpiration of abstracted water incorporated into products   Image: Constraint of abstracted water, transpiration of abstracted water incorporated into products   Image: Constraint of abstracted water, transpiration of abstracted water incorporated into products   Image: Constraint of abstracted water, transpiration of abstracted water incorporated into products   Image: Constraint of abstracted water, transpiration of abstracted water incorporated into products   Image: Constraint of abstracted water, transpiration of abstracted water incorporated into products   Image: Constraint of abstract of abstracted water incorporated into products   Image: Constraint of abstract of abstracted water incorporated into products   Image: Constraint of abstract of abstrac	To other sources																				106,253,484,427	106,253,484,427
(i) Vaporation of abstracted water, transpiration and water incorporated into products   I	Total returns flows																				223,222,432,037	223,222,432,037
transpiration and water incorporated into products   and and an and antices   andices   and antices <t< td=""><td>abstracted water,</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	abstracted water,																					
water incorporated into products	transpiration and																					
Interproducts Image: Construction of abstracted water </td <td>water incorporated</td> <td></td> <td>32 241 383 054</td> <td>32 2/1 383 05/</td>	water incorporated																				32 241 383 054	32 2/1 383 05/
of abstracted water   Image: stracted wat	Evapotranspiration																				02,241,000,004	02,241,000,004
water   output	of abstracted																					
Water Incorporated into Incorporated into Incorporated into	Transpiration																					
	Water																					
	incorporated into																					
products     statuse     525,171     339,536,421,335     105,184,310,219     62,925,815,953     372,842     75,972     92,718     21,175     219,718,087     3,059,662,658     450,493     3,699     23,242     2,359     5,561     13,988     140,516     255,463,815,992     766,391,471,981	Total use	525,171	339,536,421,335	105,184,310,219	62.925.815.953	372 842	75.972	92,718	21,175	219,718,087	3.059.662.658	450,493	3,699	23.242	2.359	5.561	13,988	140 516			255,463,815,992	766.391.471.981

#### Appendix 4A: 2020 Physical Supply Table for Water Accounts, '000 cubic metres

	Industries by SIC	Agriculture (Irrigation)	Agriculture (Rain fed crop)	Agriculture (Livestock)	Agriculture (Forestry)	Agriculture (Fishing)	Crude oil and Mining	Manufact uring (Food and Beverage s)	Manufa cturing (Other)	Electricity	Water Supply; Sewerage and Waste Management Activities	Construction	Accom modati on	Public Adminis tration	Educa	Health	Other	Househol	Acc umu latio n	Rest of the Worl d	Flows from the environment	Total Supply
	(I) Sources of Abstracted Water	(		(	(*******)/	(**************************************			(0)													
	Inland Water Resources						_															
	Surface Water															1					138,701,719	138,701,719
Conversion     Convers	Groundwater																				222,771	222,771
Name     Name <th< td=""><td>Soil Water</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>400.004.400</td><td>400.004.400</td></th<>	Soil Water																				400.004.400	400.004.400
Name     Image	Other water																				138,924,489	138,924,489
Processor     Processor <t< td=""><td>sources</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	sources																					
Tate     Tate <th< td=""><td>Precipitation</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>261,070,991,542</td><td>261,070,991,542</td></th<>	Precipitation																				261,070,991,542	261,070,991,542
India SpryMa	Total																				261,070,991,542	261,070,991,542
Op/Control     Op/Contro     Op/Contro     Op/Contro	Total Supply																				261 200 016 022	261 200 016 022
material     conditional	(II) Abstracted																				201,209,910,032	201,209,910,032
Fright of the state     Provide     Provide <td>water</td> <td></td>	water																					
For distribution Orbit distribution (3) Subory of (3) Subory of	For distribution NWSC										165,904											165,904
For own use     100.01     72.589.751.667     53.798.813.06     32.167.442.93     181.27     8.57     107.244     7.443     137.024.40     1.664.020.523     202.918     466     71     200     1.141     2.375     Mode     A    A	For distribution Other distributors										6,626											6,626
Total     190,810     173,560,751,667     63,769,813,508     2,167,442,933     191,275     6,579     107,244     7,443     137,902,440     1,564,200,033     229,918     466     71     200     1,141     2,375	For own use	190,610	173,569,751,667	53,769,813,508	32,167,442,983	181,275	8,578	107,244	7,443	137,902,440	1,564,036,523	293,918	466	71	260	1,141	2,375					261,209,740,500
(ii) Sector difference     (iii) Sector difference     (iiii) Sector difference     (iii) Sector d	Total	190,610	173,569,751,667	53,769,813,508	32,167,442,983	181,275	8,578	107,244	7,443	137,902,440	1,564,209,053	293,918	466	71	260	1,141	2,375					261,209,913,030
whether and and any whether and any short of a state state state of a state of a state of a state of a state	(III) Supply of																					
which     which <th< td=""><td>economic units of</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>	economic units of																					
Watewaterie	which:																					
Wastwards to treadment   Constrained (adment)   <	Wastewater																					
Instantini Incoming in the interview Part distribution     Image in the interview interview     Image interview interview     Image interview interview     Image interview interview     Image interview interview     Image interview interview     Image interview     Image interview     Image interview interview     Image interview interview     Image interview	Wastewater to			2.007				4 000	050	24		100	205	2 202	170	226	044	2 007				10.000
Personal water prof distribution     Image: constraint of the state of th	Own treatment			2,997				1,299	000	24		198	295	2,382	170	330	944	2,997				12,299
For dramage     Image	Reused water																					
For ownage Total     (m)	For distribution																					
Total     Company     1,299     666     24     198     295     2,382     170     336     944     2,997     612,299       (V) Return flows     Company	For own use																					
(IV) Redun hous     (IV) Redun	Total			2,997				1,299	656	24		198	295	2,382	170	336	944	2,997				12,299
Onlined valuer resources     S2,070,925,500     13,442,443,057     3,216,744,003     S5,686     4,007     137,764,750     1,532,699,313     Composition     Composition <thcomposition< td=""><td>(IV) Return flows</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></thcomposition<>	(IV) Return flows																					
resources     resources <t< td=""><td>To inland water</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	To inland water																					
Surface Water     52/070.925.500     13.442.43.057     3.216,744.003     35.668     4.007     137.764,750     1532.699,313     - <td>resources</td> <td></td>	resources																					
icrounwater     95,305     34,713,940,333     8,065,848     6,433,488,007     11,895     102,397     6     4,319     400     876     2.10     56,535     149,263,2768,783       Total returns flows     95,305     156,212,776,500     44,628,910,949     25,733,952,026     6,004     11,895     4,007     59,149     651     4,319     400     876     2,210     56,535     228,246,488,875       of which: Losses     in distribution     1     1     102,397     102,39	Surface Water		52,070,925,500	13,442,443,057	3,216,744,003			35,686	4,007	137,764,750	1,532,699,313	<u> </u>										70,400,616,316
Unite Sources     Use, 47, 500, 607     25, 12, 776, 500     44, 628, 910, 949     25, 733, 952, 026     6,004     59, 476     8,014     137, 764, 750     1,532, 801, 710     59, 149     651     4,319     400     876     2,210     56, 535     108, 82, 768, 783     108, 82, 768, 783     95, 305     156, 212, 776, 500     44, 628, 910, 949     25, 733, 952, 026     6,004     59, 476     8, 014     137, 764, 750     1, 532, 801, 710     59, 149     651     4, 319     400     876     2, 210     56, 535     108, 82, 768, 783     92, 82, 82, 84, 948, 875     100, 397	Groundwater	95,305	34,713,950,333	8,065,465,834	6,433,488,007		6.004	11,895	4 007		102,397	E0 4 40	654	4.040	400	070	0.040	EG EQE				49,213,113,771
Contraction   Control (V)	Total returns flows	95 305	09,4∠7,900,667 156,212,776,500	44 628 910 949	25 733 952 026		6,004	59 476	4,007	137 764 750	1 532 801 710	59,149	651	4,319	400	876	2,210	56,535				228 246 498 875
in distribution   (V) Evaporation of abstracted water, transpiration and water, transpiration and water   N	of which: Losses	00,000	100,212,110,000	11,020,010,040	20,100,002,020		0,004	00,410	0,014	101,104,100	1,002,001,710	00,140	001	-1,019		0/0	2,210	00,000				220,210,400,010
(V) Evaporation of abstracted water, transpiration and water incorporated into products   95,305   17,356,975,167   9,140,929,534   6,433,490,957   181,275   3,985   59,476   5,343   137,903   31,182,991   236,597   2,603   17,275   1,599   3,503   8,841   84,803	in distribution										102,397											102,397
or astracted water, transpiration and water   95,305   17,356,975,167   9,140,929,534   6,433,490,957   181,275   3,985   59,476   5,343   137,903   31,182,991   236,597   2,603   17,275   1,599   3,503   8,841   84,803   6   32,963,417,156     Evapotranspiration of abstracted water   249,084,242   77,163,291   46,162,439   206,447   12   154   11   197,899   2,244,653   422   1   0   0   2   3   96   6	(V) Evaporation																					
water, incorporated into products   95,305   17,356,975,167   9,140,929,534   6,433,490,957   181,275   3,985   59,476   5,343   137,903   31,182,991   236,597   2,603   17,275   1,599   3,503   8,841   84,803   6   532,963,417,156     Evapotranspiration of abstracted water   249,084,242   77,163,291   46,162,439   206,447   12   154   11   197,899   2,244,653   422   1   0   0   2   3   96   6 <th< td=""><td>of abstracted</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>	of abstracted																					
water incorporated into products     95,305     17,356,975,167     9,140,929,534     6,433,490,957     181,275     3,985     59,476     5,343     137,903     31,182,991     236,597     2,603     17,275     1,599     3,503     8,841     84,803     0     32,963,417,156       Evapotranspiration of abstracted water     249,084,242     77,163,291     46,162,439     206,447     12     154     11     197,899     2,244,653     422     1     0     0     2     3     96     0     0     32,963,417,156       Transpiration of abstracted water     249,084,242     77,163,291     46,162,439     206,447     12     154     11     197,899     2,244,653     422     1     0     0     2     3     96     0	transpiration and																					
incorporated into   95,305   17,356,975,167   9,140,929,534   6,433,490,957   181,275   3,985   59,476   5,343   137,903   31,182,991   236,597   2,603   17,275   1,599   3,681   84,803   6   6   32,963,417,156     Evapotranspiration of abstracted water   249,084,242   77,163,291   46,162,439   206,447   12   154   11   197,899   2,244,653   422   1   0   0   2   3   96   6 </td <td>water</td> <td></td>	water																					
products   99,300   17,300,97,0107   9,140,929,334   0,433,490,957   181,275   3,985   59,476   5,343   137,903   31,182,991   236,597   2,603   17,275   1,599   3,503   8,841   84,803   6   6   32,963,417,156     Evapotranspiration of abstracted water   249,084,242   77,163,291   46,162,439   206,447   12   154   11   197,899   2,244,653   422   1   0   0   2   3   96   6	incorporated into	05 005	47 050 075 407	0.440.000.504	0 400 400 057	404.075	2.005	E0 470	E 0.40	107.000	24 402 004	000 507	0.000	47.075	1 500	0.500	0.044	04.000				00.000.447.450
of abstracted water   249,084,242   77,163,291   46,162,439   206,447   12   154   11   197,899   2,244,653   422   1   0   0   2   3   96   6 <td>Evapotranspiration</td> <td>95,305</td> <td>17,356,975,167</td> <td>9,140,929,534</td> <td>6,433,490,957</td> <td>181,275</td> <td>3,985</td> <td>59,476</td> <td>5,343</td> <td>137,903</td> <td>31,182,991</td> <td>236,597</td> <td>2,603</td> <td>17,275</td> <td>1,599</td> <td>3,503</td> <td>8,841</td> <td>84,803</td> <td></td> <td></td> <td></td> <td>32,963,417,156</td>	Evapotranspiration	95,305	17,356,975,167	9,140,929,534	6,433,490,957	181,275	3,985	59,476	5,343	137,903	31,182,991	236,597	2,603	17,275	1,599	3,503	8,841	84,803				32,963,417,156
water   249,084,242   77,163,291   46,162,439   206,447   12   154   197,899   2,244,653   422   1   0   0   2   3   96   Image: Constraints     Transpiration   Image: Constraints   Image	of abstracted																					
Transpiration   Image: Constraint of the second s	water		249,084,242	77,163,291	46,162,439	206,447	12	154	11	197,899	2,244,653	422	1	0	0	2	3	96				
Water incorporated into products   Water	Transpiration											ļ										
Total supply     381,221     347,139,503,333     107,539,656,989     64,334,885,967     362,549     18,567     227,495     21,456     275,805,116     3.128,193,753     589,862     4.015     24.046     2.429     5.856     14,370     144,336     261,209,916.032     783.629,757,392	Water incorporated into																					
	Total supply	381.221	347,139.503.333	107,539.656.989	64,334.885.967	362,549	18.567	227,495	21.456	275.805.116	3,128,193,753	589.862	4.015	24.046	2.429	5.856	14.370	144.336			261,209.916.032	783,629.757.392

#### Appendix 4B: 2020 Physical Use Table for Water Accounts, "000 cubic metres

	Agriculture (Irrigation)	Agriculture (Rain fed crop)	Agriculture (Livestock)	Agriculture (Forestry)	Agriculture (Fishing)	Crude oil and Mining	Manufact uring (Food and Beverage s)	Manufa cturing (Other)	Electricity	Water Supply; Sewerage and Waste Management Activities	Construc	Accom modati on	Public Adminis tration	Education	Health	Other	Households	Ac cu m ul ati on	Rest of the Worl d	Flows to the environment	Total Use
(I) Sources of Abstracted Water																					
Inland Water Resources																					
Surface Water	190,092		110	2,941	32,274	5,798	105,174	5,101	137,902,313	170,819	284,804	358	2	74	1,093	766					138,701,719
Groundwater	518		41,170	10	133,036	2,780	2,070	2,342	127	29,585	9,114	108	69	186	48	1,608		ļ	ļ		222,771
Soll Water	190.610		41 280	2 951	165 310	8 578	107 244	7 443	137 902 440	200 404	293 918	466	71	260	1 1 4 1	2 375					138 924 489
Other water	100,010		41,200	2,001	100,010	0,070	107,244	7,440	107,002,440	200,404	200,010	400		200	1,141	2,010					100,024,400
sources																					
Collection of		172 560 751 667	F2 760 772 228	22 167 440 022	15.064					1 564 011 651											261 070 001 542
Total		173,569,751,667	53,769,772,228	32,167,440,033	15,964					1,564,011,651											261,070,991,542
Total Use of		110,000,101,001	00,100,112,220	02,101,110,000	10,001					1,001,011,001											201,010,001,012
Abstracted Water	190,610	173,569,751,667	53,769,813,508	32,167,442,983	181,275	8,578	107,244	7,443	137,902,440	1,564,212,055	293,918	466	71	260	1,141	2,375					261,209,916,032
(II) Abstracted																					
Distributed Water-																					
NWSC			29,973			1,411	12,986	6,559	237		1,982	2,955	23,822	1,699	3,362	9,440	71,477				165,904
Distributed Water-																					
other Water							21	10	0		15	120	83	210	212	181	5 735				6 626
For own use	190.610	173.569.751.667	53.769.813.508	32,167,442,983	181.275	8.578	107.244	7.443	137.902.440	1.563.969.399	293.918	466	71	260	1.141	2.375	67.124				261.209.740.500
Total	190,610	173,569,751,667	53,769,843,481	32,167,442,983	181,275	9,989	120,251	14,013	137,902,677	1,563,969,399	295,944	3,550	23,975	2,169	4,715	11,996	144,336				261,209,913,030
(III) Wastewater																					
and reused water																					
Wastewater																					
received from																					
other units										12,299											12,299
Own treatment																					
Distributed reused																					
Own use																					
Total										12,299											12,299
(IV) Return flows																					
Return flows of																					
water to the																					
environment																					
resources																					
Surface Water																				70,400,616,316	70,400,616,316
Groundwater																				49,213,113,771	49,213,113,771
To other sources																				108,632,768,788	108,632,768,788
(V) Evaporation of																				220,240,490,075	220,240,490,075
abstracted water,																					
transpiration and																					
into products																				32 963 417 156	32 963 417 156
Evapotranspiration																				02,000,417,100	02,000,417,100
of abstracted																					
water																					
Water																					
incorporated into																					
products																					
Total use	381,221	347,139,503,333	107,539,656,989	64,334,885,967	362,549	18,567	227,495	21,456	275,805,116	3,128,193,753	589,862	4,015	24,046	2,429	5,856	14,370	144,336	1	1	261,209,916,032	783,629,757,392