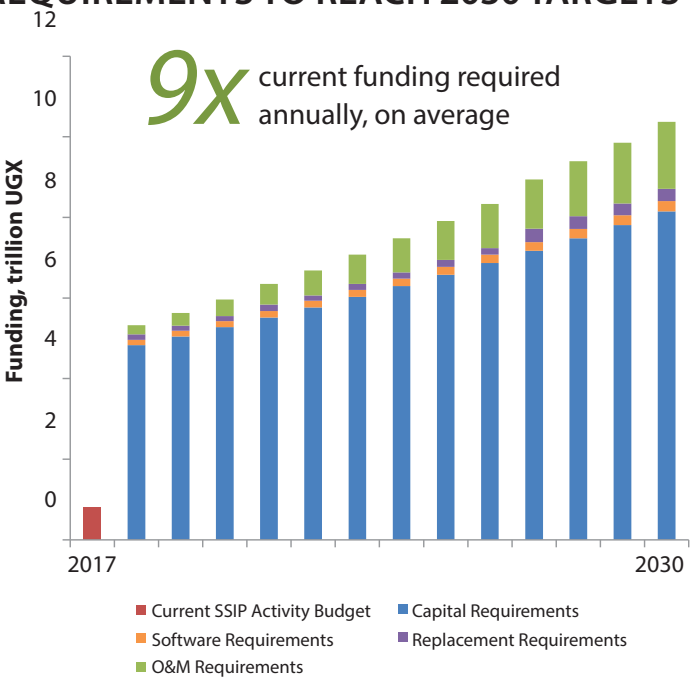
Uganda's Water and Environment Sector Strategic Investment Plan 2018-2030

The Water and Environment Sector of Uganda has recently developed a Strategic Sector Investment Plan (SSIP) to guide annual investments in the sector out to year 2030. In order to meet the sector's targets across 24 indicators measuring the key activities of the sector, including U.N. Sustainable Development Goal (SDG) commitments, the sector will need a large increase in funding—over nine times current levels. In the absence of this funding increase, the sector will have to make strategic tradeoffs between investments to best use the limited funds available. This handout presents the results of the SSIP study, including investment requirements to meet targets and strategic investment planning under limited funding scenarios.

ANNUAL SECTOR FUNDING REQUIREMENTS TO REACH 2030 TARGETS



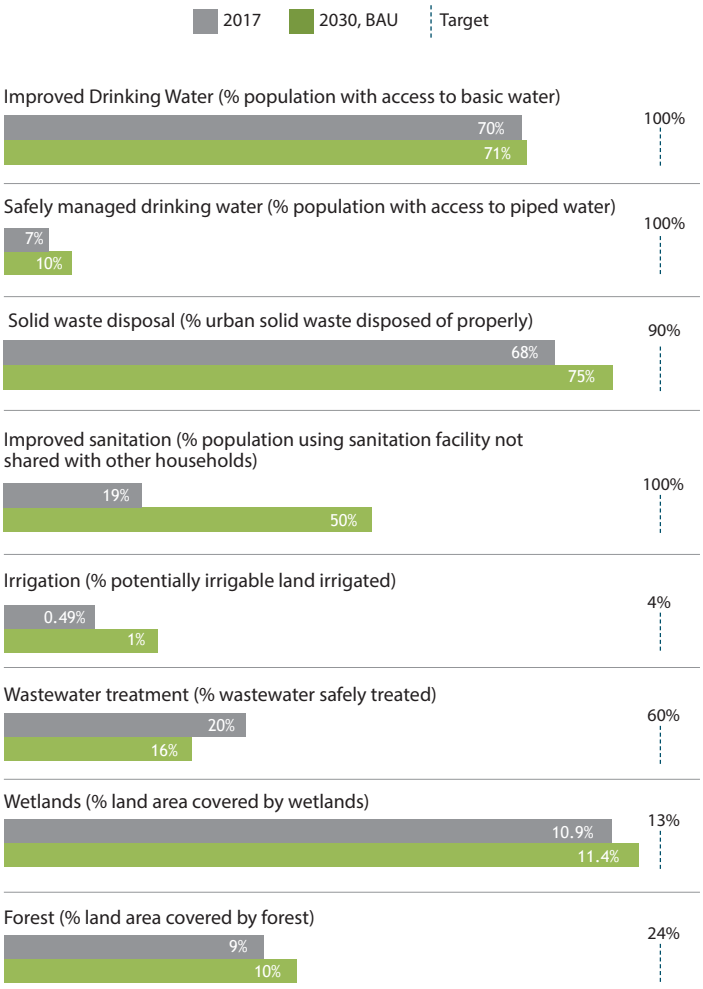
A large increase in capital investments, along with growing operations and maintenance (O&M) and replacement investments, are necessary to reach the targets. This budget does not include sector planning activities (e.g., budgeting, coordination, administration) which require additional funding.

2.2 Trillion It will cost approximately 2.2 trillion UGX per year to meet the National target of 24% forest coverage by 2030.

By 2030, 16% of the total budget requirement will be for O&M activities. **16%**

SHORTFALLS DUE TO UNDERFUNDING FOR SELECT GOALS

Under the current funding scenario or Business As Usual (BAU) the sector will not reach any of its 2030 targets.



16 Million Under current funding, 16 million people will still be without access to an improved water supply.

COMPONENTS OF THE STRATEGIC SECTOR INVESTMENT PLAN (SSIP)

The SSIP includes the following components. For more information about funding allocation in the SSIP please see the description of the Sector Investment Model (SIM) on the back of this handout.

INDICATORS

The 24 indicators in the SSIP were selected from the set of indicators the sector uses to annually report on its progress. Each indicator has a 2017 baseline level and a 2030 target level.

INVESTMENTS

Each indicator is improved by putting funds in one or more categories of investment.

ALLOCATION

The SSIP represents strategic allocations of sector funds across investments in order to improve indicator performance in a manner that is consistent with the sector's goals and preferences.

SUBSECTORS

The nine subsectors of the water and environment sector are:

WATER

- Rural Water Supply
- Urban Water Supply
- Sanitation and Hygiene
- Water for Production
- Water Resource Management

ENVIRONMENT

- Wetlands
- Forestry
- Climate Change
- Meteorology

SUBSECTOR KEY FACTS

WATER

The sector needs to spend an average of 150 billion UGX per year on partial replacement and operations and maintenance (O&M) of existing water supply infrastructure.

Under BAU investment the sector can add 10,000 hectares of irrigation compared to the target need of 100,000 hectares.

Wastewater treatment will not keep pace with population growth in the BAU scenario and the percent coverage will decrease.

ENVIRONMENT

Under BAU funding, the sector can increase wetlands area by 4% by 2030.

Uganda can reduce its GHG emissions enough to meet SDGs by adding 3 million hectares of forest.

The sector can add 140,000 hectares of forested land by 2030 under BAU funding.

2.5% of the funding for weather stations is needed for replacement under BAU funding.

INVESTMENT PLANNING UNDER THREE FUTURE FUNDING SCENARIOS

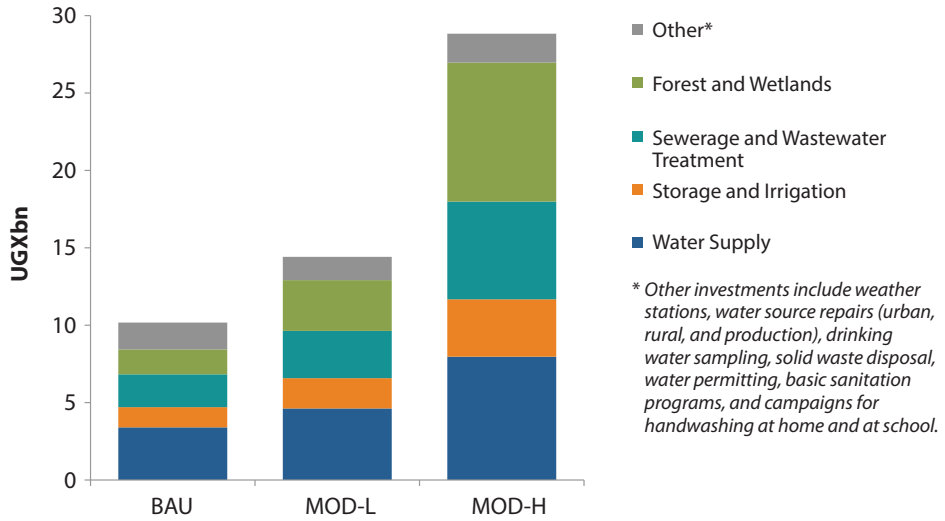
The three future funding scenarios, each assumed to grow at 3% per year, presented here are:

BUSINESS AS USUAL (BAU)
Current funding levels
(800 UGXbn in 2018)

MODERATE I (MOD-L)
Slight increase in funding levels
(1200 UGXbn in 2018)

MODERATE II (MOD-H)
Triple current funding levels
(2400 UGXbn in 2018)

AVERAGE ANNUAL INVESTMENT UNDER THREE FUNDING SCENARIOS



** Other investments include weather stations, water source repairs (urban, rural, and production), drinking water sampling, solid waste disposal, water permitting, basic sanitation programs, and campaigns for handwashing at home and at school.*

SECTOR INDICATOR PERFORMANCE UNDER THREE FUNDING SCENARIOS

Indicator	2017	Target	2030 Outcomes		
			BAU	MOD-L	MOD-H
Village water supply	66%	100%	90%	100%	100%
Functional rural water sources	85%	100%	88%	93%	98%
Improved drinking water	70%	100%	71%	80%	97%
Safely managed drinking water	7%	100%	10%	16%	35%
Per capita investment cost (USD)	32.00	[*reporting*]	55.02	69.30	99.24
Urban water service functionality	92%	100%	99%	100%	100%
Solid waste disposal	68%	90%	75%	81%	87%
Improved sanitation	19%	50%	50%	68%	96%
Safely managed sanitation	9%	100%	13%	19%	39%
Handwashing at home	37%	90%	38%	49%	70%
Handwashing at school	35%	90%	53%	66%	81%
Potential irrigation developed	0.49%	4%	0.8%	1.2%	2.2%
Water for production functionality	85%	100%	99%	100%	100%
Storage capacity (million m^3)	38.87	163.67	59.62	78.09	120.64
Drinking water standards compliance	64%	90%	73%	80%	87%
Water permit compliance	71%	90%	88%	90%	90%
Wastewater treatment	20%	60%	16%	18%	26%
Ambient water quality	0%	100%	8%	16%	43%
Level of water stress		[*reporting*]	4%	4%	4%
Wetlands coverage	11%	13%	11%	12%	13%
Forest coverage	9%	24%	10%	10%	13%
GHG emissions reduction	0%	22%	4%	9%	25%
Climate vulnerability index (ND-GAIN)		[*reporting*]	34.90	35.46	36.38
Operational weather stations	43%	100%	74%	85%	97%

Under BAU funding, the sector will not reach any of its 2030 targets. With a 50% increase in annual funding (MOD-L) three targets will be met, however 17 indicators will still be more than 50% away from meeting the target. With an annual budget triple current levels (MOD-H), the sector can meet or come within 5% of meeting more than half of the targets (12 out of 21).

Legend

- Target met
- Within 5% of target
- Within 50% of target
- Over 50% of target remains in 2030

Note: Reporting variables are tracked in the model but do not have set targets.

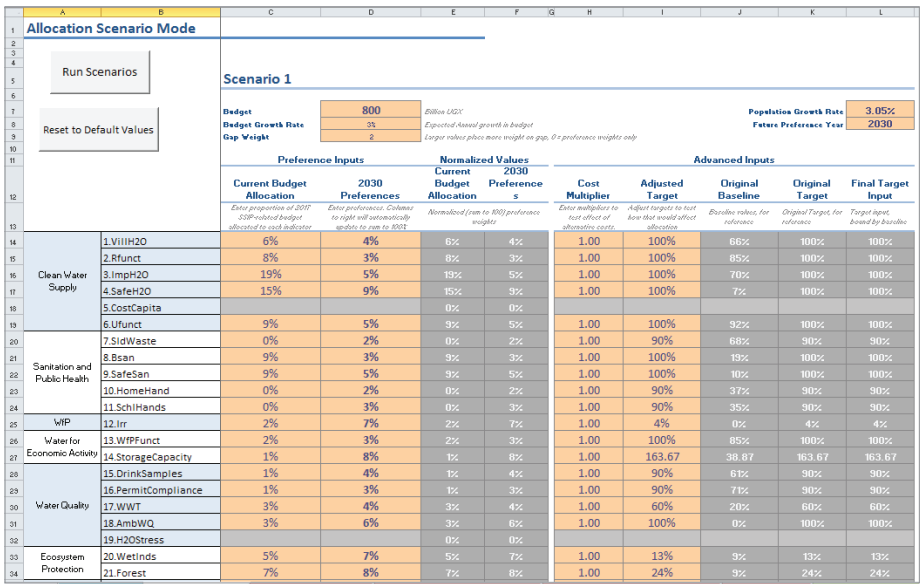
The Sector Investment Model (SIM)

The Sector Investment Model (SIM) is the engine of the Strategic Investment Plan for the Water and Environment Sector (SSIP), and is the collaborative product of both sector and outside experts. The SIM is a decision support tool that aids in annual investment planning across the 23 catchments in Uganda.

The SIM is designed to work in two modes to accomplish its two main objectives. The first is the funding requirements mode, which uses information on indicator costs and the gap between baseline and target levels to estimate the total funding requirements to meet sector goals. The second is the strategic allocation mode. In this mode, distribution of funding is based on both the cost of improvement in each indicator and a prioritization algorithm. Priorities are defined in the SIM based on several factors, including current budget allocation, the gap between indicator baseline levels and targets, and the sector's preferences, as reported during the stakeholder engagement process. The two modes of the SIM rely on the same databases of information that characterize the status, costs, investment preferences, and targets of the sector indicators. SIM outputs are thus either a budget requirement, or an investment mix and subsequent indicator achievement trajectory.

The SIM is built in Microsoft Excel and features a user-friendly interface. Select sector staff were trained to use the model over the course of the study. The model, along with the SIM User Guidelines, is available to interested stakeholders.

MODEL INPUT SCREEN



Allocation Scenario Mode

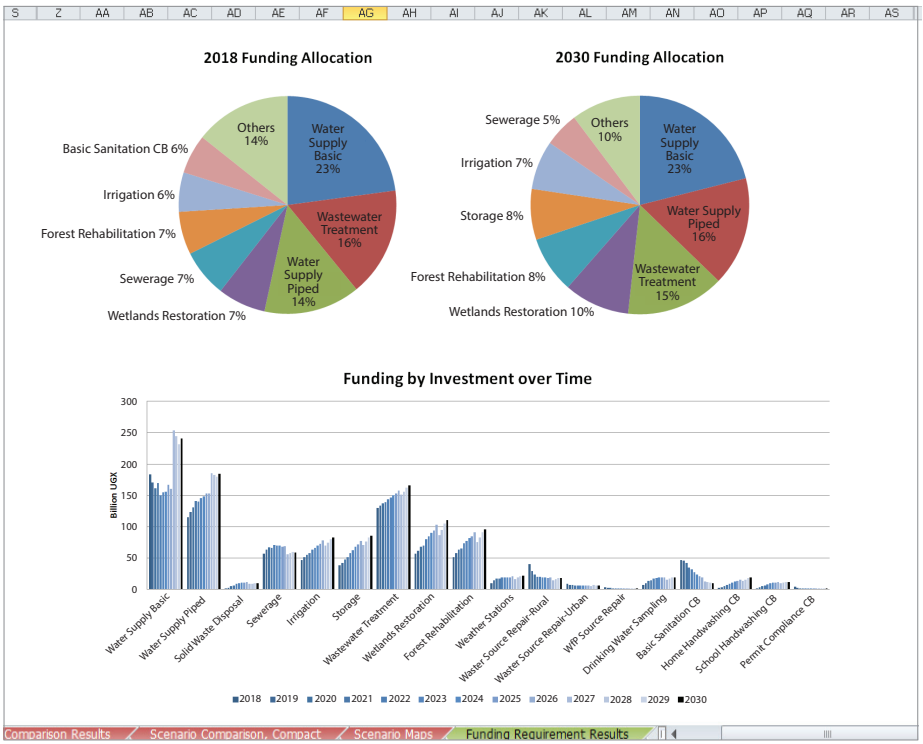
Run Scenarios

Reset to Default Values

Scenario 1

Budget	800	Billion UGX								Population Growth Rate	3.05%	
Budget Growth Rate	3%	Expected Annual growth in budget								Future Preference Year	2030	
Gap Weight	2	Larger values place more weight on gap, 0 = preference weights only										
		Preference Inputs		Normalized Values		Advanced Inputs						
		Current Budget Allocation	2030 Preferences	Current Budget Allocation	2030 Preferences	Cost Multiplier	Adjusted Target	Original Baseline	Original Target	Final Target Input		
		Enter proportion of 2017 SSIP-related budget allocated to each indicator	Enter preferences. Cubeas to right will automatically update to sum to 100%	Normalized (sum to 100) preference weights		Enter multipliers to test effect of alternative costs	Adjust targets to test how that would affect allocation	Baseline values, for reference	Original Target, for reference	Target input, based by baseline		
Clean Water Supply	1.VillH2O	6%	4%	6%	4%	1.00	100%	66%	100%	100%		
	2.Rfunct	8%	3%	8%	3%	1.00	100%	85%	100%	100%		
	3.ImpH2O	19%	5%	19%	5%	1.00	100%	70%	100%	100%		
	4.SafeH2O	15%	9%	15%	9%	1.00	100%	7%	100%	100%		
	5.CostCapita			0%	0%							
	6.Ufunct	9%	5%	9%	5%	1.00	100%	92%	100%	100%		
Sanitation and Public Health	7.SldWaste	0%	2%	0%	2%	1.00	90%	68%	90%	90%		
	8.Bsan	9%	3%	9%	3%	1.00	100%	13%	100%	100%		
	9.SafeSan	9%	5%	9%	5%	1.00	100%	10%	100%	100%		
	10.HomeHand	0%	2%	0%	2%	1.00	90%	37%	90%	90%		
	11.SchlHands	0%	3%	0%	3%	1.00	90%	35%	90%	90%		
WfP	12.Irr	2%	7%	2%	7%	1.00	4%	0%	4%	4%		
Water for Economic Activity	13.WfPFunct	2%	3%	2%	3%	1.00	100%	85%	100%	100%		
	14.StorageCapacity	1%	8%	1%	8%	1.00	163.67	38.87	163.67	163.67		
Water Quality	15.DrinkSamples	1%	4%	1%	4%	1.00	90%	61%	90%	90%		
	16.PermitCompliance	1%	3%	1%	3%	1.00	90%	71%	90%	90%		
	17.WWT	3%	4%	3%	4%	1.00	60%	20%	60%	60%		
	18.AmbWQ	3%	6%	3%	6%	1.00	100%	0%	100%	100%		
	19.H2OStress			0%	0%							
Ecosystem Protection	20.WetInds	5%	7%	5%	7%	1.00	13%	9%	13%	13%		
	21.Forest	7%	8%	7%	8%	1.00	24%	9%	24%	24%		

MODEL OUTPUTS FOR EXAMPLE USER DEFINED SCENARIO



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This analysis was completed as part of the *Strategic Investment Plan for the Water and Environment Sector (2018-2030)*. For more information on the methods and data relied upon, please see the full report.

THE REPUBLIC OF UGANDA

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