



UN
2023 WATER
CONFERENCE

NEW YORK
22-24
MARCH
2023



Republic of Sierra Leone Ministry of Water Resources



African Water Facility

Side Event



*Water Catchment Protection through a Water
Fund for Sustainable and wider Water Supply
Coverage in Freetown, Sierra Leone*



Thursday, 23rd March, 2023 @ 11:00am - 12:15pm (GMT-4)
Location: Conference Room 7





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Creating a Resilient Water Supply System for the Western Area, in Sierra Leone

Ministry of Water Resources
& Guma Valley Water Company
in Sierra Leone.

23rd March, 2023



Agenda

- About the Western Area;
- About Guma Valley Water Company (GVWC);
- Freetown Water Supply Master Plan;
- Funding Options;

About the Western Area

Sierra Leone

Districts: 16;
Population of Sierra Leone: 8.5m
GDP (nominal): \$4.1 billion
GDP per Capita: \$494

Mining & Agriculture.

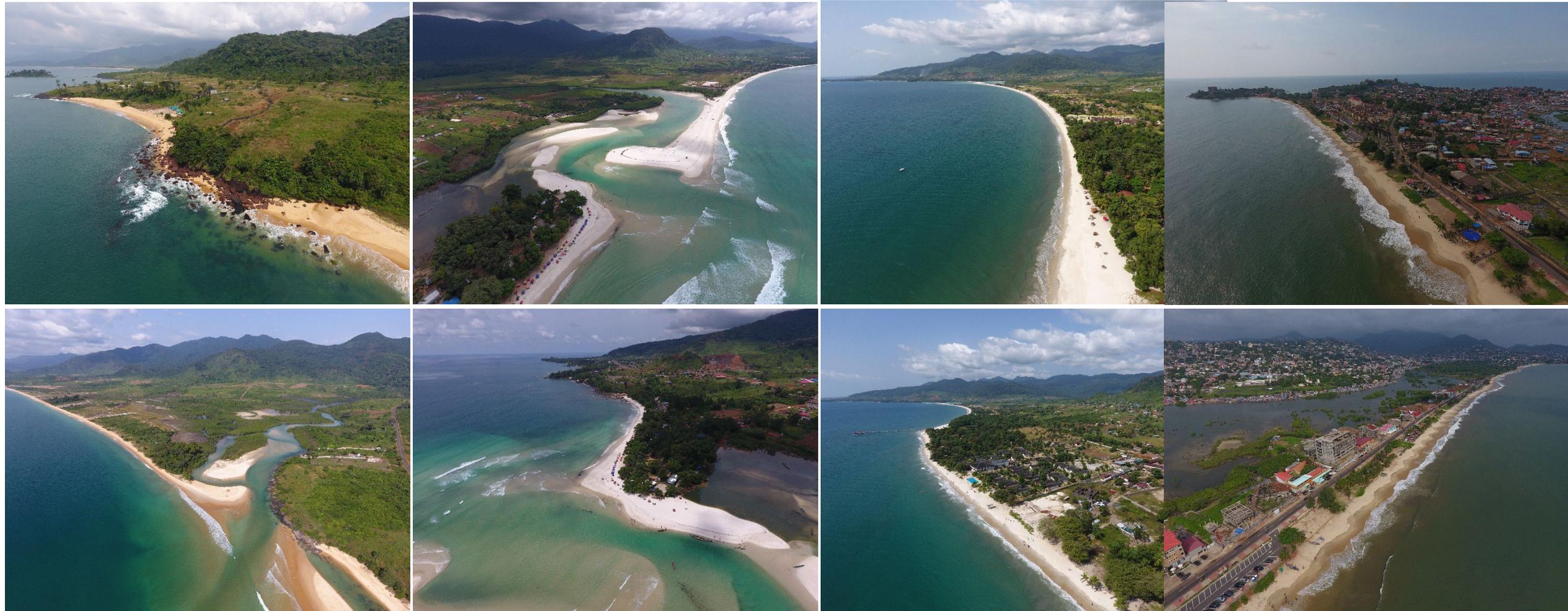
Population of the Western Area

WA Urban – 1.2 Million;
WA Rural – 0.5 Million.

Great beaches.



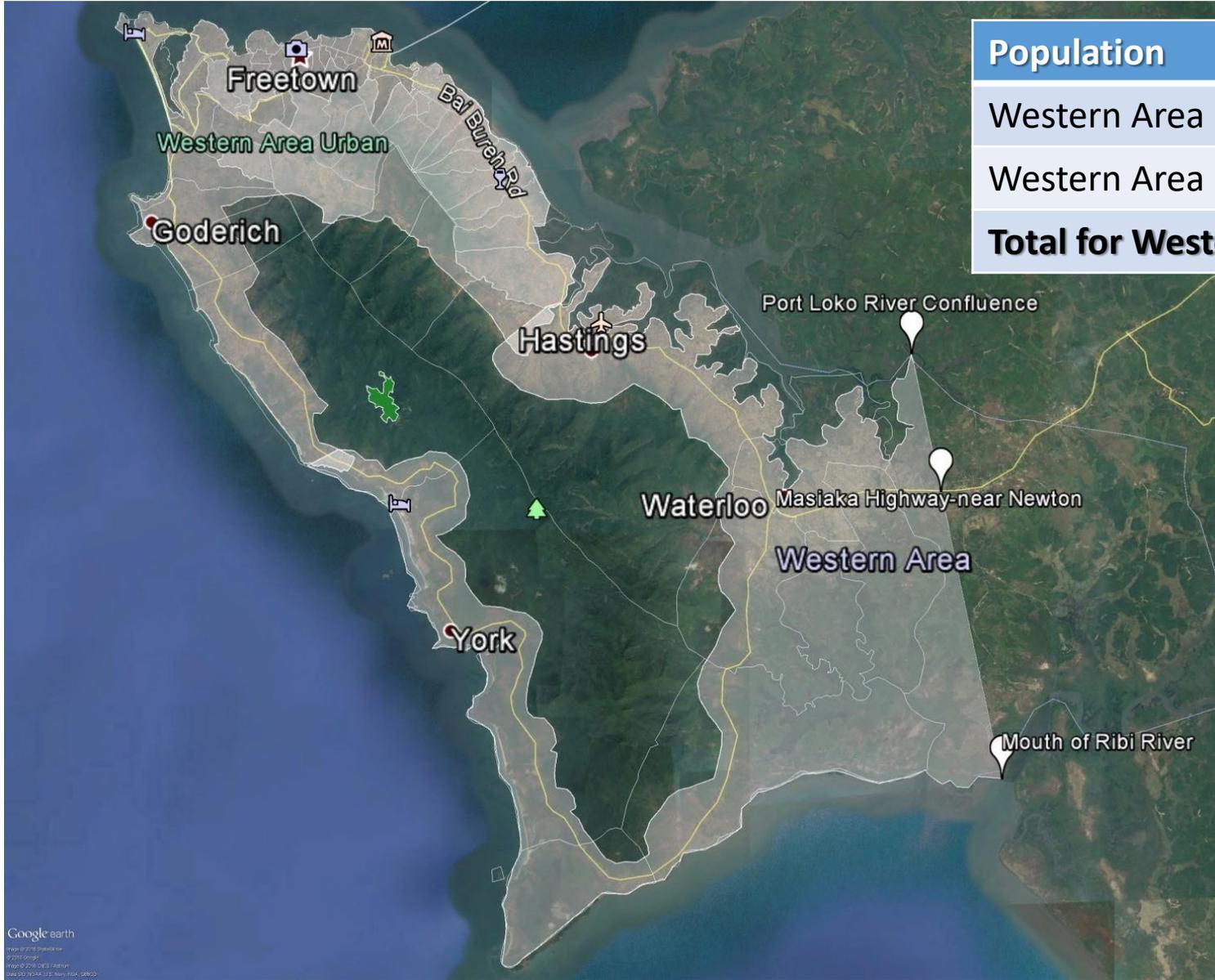
Some Natural Beauty Spots on the Peninsula



Over 40 beaches, with 4 over 4Km long; rolling hills, green vegetation

The Western Area Peninsula

Population	2020	2030	2050
Western Area Urban	1.2 million	1.55 million	2.18 million
Western Area Rural	0.5 million	0.67 million	1.32 million
Total for Western Area	1.7 million	2.22 million	3.5 million



- The Western Area Peninsula National Park:
- First demarcated and gazetted in 1916.
 - 30Km long by 10Km wide, an area of 183 square Km (18,337 hectares);
 - Rolling hills, Picket Hill is 888m high and Mount Sugar Loaf is 400m in height;
 - Home to 50 mammals, and 200 types of birds;
 - Number of major Water Catchments: 61;
 - The Green Belt established in 2013;
 - Gravity Based Systems.
 - High Rainfall (over 4000mm on average)

About Guma Valley Water Company



*...to provide for the
sustainable supply of water
for public and private
purposes...*

The GVWC Act, 2017

A State-Owned Enterprise;
Employs: 330
Serving: 70% of the Population of the Western Area,
with various levels of service quality.

Main Water Supply Infrastructure

An aerial photograph of a large, calm reservoir surrounded by dense, lush green forest. In the foreground, a curved dam structure is visible, with a small building and a circular structure on the land to its left. The sky is overcast with grey clouds.

Reservoir Capacity: 23.6 Billion L;

Stores 95% of the total volume of water available to Freetown year round.

Two seasons: Rainy Season & Dry Season.

Main Water Supply Infrastructure



- Design Capacity: 86 MLD;
- Average Production: 75 MLD.
- Gravity based system.

The Barbadorie Water Supply System



Kongo Dam



**Design Capacity: 1.5 MLD;
Average Production: Much less.**

Circular Storage Tank

What We have done so far

- Freetown Water Supply Rehabilitation Project:
 - GBP 48m, funded by UKAID, FCDO.
- Freetown Emergency Response Project (\$2.85m, World Bank);
- The Threshold Program (MCC);
- Freetown Water Supply and Sanitation Master Plan Studies:
 - EUR 2.9m, AWF, AfDB, FCDO, D2B.
- The Short-Term Projects (funded by the Government of Sierra Leone);
- Freetown WASH & Aquatic Environment Revamping Project:
 - AfDB, Kuwaiti Fund, OFID, IsDB, GCF, NEA/Invest International, etc.

Reduce Losses (both physical & commercial);
Increase access to Water Supply;
Increase Revenue Collection;
Improve Organizational Effectiveness.

The Freetown Water Supply Rehabilitation Project



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Rehabilitation/ expansion of existing infrastructure



Scour Valves Replaced at the Main Guma Dam



The Threshold Program (MCC)



Freetown WASH & Aquatic Environment Revamping Project (AfDB & Other Partners)

- Rehabilitation/Expansion of existing Infrastructure;
- Develop small schemes to improve access to water supply;
- Regenerate the Environment & Monitor the Climate;
- Improve Sanitation.



Gap between Water Supply & Demand

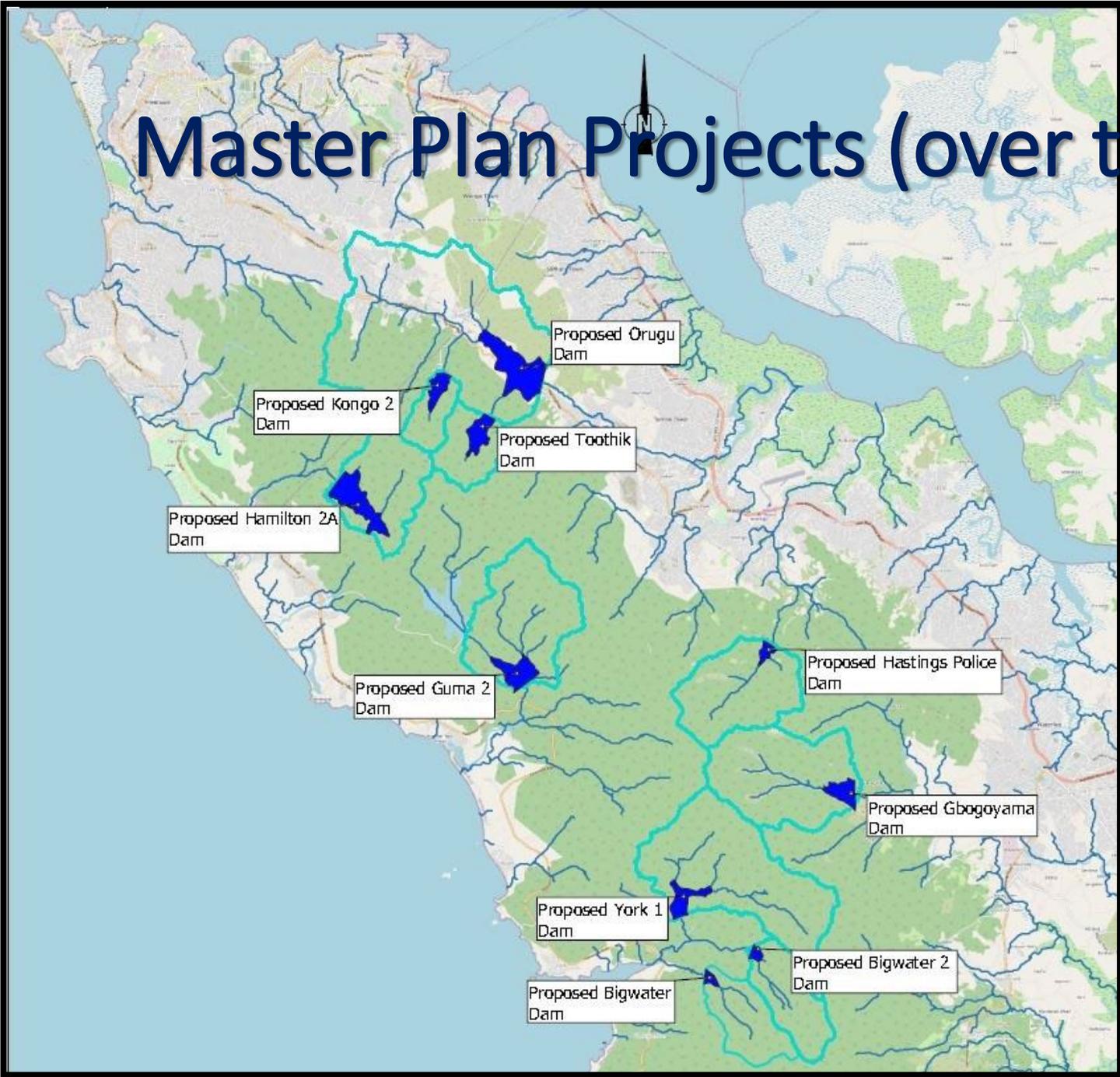
- **Water Supply Capacity:**
 - Daily Avg. Volume of Water Supply: **75** MLD;
 - Technical Losses: **40%** or **30** MLD;
 - Estimated Volume of Revenue Water: **45** MLD.
- **Estimated Current Demand:**
 - **190** MLD;
- **Expected Future Demand (2030 with 2.2M population):**
 - **313** MLD.

Demand Management through metering;

Current Coping Strategies:

- Rationing;
- Community Water Supply Services to Urban Low Income Communities.

Master Plan Projects (over the next 27 years)



Includes the following infrastructure:

- 10 New Dams & Reservoirs;
- 2 River abstraction Schemes;
- 1 Well Field;
- Water Treatment Facilities;
- Water Transmission & Distribution Systems (including service reservoirs, etc.).

Total Cost: over **US \$ 2 billion** over 27 years, will serve over **3.5 million** people by 2050.

Four Water Supply Service Zones

1

2

3

4

Zones	Area Description	Population		
		2020	2030	2050
1.	WA Urban+	1.2m	1.55m	2.17m
2.	Mountain Communities: Regent, Leicester, IMATT, Hill Station, Gloucester, FBC, Bathurst	34,781	45,267	100,643
3.	Hastings to Waterloo	328,453	441,473	553,641
4.	Sussex to Macdonald	145,895	184,944	668,631
		1,709,458	2,228,307	3,498,228

Strategic Projects to Increase Access

1

2

3

4

	Area Description	Costs
#	Area Description	Medium Term
1.	WA Urban – Sussex to Allen Town. The Hamilton Dam Project	\$180.0 m
2.	Mountain Communities: Regent, Leicester, IMATT, Hill Station, Gloucester, FBC, Bathurst. The Kongo and Toothik Dam Projects	\$109.6 m
3.	Hastings to Waterloo	
4.	Sussex to Macdonald	
	Total:	\$289.6 m

Funding Options

- Grants;
- Direct Loans to the Government;
- Public Private Partnerships (BOT);
- Private Capital.

Target Organizations

- Development Partners;
- Humanitarian Organizations;
- Private Sector.

In Summary

Vulnerable Groups that suffer the most from lack of access to safe clean water supply

- The Poor;
- Women & Children.

Access to water supply underpins all aspects of human and economic development



Finally...

Our Commitment to the Water Action agenda #WaterAction:

- Protect the Environment (by all means);
- Minimize Water Wastage;
- To be Sustainable;
- Mobilize Resources to implement the Strategic Projects.

<https://www.gumavalley.sl>