Summarizing the Core Challenge and Objective

➢ **Challenge**: Finding a "Good Enough" approach to property valuation that is the right fit for local technical capacity, resources, laws, and political context.

Existing systems can be overburdensome, inconsistent, incomplete, out of date and/or inequitable, undermining revenue potential, equity and public trust.

➢ **Objective for Valuation**: A methodology for assessing values for all eligible-properties that is **consistent**, **transparent** and delivers **progressivity** and **fairness** in the tax distribution.

Well-designed valuation improves revenue potential, compliance, and political support for reform

Property valuation in Freetown

- In Freetown – adjusted area-based property valuation that was
  - Costly and time-consuming, leading to incomplete and outdated rolls
  - Highly inaccurate and regressive
  - Opportunities for collusion

Propid: 1b924a2c	No finish
Domestic property	No Fence
Ward: 430	
Street paved	
Like New Condition	Roof: Zinc / Metal Sheeting
No Street Light	Roof Condition: Bad
Minor Road	Windows: Wood
Easy Access	Veranda: None
Open Drainage	No Security
No Special Features	Air Conditioning: No
Potential to Build: Medium	Garage: None
Water: None	No Outbuilding
Traditional Design	No Pool
Wall Material: Zinc	516 sq. feet
Wall Condition: Bad	FCC Tax: 125'000
No finish	New Tax: 57'570

Propid: 91f93009	Wall Finish: Painted or Whitewashed
Domestic property	Fenced
Ward: 430	Fence: Masonry
Street paved	Fence: Good Condition
Like New Condition	Roof: Zinc / Metal Sheeting
No Street Light	Roof Condition: Good
Minor Road	Windows: Sliding panels
Easy Access	Veranda: Open
Open Drainage	Security
No Special Features	Air Conditioning: No
Potential to Build: Small	Garage: None
Water: Guma	No Outbuilding
Traditional Design	No Pool
Wall Material: Masonry	530 sq. feet
Wall Condition: Good	FCC Tax: 125'000
Wall Finish: Painted or Whitewashed	New Tax: 1'013'827

Market-based versus Simplified Valuation Systems

Market-based systems…

- ❖ Aim to estimate the market value of individual properties
- ❖ Place the highest property tax burden on the most valuable properties
- ❖ Is conducted by highly trained staff from valuation departments
- ❖ Rely on underdeveloped and opaque property markets
- ❖ Require significant local capacity to assess all properties
- ❖ Valuations subject to appeals due to the lack of transparent basis

Simplified Property Valuation Systems…

- Aim to equitably distribute the relative tax burden across the population
- Use surface area as a base, but makes qualitative adjustments based on easily-observable external property characteristics
- Uses simple IT solutions to streamline data collection
- Data collection can be conducted by unspecialized staff/enumerators (e.g., only high school education)
- Property valuation is transparent and easy to understand

6-Step Valuation Process

Step 1: Survey design

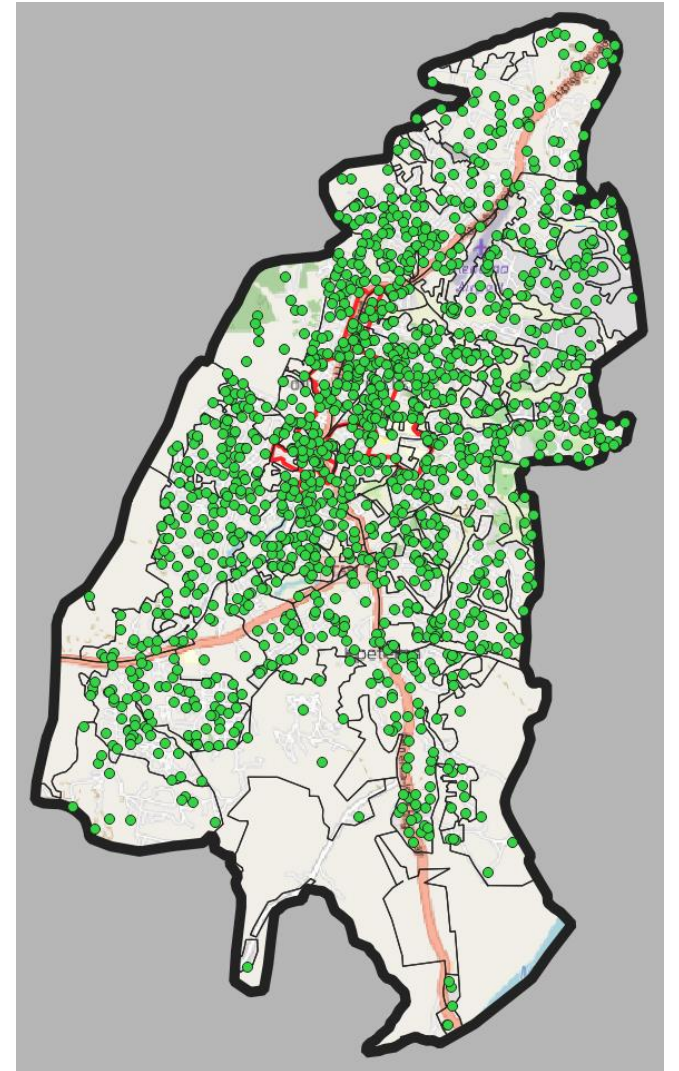Work with staff and knowledge local stakeholders to determine property characteristics to collect in a pilot survey.
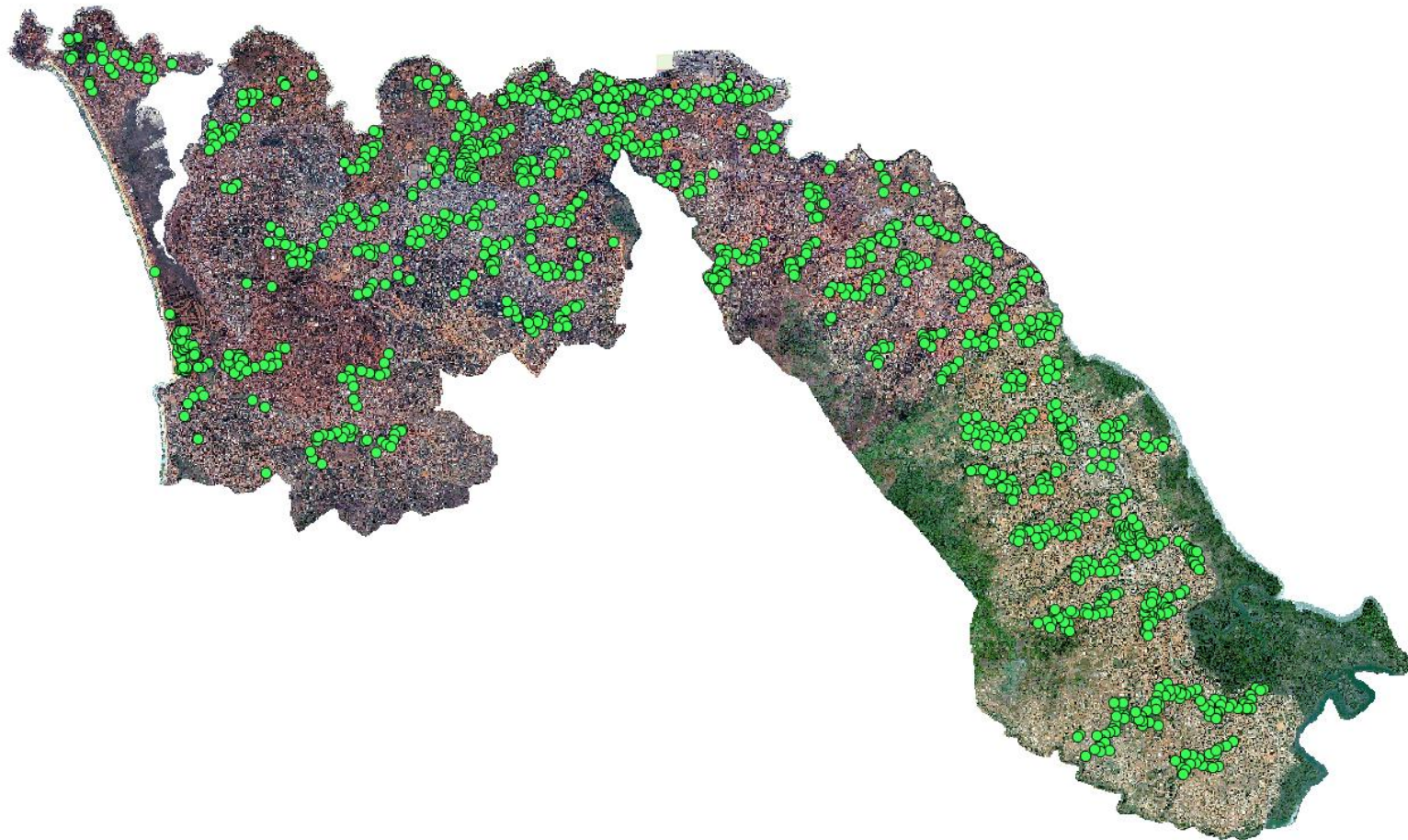
Step 2:
Identification and Rooftop measurements

Step 3: Sample Selection

Step 4: Property characteristics survey

- Kenema Example:
  - Enumerators collected characteristics, took photos, and drew roof outlines in the field
  - 1,414 properties collected in 12 days with 15 temporary, local staff
    - 10 enumerators, 2 backcheckers, 2 supervisors, 1 field coordinator

Step 5: Market Value survey

- Valuers are given photos and characteristics collected by enumerators
- Valuers offer an **upper and lower estimate** for annual rental value
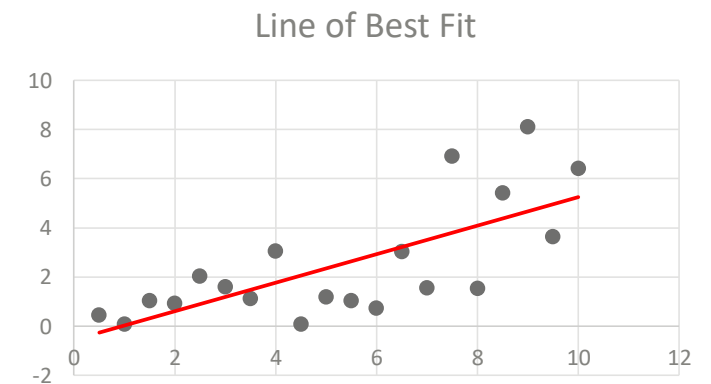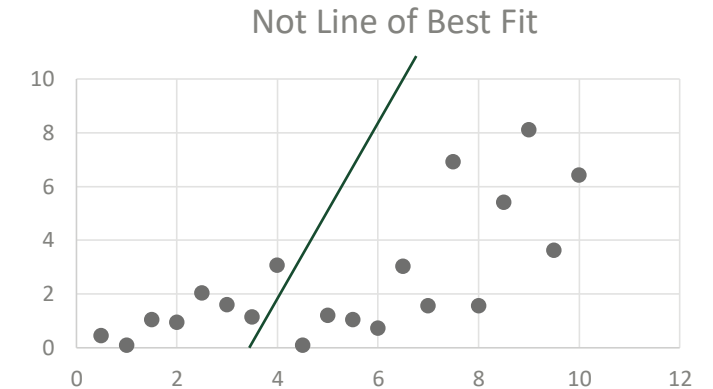- Assessments can be done in-person or remotely

Step 6: Statistical Modelling

Data will be run in a statistical model

Most relevant characteristics will be presented

The characteristics can be used in a points-based tax system

Not Line of Best Fit

Line of Best Fit

Results example

Features	Result	Adjustment
	Base Value	231,859.13
Surface Area	928 sq ft	30.46
Property Type	Domestic	+ 0 %
Ward	Ward 411	- 35 %
Drainage	Open	+ 0 %
Features	None	+ 0 %
Wall Material	Mud	- 28 %
Roof Condition	Average	+ 0 %
Windows	Wood	- 46 %
Garage	None	+ 0 %
Outbuilding	None	+ 0 %

Rental Value Estimate
Le 1,700,000 (USD 129)

Calculated Estimate
231,859.13 x 30.46 x (1+0%) x (1-35%) x (1+0%) x (1+0%) x (1-28%) x (1+0%) x (1-46%) x (1+0%) x (1+0%)
= 231,859.13 x 30.46 x 100% x 65% x 100% % x 100% x 72% % x 100% % x 54% % x 100% % x 100%

= Le 1,784,817 (USD 135.50)

Results and Lessons Learned

Outcome of the Reform in Freetown

- Successful introduction of fully automated system
- Over 100% (from about 57,000 to over 120,000) increase in FCC property tax register.
- Five-fold increase in revenue potential, driven by large increases in assessment for previously undervalued high-value properties

Average tax payable	Existing system	New system	Average change
1st Quintile	$14.33	$4.31	-70%
2nd Quintile	$15.85	$9.48	-40%
3rd Quintile	$16.10	$17.40	+8%
4th Quintile	$23.38	$36.94	+58%
5th Quintile	$41.64	$142.25	+242%

Property valuation in Freetown

Propid: 1b924a2c	No finish	Propid: 91f93009	Wall Finish: Painted or Whitewashed
Domestic property	No Fence	Domestic property	Fenced
Ward: 430		Ward: 430	Fence: Masonry
Street paved		Street paved	Fence: Good Condition
Like New Condition	Roof: Zinc / Metal Sheeting	Like New Condition	Roof: Zinc / Metal Sheeting
No Street Light	Roof Condition: Bad	No Street Light	Roof Condition: Good
Minor Road	Windows: Wood	Minor Road	Windows: Sliding panels
Easy Access	Veranda: None	Easy Access	Veranda: Open
Open Drainage	No Security	Open Drainage	Security
No Special Features	Air Conditioning: No	No Special Features	Air Conditioning: No
Potential to Build: Medium	Garage: None	Potential to Build: Small	Garage: None
Water: None	No Outbuilding	Water: Guma	No Outbuilding
Traditional Design	No Pool	Traditional Design	No Pool
Wall Material: Zinc	516 sq. feet	Wall Material: Masonry	530 sq. feet
Wall Condition: Bad	FCC Tax: 125'000	Wall Condition: Good	FCC Tax: 125'000
No finish	New Tax: 57'570	Wall Finish: Painted or Whitewashed	New Tax: 1'013'827

LOGRI — Local Government Revenue Initiative

Evan Trowbridge

evan.trowbridge@utoronto.ca

PARTNERS

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(slides that could be referenced during Q&A)

Simplified valuation - illustration
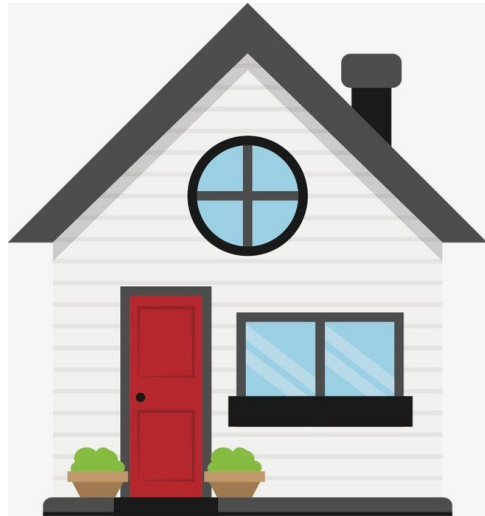
Le 1 million

Le 2 million

Le 4 million

Lessons learned

- Property valuation is a highly subjective exercise

Mean market value	Number of properties	Average difference
<=1,000	15	14%
1,001-1,500	128	27%
1,501-2,000	121	11%
2,001-2,500	71	24%
2,501-3,000	108	15%
3,001-3,500	90	11%
3,501-4,000	57	19%
4,001-4,500	52	19%
4,501-5,000	31	26%
5,001-6,000	62	25%
6,001-7,000	59	24%
7,001-8,000	42	25%
8,001-9,000	57	23%
9,001-10,000	37	20%
10,001-12,500	71	22%
12,501-15,000	56	25%
15,001-20,000	78	22%
20,001-25,000	57	25%
25,001-30,000	40	26%
30,001-40,000	47	26%
40,001-50,000	12	22%
50,001-75,000	20	27%
75,001-100,000	1	52%

Cost and Duration of Valuation

Council	Total Valuation Roll Cost (USD)	# of Properties Assessed	Valuation Cost/Property (USD)	Duration of Data Collection
Freetown* (2020)	500,000	110,000	4.55	~3 months
Livingstone (2019)	162,510	17,906	9.08	~6 months
Mansa (2018)	60,913	6,257	9.74	~2-3 months
Mansa* (projected)	95,000**	18,000	5.28	2 weeks

* Using simplified methodology.
** Assuming 1 USD = ZMW 16.

Assuming 18,000 properties in Mansa township boundaries, valuation costs per property would be halved & data collection could be completed in under 1 month.

Simplified Approaches in Action – Statistical Modelling

Features	Result	Baseline Weight
Coefficient		231,859.13
Square Root of Surface Area (in sq ft)		
Original Use	Domestic	+ 0 %
	Bank	+ 106 %
	Car Dealership	+ 24 %
	Filling Station	+ 53 %
	Guesthouse	+ 4 %
	Hotel	+ 70 %
	Industrial Manufacturing	- 37 %
	Industrial Warehouse	- 47 %
	Mixed Retail / Office	+ 13 %
	Motor Garage	- 30 %
	Office	+ 37 %
	Private Clinic	+ 72 %
	Private School	+ 44 %
	Retail	+ 3 %
	Supermarket	+ 7 %
Institutional Property Type	Government Offices	+ 79 %
	Parliament Buildings	+ 79 %
	Police Buildings	+ 70 %
	Police Compounds	+ 70 %
	Court Buildings	+ 79 %
	Municipal Offices	+ 79 %
	Army barracks and installations	+ 43 %
	Fire Station	+ 43 %
Domestic Ground Use	Yes	+ 0 %
	No	+ 5 %
Street Quality	Bad	- 10 %
	Average	+ 0 %
	Good	+ 4 %
Number of Lanes	None	- 15 %
	One	+ 0 %
	Two	+ 2 %
	Four	+ 4 %

Street Access	Easy	+ 0 %
	Difficult	- 7 %
Drainage	Yes	+ 2 %
	No	+ 0 %
Features	Beach	+ 24 %
	Environmental Hazard	- 15 %
	Main Road with High Visibility	+ 18 %
	Informal Settlement	- 21 %
	Commercial Corridor	+ 25 %
Potential to Build	Yes	+ 3 %
	No	+ 0 %
Water	Yes	+ 2 %
	No	+ 0 %
Wall Material	Masonry	+ 0 %
	Mud	- 28 %
	Stone	+ 0 %
	Wood	- 28 %
	Zinc	- 49 %
Wall Quality	Bad	- 11 %
	Average	+ 0 %
	Good	+ 25 %
Roof Material	Not Visible	+ 0 %
	Asbestos	- 21 %
	Concrete	+ 0 %
	Galvanized Aluminium	- 21 %
	Tile	+ 0 %
	Zinc / Metal Sheeting	- 21 %
Roof Condition	Not Visible	+ 0 %
	Bad	- 38 %
	Average	+ 0 %
	Good	+ 20 %
Windows	Breeze Block	- 46 %
	Louvre	+ 0 %
	No Windows	- 46 %
	Sliding panels with aluminium frame	+ 15 %
	Traditional glazed casement set in metal frame	+ 0 %
	None	- 46 %

Air Condition	Yes
	No
Security	Yes
	No
Outbuilding	Yes
	No
Pool	Yes
	No
Veranda	Yes
	No

Tradeoffs and Challenges in Simplified Systems

- Subjectivity inherent to some of the indicators (street quality, type of wall material, etc.)
    - Extensive field testing
    - Use of IT tools for enhanced quality control process

- Model based estimates are only an approximation of expert values – and can be especially challenging for high value but low-frequency building types
    - Accuracy should be gauged against inaccuracies of existing systems in practice
    - Need for targeted approaches to high value but low-frequency buildings

- Model may introduce specific biases – in some cases, we have seen limitations at the extreme, mildly overvaluing lower value properties and undervaluing higher value properties
    - Judge biases against existing weakness, and consider countervailing measure