

FORT PORTAL CITY PROPERTY TAX DATA ANALYSIS

Gaps Identified in the Dataset and Recommendations

Prepared by : Data Analysis Team

**Presented by: Peter Kusemererwa (Fort Portal city: DataCities
Focal Person)**

1. Missing Unique Identifiers:

- Demographics & Age classification

2. Contact Information:

- Proper communication, follow ups & feedback

1. The **nin (National Identification Number)** column has data for only **17%** of entries (**2201 out of 12831**), which may hinder linking property data to individual owners. **83%** (**10630 out of 12831**) of the entries are missing.
2.
 - **Email** is populated for only about **31%** of entries (**3926**), with the **69%** (**8905**) missing or marked as “(blank)”.
 - **mobile_number** is missing for a small percentage (**122**), which could affect communication with property owners. Validation is needed for the cell numbers. **12709 entries** are populated but some values are contentious,
 - **owner_address** is largely empty (**420** entries filled, **~3%**). **12411 entries** are filled but team noted some duplication in the entries

3. Property Details:

- Property valuation & classification

4. Geospatial Data:

- Building location mapping

3. - **building name** and **building number** are virtually empty, with only 1 and 420 entries, respectively.

- **ownership_type**, **assessed_value**, and **property_address** are missing in most cases, which may be crucial for property valuation and classification.

4. **Latitude** and **Longitude** fields have around **18%** missing data, which could affect location-based analysis. Duplicates were noted.

- **Plot number** is only partially populated (**7335** entries), leading to incomplete address information. Validation needed

5. Tax Assessment:

4. Administrative and Location Data:

- Area based analysis

5. - Financial fields like **gross value**, **ratable value**, and **annual rate** have minor gaps but are mostly populated.

- **Payment status** is filled, indicating payment information completeness.

6. - The parish and village fields are partially **92%** and **74%** populated, with gaps of **8%** and **16%**, respectively.

- This affect area-based tax analysis.

7. Audit and Update Information:

7. **Updated by** is filled for only **189** entries, suggesting limited tracking of recent updates. **12642 entries** missing

Others gaps identified in the dataset:

1. **Duplicated data entries**, eg Ownership
2. **Missing Values**, eg Emails, Phone numbers.
3. **Inconsistent Data Formats**: Inconsistency in how data is formatted, such as date formats.
4. **Human Errors**, eg typing errors, spelling mistakes, or errors in the data (e.g "50" instead of "50").
5. **Abnormalities**, too low and too high figures.
6. **Unstandardized Data**, Some data entries do not follow correct rules or constraints (e.g., phone numbers with proper format, emails with valid syntax).

Recommendations :

1. Revaluation,
2. Setting data quality assurance team with clear terms of reference
3. Setting data validation rules
4. Standardizing the data collection tools
5. Adoption to the mobile data cleansing app developed by fuelless
6. Carrying out data audits

Property Details

▼ Address

select division
Central

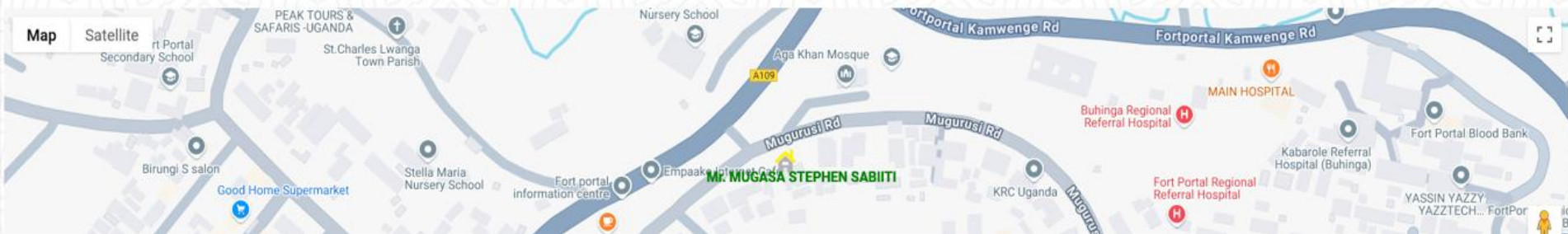
select parish
Baazar

select village
Harukoto A

Address
Mugurusi

Plotno
34

Street
Mugurusi Road



Administrative Unit

▼ Administrative Unit

select admin level

Parish



Baazar

Parish

Kasusu

Parish

Kijanju

Parish

Rwengoma

Parish

Kagote

Parish

Kibimba

Parish

Property Assessment

> Administrative Unit

> Tax Payer

☒ Assesment

Q Search...

start date
12/10/2024



end date
12/10/2024



select payment status



createdOn	Financial year	PRN	Amount	Status	Notify
2024-11-26T10:53:42Z[UTC] Admin Fort	2024-11-26T12:53:00Z[UTC] Karamagi Simon	234566788	0	PENDING	
2024-11-25T13:47:37Z[UTC] Admin Fort	2024-11-25T15:46:55Z[UTC] Fuelless	2230003547484	100000	PENDING	
2024-11-26T09:17:21Z[UTC] Admin Fort	2024-11-26T11:16:39Z[UTC] Fuelless	223000456884	50000	PENDING	
2024-11-26T10:48:21Z[UTC] Admin Fort	2024-11-26T12:47:38Z[UTC] Karamagi Simon	234566777889	0	PENDING	

> Property Register

Map

Satellite



Property Assessment

> Administrative Unit

> Tax Payer

☒ Assesment

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> Property Register

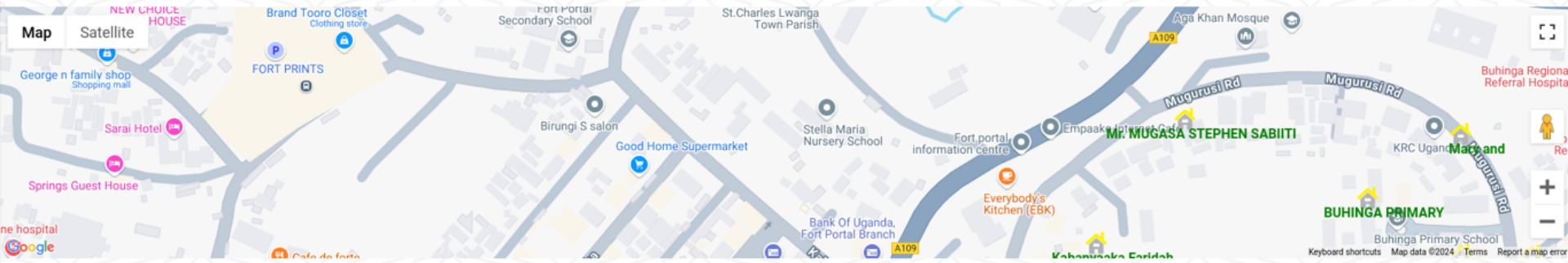
Map

Satellite



Property Geolocation

Kemigabo Fortunate	IRAS-AUJZ-219870	
MATUNDI	IRAS-EOCU-172967	
Friday George	IRAS-KOLU-183446	
MASANYU EMMANUEL	IRAS-VKYF-111797	
BYARUHANGA JOHN	IRAS-TXZM-99592	
MAJIDU	IRAS-NEXQ-110519	



Benefits

- Assuming full capabilities of Data Cleansing to ~ **99.9%**.
- System will generate a cleaner dataset than current state of the art.
- **Sunbird AI** can utilize Geo Spatial Analysis endeavours to validate the property entries in the dataset via the satellite images to quantify the cleansing process efficiency.
- Any other analysis and policy formulation shall be based on clean data.

City ITO Commendation: If Consortium finds solution worthy of the **Revenue Enhancement cause**, vendor should be given PoC for 2 zones / parishes to demonstrate capacity to cleanse the current property tax dataset or register.

Relevance: What will be the relevance if IRAS can also do data cleansing capabilities – **Question to the revenue Officer**

Sureties on the Technology: Vendor should be willing to maintain the technology supporting the city regardless of the status of their overall contract until the city writes in the contrary.

Next Actions:

- Move to city management on possibility of fresh evaluation as per policy.
- Move to drop IRAS system mixed rate and maintain one rate that's the current rate.