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GLOBAL LAND TOOL NETWORK

SECURING LAND AND PROPERTY RIGHTS FOR ALL

The STDM Development:

Strategic Choices and Design Features

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BACKGROUND

- **Only 30 % cadastral coverage** (versus 70% tenures off register) – *Need to secure tenure ASAP to all citizens.*
- **Only 2-3% ownership by women** – *how to increase?*
- Dealing with the **affordability issue** - *how to modernize systems in a pro-poor way?*
- **Complexity of land rights, claims, and records** - *how to capture the information in a participatory, affordable and acceptable way?*

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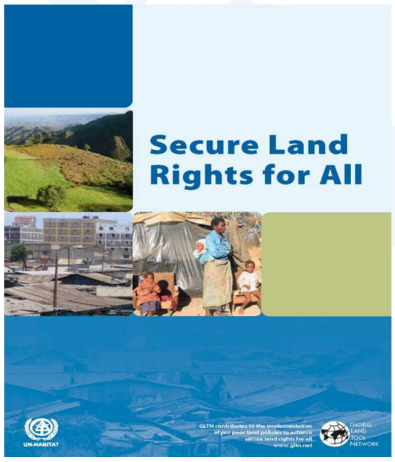
THE KEY CHALLENGE

How to support various tenure types & systems at scale to enable land reform and secure land and property rights for all?



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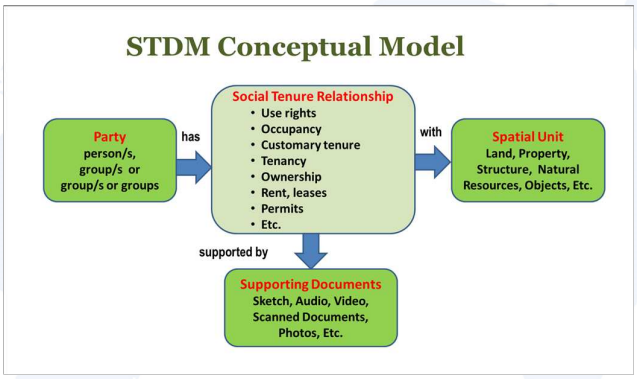
WHAT IS THE SOCIAL TENURE DOMAIN MODEL (STDM)?

- Perspectives:
  a. *Concept* – flexible 'people-land' relationships
  b. *Model* – specialization of ISO-approved LADM



  c. *Information tool* – implementation of the model as a software package

- **Applications areas** – urban areas with slums, rural customary areas, post crisis context

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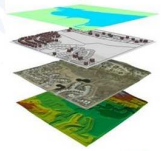
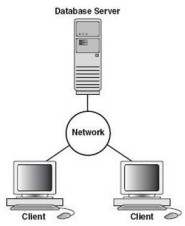
TOOL SELECTION CRITERIA

•Based on free and open source



- Provides core GIS functionality

- Extensible framework
- Multiplatform programming language



- Multiuser capabilities
- Integration with external applications

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STDM APPLICATION COMPONENTS

- Database Server = **PostgreSQL**

  Rationale:
  - Best DBMS with regard to total cost of ownership (TCO)
  - Supports database replication
  - Custom functions in multiple languages e.g. Python, R, Ruby, V8 JavaScript
  - Short cycle of new releases ~ 15 months
  - Confidence by top tech companies: Microsoft*, Apple, Fujitsu, etc.

- Spatial Extension = **PostGIS**

  Rationale:
  - Provides over a 1000 functions for storing, querying, manipulating spatial data.
  - Standards compliant (OpenGIS specification)

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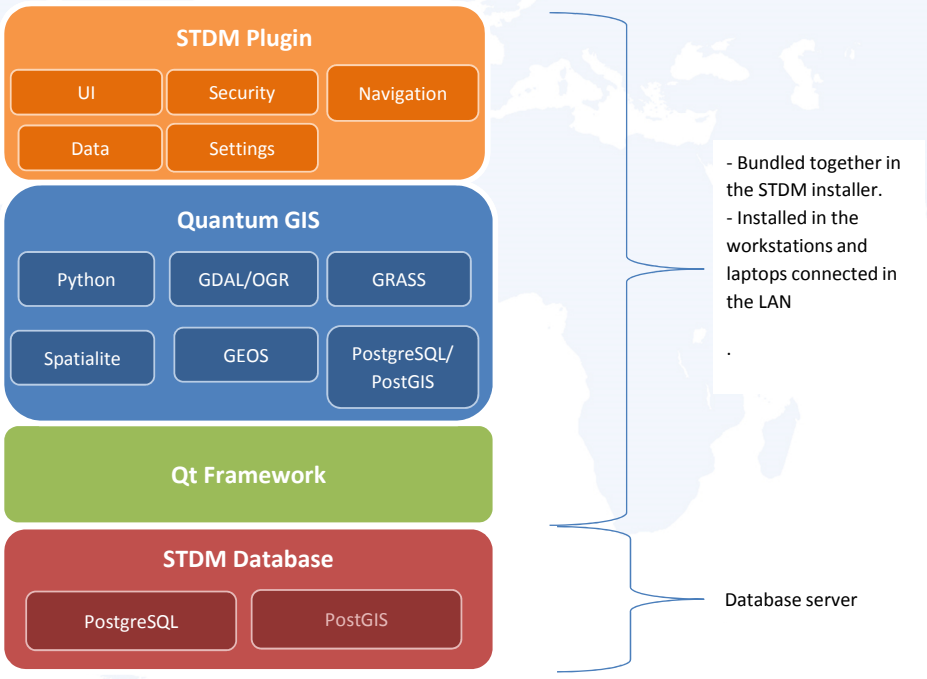
STDM APPLICATION COMPONENTS (2)

- Desktop GIS = **QGIS**

  Rationale:

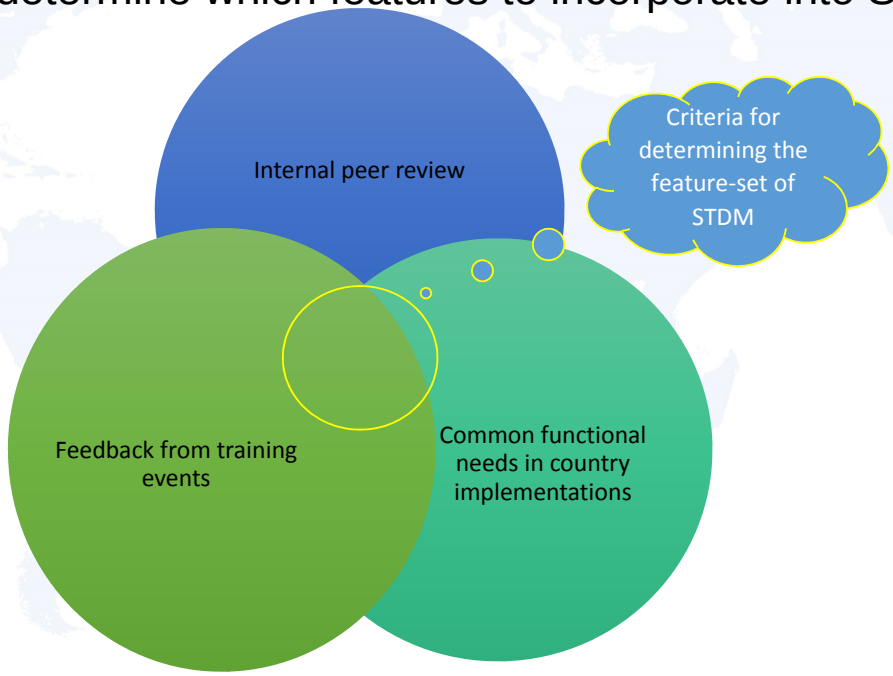
  - Rich feature set of vector editing functions for managing spatial units
  - Ever growing number of users and developers
  - Huge volume of support manuals and tutorials
  - Built-in support for PostgreSQL/PostGIS spatial databases
  - Provides a sophisticated plugin architecture that supports customization using Python or C++
  - New stable version releases every 4 months

APPLICATION ARCHITECTURE



FUNCTIONAL DESIGN PROCESS

How do we determine which features to incorporate into STDM?



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STDM CAPABILITIES

- Users can design or extend existing data management forms
- Create a custom hierarchy of administrative units
- Manage permissions of users to specific modules
- Simple report builder for generating tabular reports
- Design and share custom templates of map-based documents/reports
- Generate map-based documents in batch using default or custom templates
- Import and export wizards that support the both textual and spatial data

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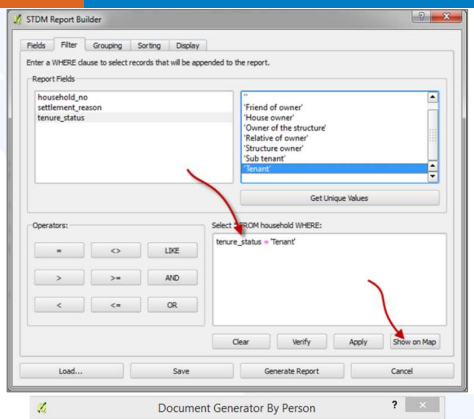
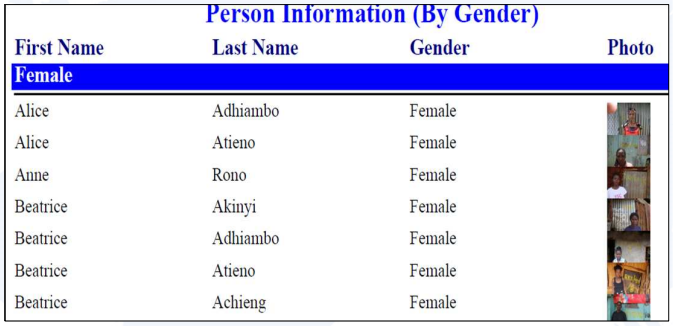
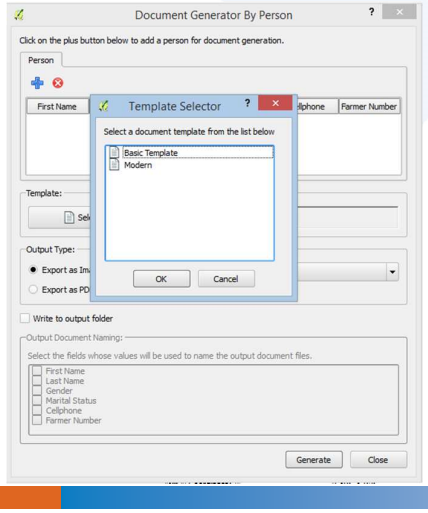
SAMPLE OUTPUTS

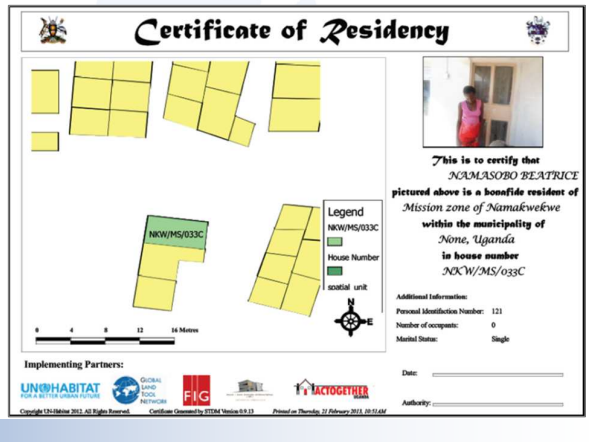




Person Information (By Gender)

First Name	Last Name	Gender	Photo
Female			
Alice	Adhiambo	Female	
Alice	Atieno	Female	
Anne	Rono	Female	
Beatrice	Akinyi	Female	
Beatrice	Adhiambo	Female	
Beatrice	Atieno	Female	
Beatrice	Achieng	Female	





WHERE IS STDM BEING APPLIED?

Country	Context
Uganda	Settlement improvement
	Agriculture and natural resource management
Kenya	Settlement improvement
Haiti	Alternative cadastre in post-crisis context
Colombia	Settlement improvement
OECS	Family land and squatting

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LEARNING EVENTS

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ROADMAP

- More applications in other contexts:
  - Land and property tax information
  - Dispute resolution/Tenure security
- Strategic development and release of new versions
- Kickoff and implement recommendations of advisory committee
- More strategic partnerships (i.e. OSGeo, developer community)
- Documentation and assessment of STDM
- More capacity development initiatives

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CONTRIBUTION TO SUSTAINABLE DEVELOPMENT…

Provision of a flexible, unconventional land administration i.e. 'extension' to existing LAS

- Poverty reduction – land rights and claims of the poor are brought into the system over time
- Improve security of tenure
- Increase conflict resolution
- Limit forced evictions
- Help poor engage with land industry in undertaking land management e.g. slum upgrading, rural land management

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TERIMA KASIH!

THANK YOU!

NEED TO KNOW MORE?

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