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## A Vision on the Development of the Urban Cadastre in Egypt

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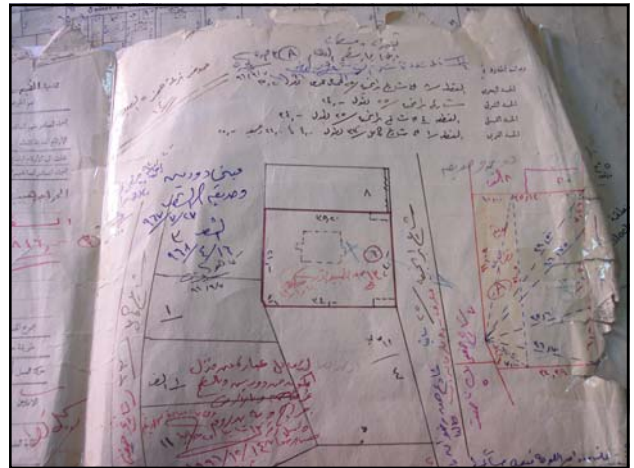



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### Existing Urban Cadastre

- 1800 sqkm urban area's
- 212 old towns, 17 new towns, 42 building clusters
- Cadastral maps available in 25% of the urban area's, 50% require updating and 25% of the area's is informal
- Maps and registers are mainly paper based



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### Agenda

- User Requirements
- Responsibilities
- Development approach
- (Points of attention)
- (Products)
- Conclusion

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### User Requirements

- Government: foreign investments
- Better performance
- Security of tenure
- Reduce land disputes
- Formalise informal area's
- E-governance

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### Responsibilities

- Egyptian Survey Authority (ESA)
- Real Estate Publicity and Notarization Department (REPND)
- Real Estate Taxation Department (RETD)
- No tradition in co-operation, extra costs as a consequence of this are unclear

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### Development Urban Cadastre: vision




- High geometric accuracy is often unnecessary for users of the data
- Low-cost surveying and mapping techniques are proposed to be used
- Existing administrative and spatial data sources are proposed to be upgraded
- Consistency between legal/administrative data and spatial data
- Co-operation and co-ordination is a condition

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### Approach - 1




- The main principle in the development of an Urban Cadastre is that not all parcel boundaries have to be represented with high accurate co-ordinates. The object identification linked with one co-ordinate is relevant input for many applications, also in eGovernment – could be combined with images

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### Approach - 2




- Identification of the buildings
- Building identifier linked with one reference co-ordinate. Available data sources: satellite images and the 1:5000 scale cadastral map of Cairo.
- For apartment buildings one reference co-ordinate is sufficient. Individual apartments get an index to the building identifier. As soon as this product is available the ownership data can be upgraded and linked

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### Approach - 3




- Link with object address

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### Approach - 4




- Upgrading of the taxation cadastre to a legal cadastre in a step by step approach combined with geometric data collection and linking or integrating geometric data with legal/administrative data

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### Approach - 4




- Rough estimation of parcel boundaries (contours, based on the existing spatial information sets, including satellite images)

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## Approach - 5




- ❑ Systematic accurate definition of its boundaries based on terrestrial observations
- ❑ There are (sporadic) cases where accurate boundary definitions are required immediately, e.g. in case of foreign investments, development of real estate projects
- ❑ As soon as accurate data are available a development of a multipurpose cadastre in the framework of a Spatial Data Infrastructure can start.

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## Process for development UC




- ❑ Comprehensive procedure in the paper
- ❑ Public inspections
- ❑ Appointment of a responsible judge

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## Attention to:




- ❑ Legislation
- ❑ Compulsory registration
- ❑ Acceptance of 90% or less quality in accuracy
- ❑ Acceptance of existing tax cadastre as a basis
- ❑ Data acquisition: digitize existing maps combined with data completion based on aerial photo's or images, evt. combined with tape measurements
- ❑ Forms for the legal data

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## Attention to:




- ❑ Motivation of employees, salaries compared to private sector
- ❑ Training
- ❑ Facilities
- ❑ Tendering based on norms
- ❑ Privacy, signatures, finger prints
- ❑ Communication, transparency in the process

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## Products




1. Object identifier per building, index per apartment + coordinate reference
2. Object identifier per building, index per apartment + coordinate reference + subject identifier (expected owner) per apartment
3. Object identifier per building, index per apartment + coordinate reference + subject identifier (expected owner) per apartment + address
4. Object identifier per building, index per apartment + coordinate reference + subject identifier (expected owner) per apartment + address + parcel identifier + estimated boundaries + estimation of area

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## Products




5. Object identifier per building, index per apartment + coordinate reference + subject identifier (expected owner) per apartment + address + parcel identifier + accurate boundaries + accurate area
6. Same as 1 to 5 + taxation object identifier + subject name and subject id as known in taxation department (in co-operation with Real Estate Taxation Department)
7. Same as 1 to 5 + preliminary title (in co-operation with the Real Estate Publicity and Notarization Department)

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## Products




8. Same as 1 to 6 + preliminary title (in co-operation with the Real Estate Publicity and Notarization Department and the Real Estate Taxation Department)
9. Same as 1 to 5 + title (in co-operation with the Real Estate Publicity and Notarization Department)
10. Same as 1 to 6 + title (in co-operation with the Real Estate Publicity and Notarization Department and the Real Estate Taxation Department )
11. Same as 1 to 11, bulk delivery
12. Same as 1 to 11, other attributes



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## Conclusion

- The Urban Cadastre in Egypt is far from complete. Alternatives are developed in this paper to complete the Urban Cadastre in phases starting from less accurate geometry with fast data collection methods and usage of existing data in the Real Estate Publicity and Notarization Department and the Real Estate Taxation Department. In a second phase further completion could be achieved in the direction of a multi purpose cadastre.



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## Thank You

