The Development of a Prototype SDI compliant 2D Cadastral Parcels Model to produce a Cadastral Dataset for Oman

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Introduction

- In April 2015, the National Centre for Statistics & Information (NCSI) appointed as the leading body responsible for the Oman National Spatial Data Infrastructure (ONSDI).
- The development of a 2D cadastral parcels model is essential in order to produce large-scale vector database (GIS applications).
Aim of the Research

- To develop a 2D cadastral parcels model for Oman which is compliant with SDIs and in line with ISO 19152 LADM.

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![Diagram](image)
Methods

- Study of standard practices related to the development of a 2D cadastral parcels data model.
- An examination of the existing situation regarding the cadastral and land registration in Oman.
Standard Practice

INSPIRE – Cadastral Parcel

FGDC – Cadastral
Cadastral System in Oman

- Ministry of Housing, is responsible for the cadaster maps, land distribution and land registration.
- The land registration uses fixed boundary system, where the precise line of the boundary is determined by land surveys.
- Two separate database are available. Non-spatial Oracle (for land registration) and spatial SQL Server (for cadastral).
Cadastral database (surveying) contains four main tables of attributes. It is used to store data related to site plans.
Results & Discussions

The research revealed the following:

- absence of seamless cadastral parcels data available at the national level in Oman.
- The available features of cadastral parcels are exclusively represented by points and lines and not structured according to specific GIS data model.
New 2D Cadastral Parcels Model:
Conclusions

➢ To utilize the new 2D cadastral parcels model, the Ministry of Housing and National Centre for Statistics & Information (NCSI) can discuss the possibility of using the model to generate a Digital Cadastral Database (DCDB) with the National Survey Authority (NSA).
Thank you for your attention

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