



EQUITABLE ACCESS TO LAND IN AFRICA - THE ROLE OF LAND MANAGEMENT INFORMATION SYSTEMS (LMIS)

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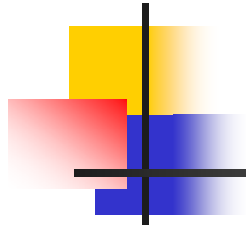
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PRESENTATION OUTLINE

- 1. INTRODUCTION AND PROBLEM DEFINITION**
- 2. THE CONCEPT OF LAND MANAGEMENT INFORMATION SYSTEMS (LMIS)**
- 3. IMPLEMENTATION OF LMIS's**
- 4. WHAT LMIS's CAN OFFER IN SUPPORT OF EQUITABLE LAND ACCESS IN AFRICA**
- 5. ROLE OF MAPPING IN DEVELOPMENT OF LMIS**
- 6. CONCLUSIONS**
- 7. RECOMMENDATIONS**



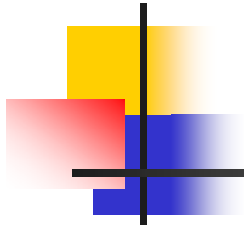
1. INTRODUCTION AND PROBLEM DEFINITION

Land is a basic subsistence to many people and a very strategic socio-economic asset particularly in Africa where wealth and survival are measured by control of, and access to land.

Land is valuable, immovable, of limited quantity and a unique commodity (bearing two values i.e. physical and abstract).

Physical Value – as a Tangible commodity

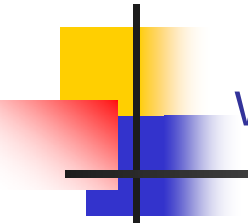
Abstract Value – as a Intangible commodity, in form of rights to own and/or use it.



Continued use of land & its resources vis a vis increased human population calls for its **GOOD STEWARDSHIP**, so that it may be accessed equitably and thus, serve present and future generations hence facilitate attaining sustainable development.

Current methods of access to land in most jurisdictions in Africa are subject to such problems as:

- favoritism of the rich and socially powerful persons,
- gender inequality by assigning more land rights to the male than the female gender,
- marginalization of less privileged communities within the society e.g. pastoralists, women, young persons, HIV victims etc.



Most of these problems are partly attributed to lack of Land Management Information e.g. who is doing what with which piece of land and when?

Inequalities in access to land and conflicts can be minimized if Land Management Information i.e. Real, fiscal and legal are recognized by the public i.e.

1. Legal System &
2. Society



CASE OF: LAND UNDER CUSTOMARY TENURE:

Land rights are recognized by their societies and enshrined in legislations.

Thus, strategies for equitable access to land are relatively easy to enforce.



CASE OF: URBAN & MOST OF RURAL LAND

- Land rights are recognized to exist but are NOT explicitly known by the most of the society
- This has contributed to these areas being prone to inequalities in accessing land.
- Problems of access to land in Africa are many and complex.
- Most of these problems can be **REDUCED** by adoption of Land Management Information System (LMIS) in land administration and management.



2. THE CONCEPT OF LAND MANAGEMENT INFORMATION SYSTEMS (LMIS)

- At this era of Information Societies, LMIS are computer systems for storing, analysis and displaying of land object's data and/or information which facilitate broad (complete area coverage) land management

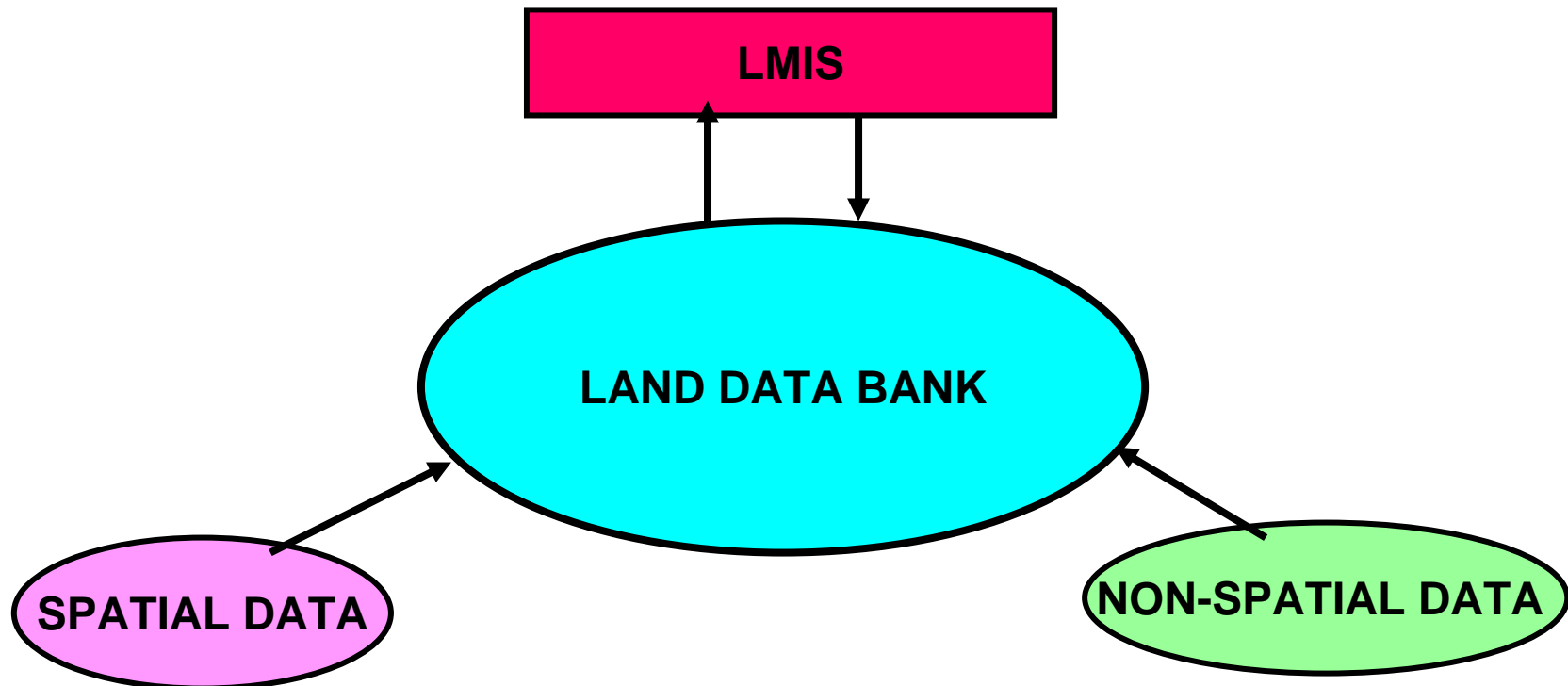
LMIS DISTINCTION WITH LIS & GIS

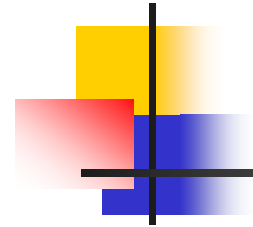
LIS: Whereas LIS connotes management of urban land i.e. individually –owned urban plots information, LMIS is more broader focusing on management of all land in a general.

GIS: is a subset of LMIS, more thematic, thus, operating within some some domain limitations

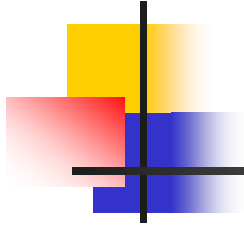
IMPLEMENTATION OF LMIS's

- Implementation of LMIS is contingent upon availability of a **Land Data Bank**, containing spatial, non-spatial data and/or information about land objects under different jurisdictions.





- Performance of a LMIS depends on quality and completeness of a Land Data Bank.
- Population of a Land Data Bank- needs a complete inventory of land parcels or land objects,
- A land object is defined as a piece of land in which homogeneous conditions exists within its outlines; its real, legal and descriptive data/information are known,
- FIG, (Cadastre 2014), foresees a need of documentation of complete area coverage in terms of their real, descriptive and legal characteristics.



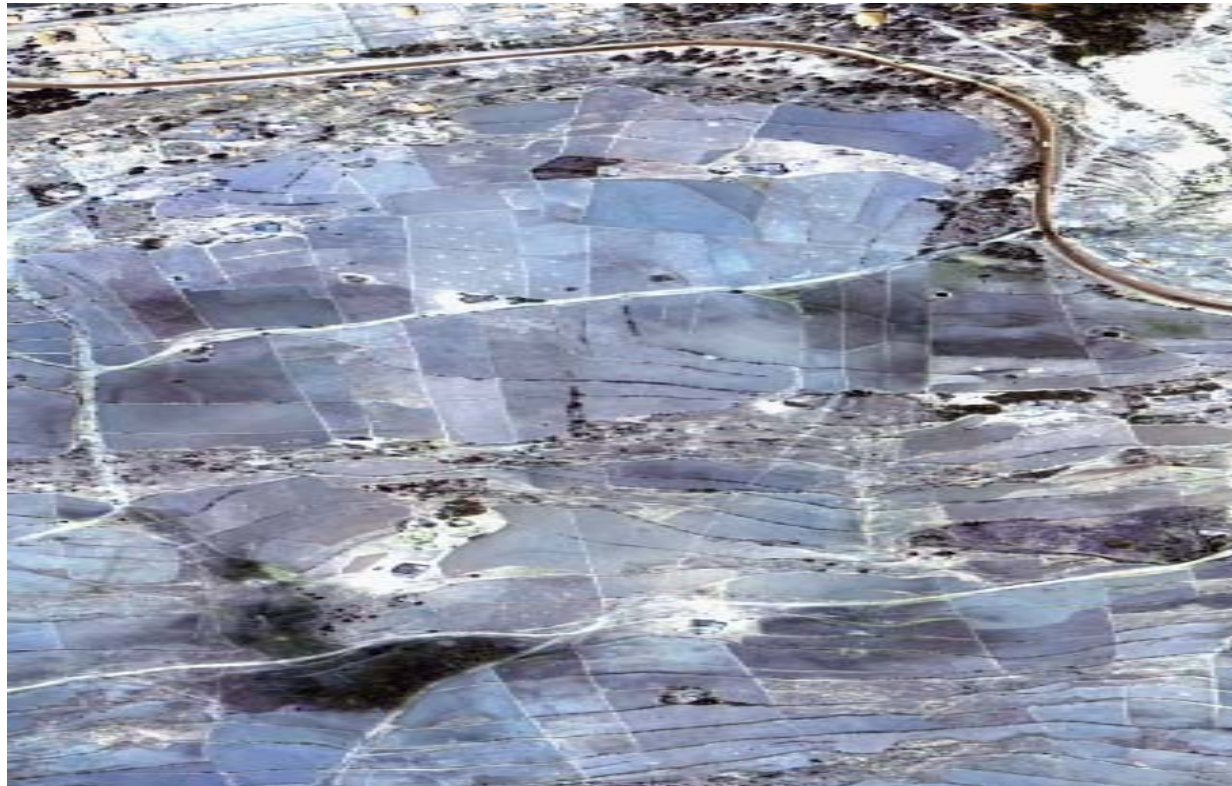
- Thus, a need of a methodically arranged public inventory of all land objects (spatial & non-spatial data) in a district or region based on some form of boundary definition.
- Spatial data are relatively complex & expensive to acquire esp. by conventional approaches (cadastral based).



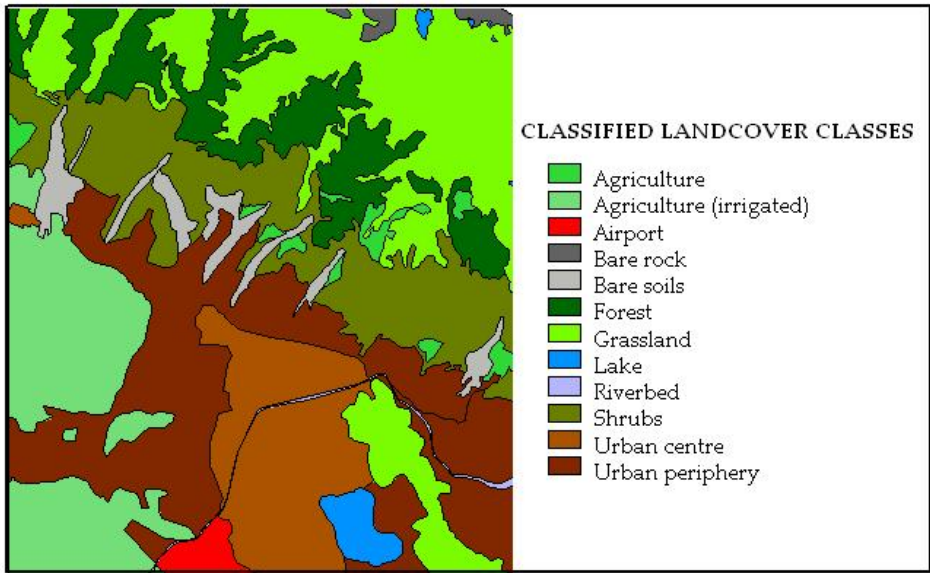
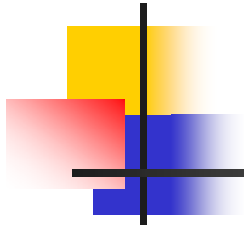
ACQUISITION OF LAND OBJECTS' SPATIAL DATA

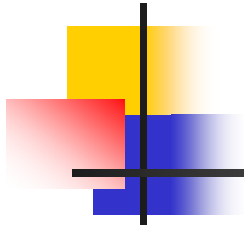
- Space Technologies particularly Remote Sensing Techniques using high spatial resolution images are recommended, Lemmen et al, 2009

EXAMPLES OF APPLICATION OF REMOTE SENSING IN DELINEATION OF LAND OBJECT BOUNDARIES

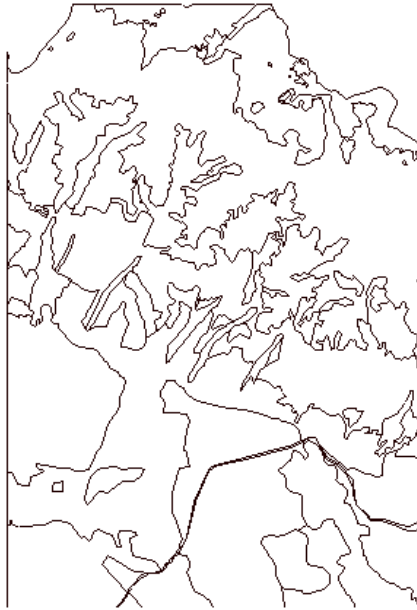


Quickbird Image (source: Lemmens, 2009)





**Polygons Extracted from the
Classified Image**





Acquisition of Land Objects' Non- Spatial Data

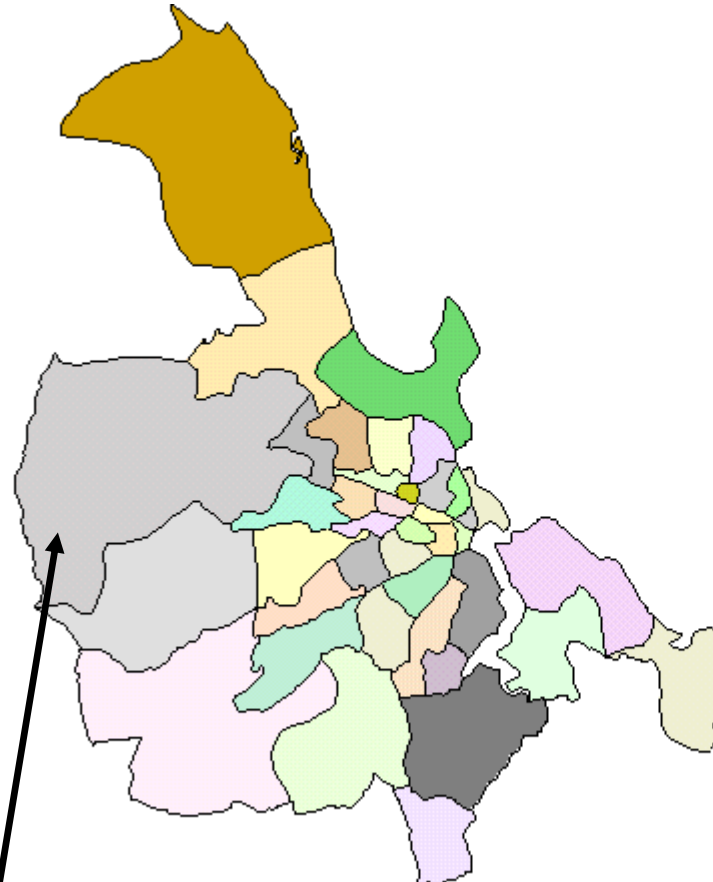
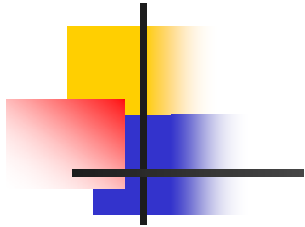
- Participatory approaches involving societies surrounding or within the land objects can be used to define what land use is desired, allowed or forbidden, (Lemmen, 2009)



WHAT LMIS's CAN OFFER IN SUPPORT OF EQUITABLE LAND ACCESS IN AFRICA

1. Faster Data/information Retrieval, thus facilitating fast response on land management issues, thereby increasing efficiency and effectiveness as such, expediting good governance.

What is at?



Rufiji District

- Legend
- Buguruni
 - Chanika
 - Charambe
 - Gerezani
 - Ilalala
 - Jangwani
 - Kariakoo
 - Kawe
 - Keko
 - Kigamboni
 - Kigogo
 - Kimbiji
 - Kinondoni
 - Kinyerezi
 - Kipawa
 - Kisutu
 - Kivukoni
 - Kunduchi
 - Kurasini
 - Mabibo
 - Magomeni

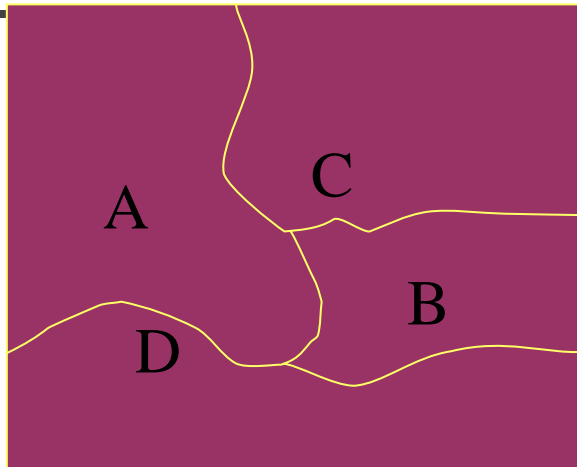
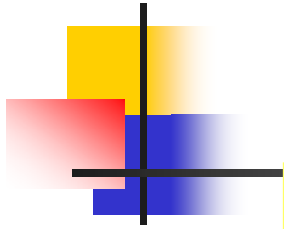
Land Object	Object Leader	Area (acres)	Population
1	Juma Omary	15	80
2	Mbaraka Salum	44	54
3	Bakari Iddi	21	70
4	Juma Abdalah	12	35
5	Anna Mussa	6	60



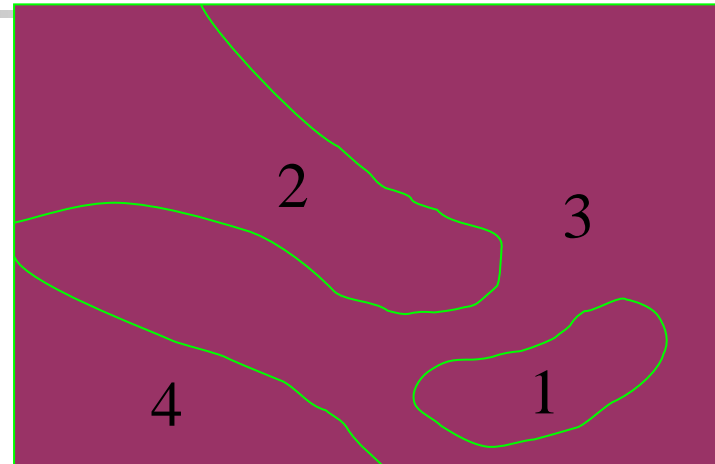
2. Data Integration and Analysis

- Different types of data over land objects data can be integrated in support of such functions as suitability analysis, thus, facilitating optimal land resource utilization and without conflicting users so that land may serve many people in need of it.

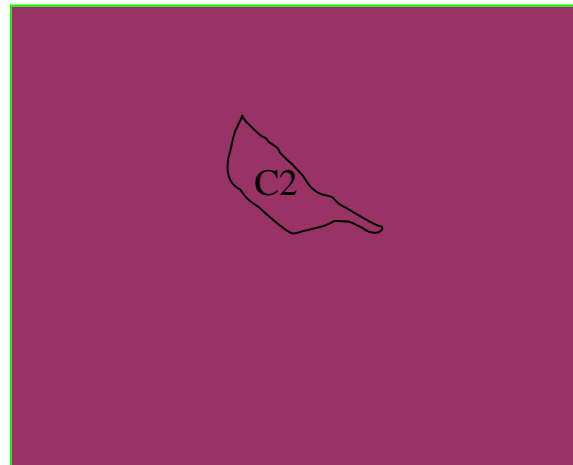
Overlaying using And Statement. Intersection



Soil Map

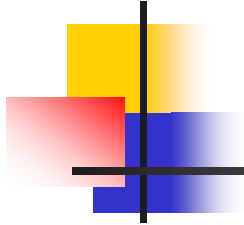


Land use Map



**Suitable Area with
Soil = C &
Land use = 2
Characteristics**

5. THE ROLE OF MAPPING IN DEVELOPMENT OF LMIS's



1. As overseen by FIG Cadastre, 2014, the role of mapping is provision of infrastructure such that the land objects data can be combined and/or compared in a common Frame of Reference.
2. Establishment of National Spatial Data Infrastructure (NSDI) such that data collected by variety of stakeholders using a variety of methods may be combined seamlessly by others thereby saving time and costs.

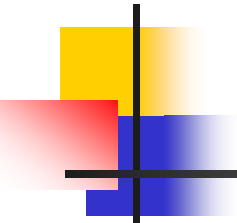
Mapping Institutions have a central role in development of LMIS, as such, they need to be supported.

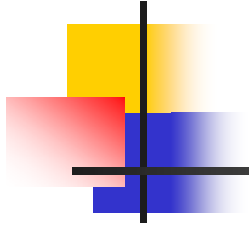


6. CONCLUSIONS

1. Equitable access to land can be achieved if all the land is stratified into land objects and all information about them is readily accessible (on line).
2. LMIS's can inform players in good governance to take sustainable development initiatives through which strategies for equitable access to land can be enforced.
3. Different jurisdictions should have specific strategies for effecting equitable access to land.

7. RECOMMENDATIONS

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1. Participatory and/or Democratic land governance, with a view of instituting pro-poor land management and tenure systems is recommended if equitable access to land is to be achieved.
 2. Studies be undertaken to establish feasibility of legalizing short term rights over land, for nomadic communities i.e. pastoralists, Hadzabe's etc.
 3. To see to it that land serves MANY people, studies be undertaken to establish feasibility of adopting a relative ownership of land.



END

Thank you for our attention