

FIG WORKING WEEK 2019

22-26 April, Hanoi, Vietnam

Presented by the FIG Working Week 2019,
April 22-26, 2019 in Hanoi, Vietnam

"Geospatial Information for a Smarter Life
and Environmental Resilience"



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Towards National SDI for Pakistan: The Challenges

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SDI for Pakistan – The Challenges

- Key challenges for serving the **geospatial data** needs of the country
 - National policies
 - Standards

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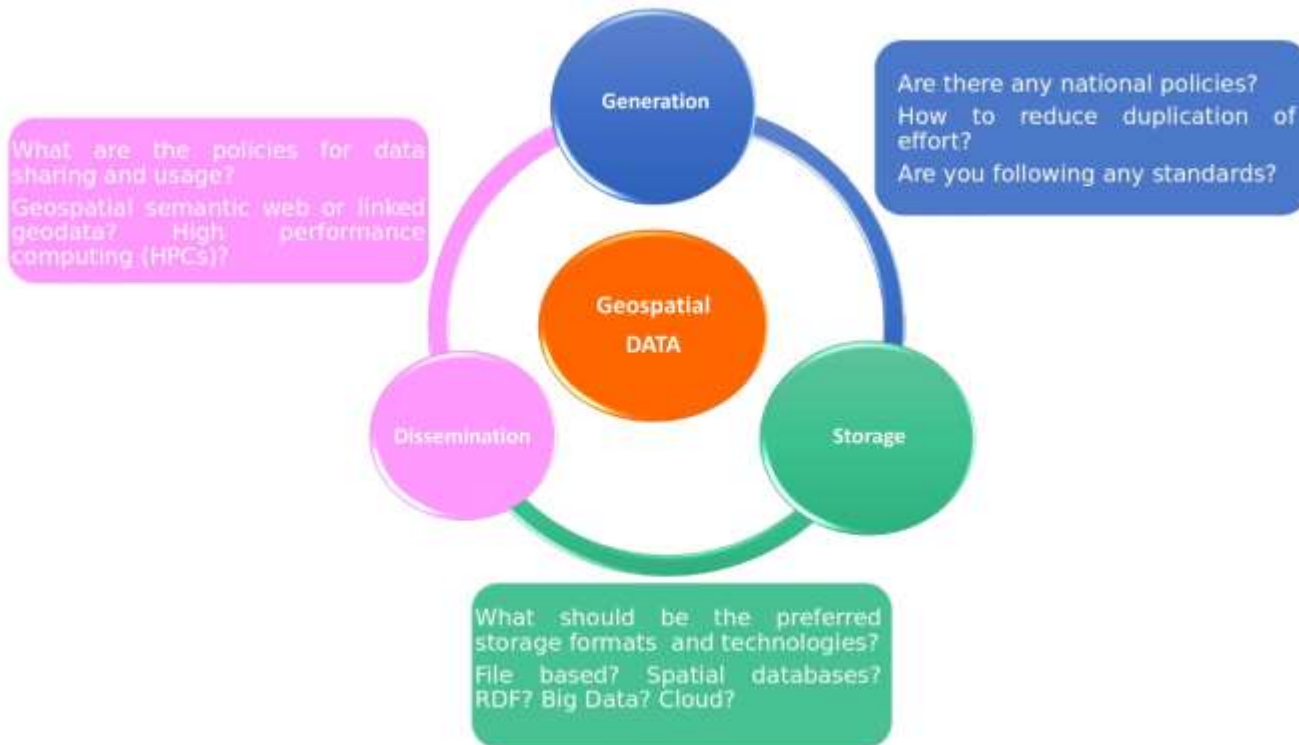
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Geospatial Data is at the Core



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SDI for Pakistan – The Standards

- Standards play pivotal role in SDI implementations
 - Two cases
 - Land information system – LADM (ISO 19152)
 - 3D city modeling – cityGML

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Land Administration in Pakistan

- Key component of NSDI
 - Issues
 - Complexity of the system
 - Multiple authorities
 - Seperate system for rural and urban setups
 - Linguistic, cultural and regional influences

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Land Administration in Pakistan

- Provincial initiatives
 - Lack of planning
 - Lack of standards
- Province of the Punjab
 - Digitization of land records (attribute data)
 - Not able to handle spatial part

<https://www.punjab-zameen.gov.pk/>

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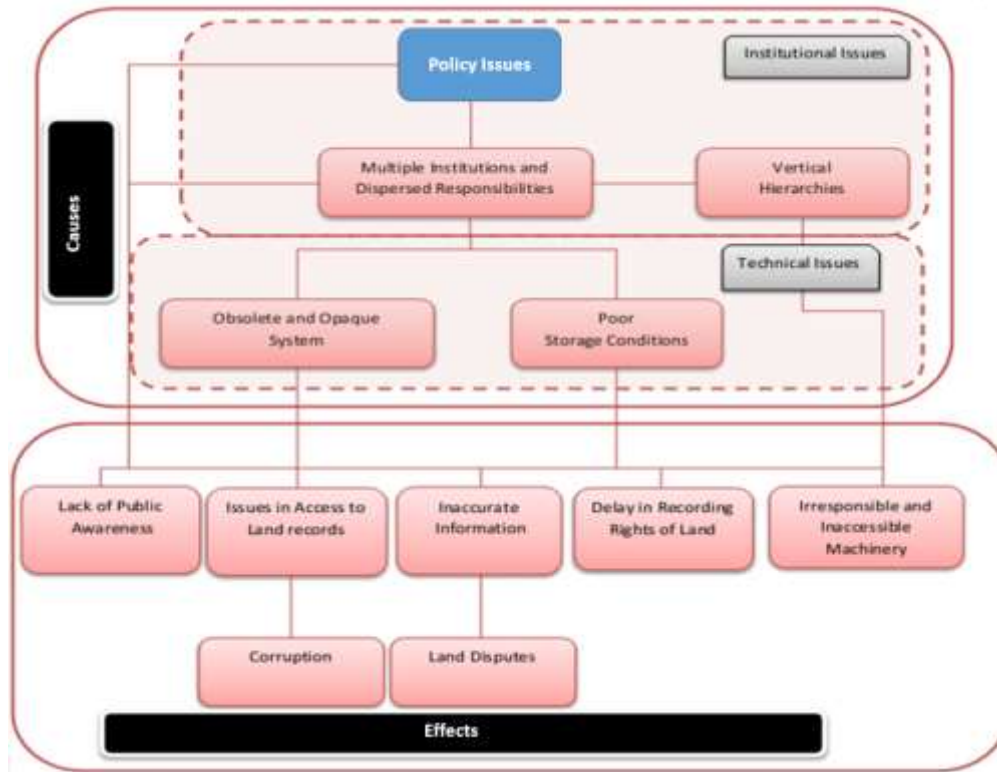
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Land Administration in Pakistan



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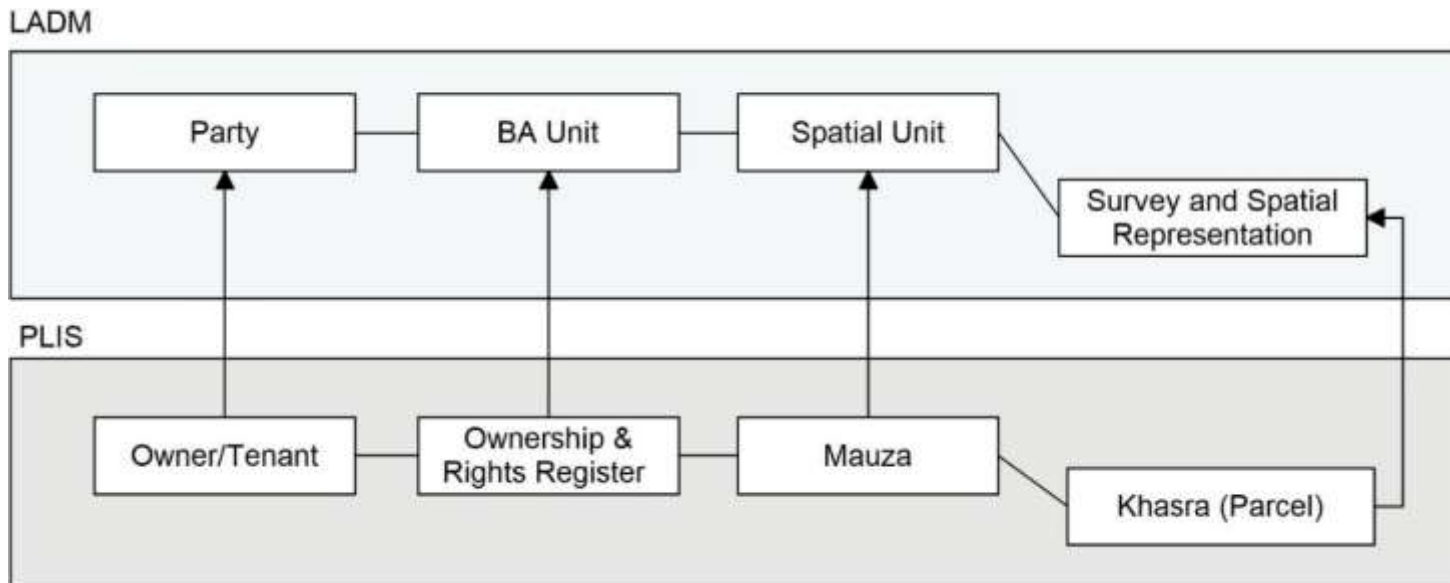
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Adaptation of LADM (ISO19152)



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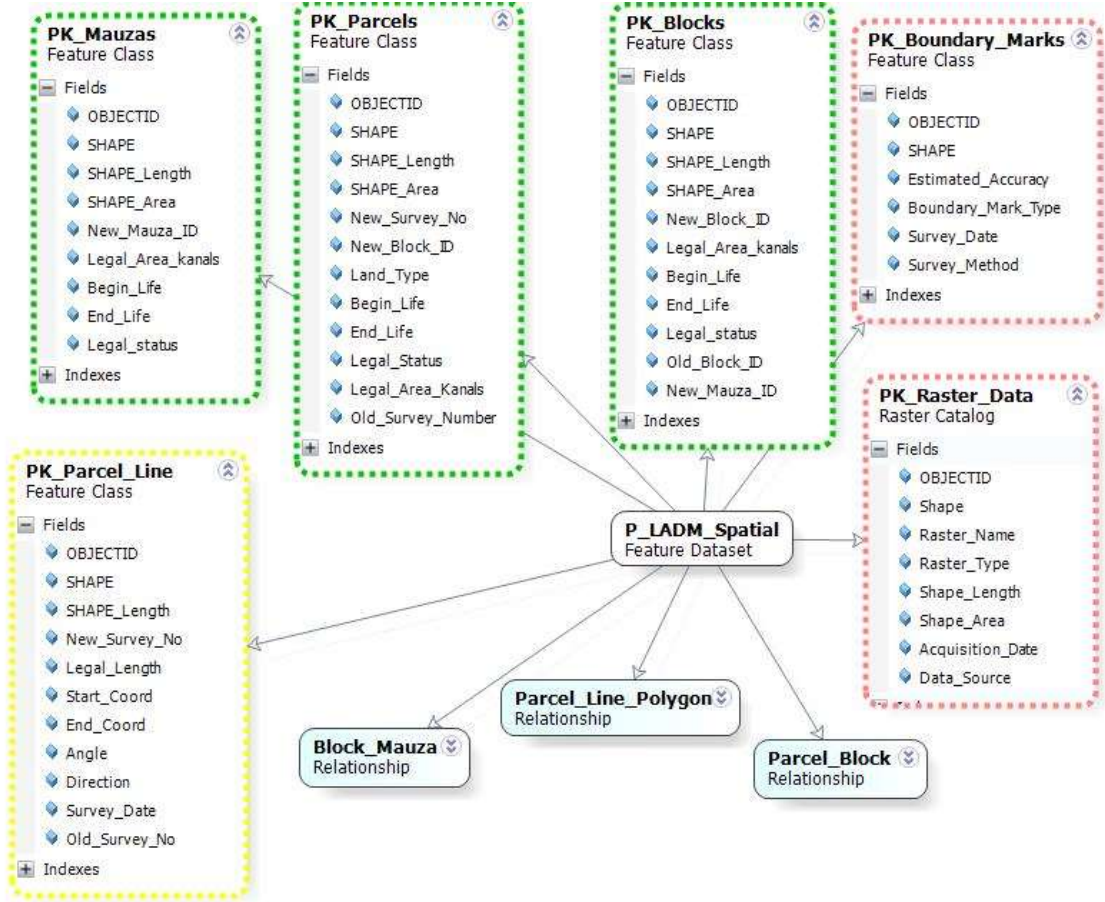
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Adaptation of LADM (ISO 19152)



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3D City Modeling in Pakistan

- 3D city models
 - Urban planning and management – the smart cities
 - 3D cadastre
- Any city using 3D models? – NO
- Multiple authorities in a single city
- Private and public authorities are mostly in conflict
- CDA uses CAD files for issuing NOCs

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CityGML

- Buildings are the key component of a 3D city model
- CDA or other DAs need cityGML or BIM/IFC compliant 3D models of cities of reasonable level of detail
- Once in place many applications are possible
- Many challenges
 - How to utilize the stock of legacy CAD files for generating 3D building models?
 - How to make the newly developed 3D models consistent with the reality?
 - How to maintain 3D city models?

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Conclusion

- SDI is crucial for sustainable e-governance
- Pakistan struggling to have NSDI in place but many challenges
- We focussed on challenges related to standards
- Adaptation and application of LADM and cityGML for land administration and 3D city modeling respectively
- Some recommendations for authorities
- Choice of technologies can have profound impact on the successful implementation and effectiveness of SDI – linked (geo) data, cybeGIS, Cloud etc.

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THANK YOU

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