



Statistical Spatial Framework



Connecting people, society and the economy to a location

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Background

- Establishment of the Global Geographic Information Management (GGIM) initiative by the UN Economic and Social Council.
- Increasing demand for small area statistics.
- Recognition of the value of linking socio-economic information to location.



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International Drivers

The UN Economic and Social Council says

“The work on global geospatial information management over the past two to three years has confirmed that one of the **key challenges** is a ***better integration of geospatial and statistical information as a basis for sound and evidence-based decision-making.***”

Secretary-General, UN Economic and Social Council (2012)



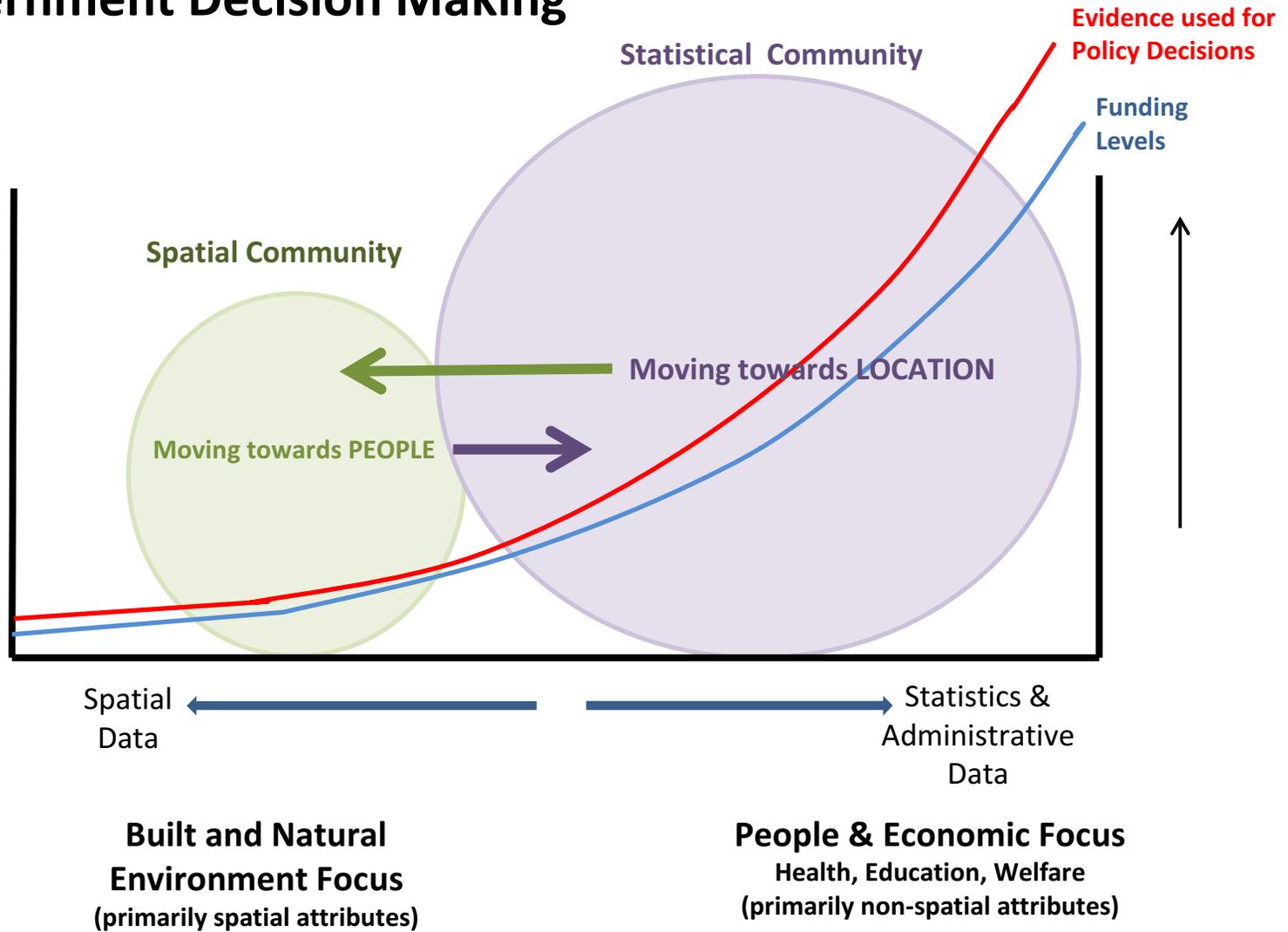
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Other International Drivers

- Post – 2015 Development Agenda
- Sustainable Development (Rio+20)

Information Supporting Government Decision Making





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GGIM August 2012

- Identified 9 thematic issues.
 - One issue is the “linking of statistics to location”.
- UNSD recommended a Programme Review of national spatial activities and spatial activities of NSO.
 - Australian Bureau of Statistics offered to undertake Review



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UNSC Programme Review

The review aimed to:

- Describe current national geospatial capabilities and institutional arrangements
- Look at increasing roles for NSOs in national geospatial activities
- Identify mechanisms for improving NSO driven geospatial activities
- Look at current geocoding activities and capabilities
- Identify the need for standards for linking statistics to location



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Review Focus

- Demand and changing demand for geospatial information
- Significance of geospatial information to governments
- NSO geospatial role and capabilities
- Relationships between NSOs and lead national geospatial organisations
- Leadership role of NSOs in geospatially enabling statistics
- The use of geographic boundaries by NSOs
- Linking spatial attributes to unit level records
- National geospatial institutional arrangements
- The need for integration standards and frameworks
- Benefits of linking statistics to location



Review Findings

- Geospatial Trends
 - Significant growth in the demand for geospatial information.
 - Growth coming from all sectors – government, business, research and education areas.
 - Some drivers were formal – eg EU INSPIRE Directive, many based on need for improved evidence
 - The need to link people, business and economic information to a location is growing in most countries.



Review Findings

- NSO geospatial capability
 - A broad range of geospatial capabilities existed across NSOs from highly sophisticated and capable to very basic capabilities and almost non-existent.
- Spatial and Statistical Institutional Arrangements – three broad categories:
 - Fully integrated eg Mexico and Brazil
 - Separate agencies but closely linked
 - Separate agencies with minimal interaction



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Review Findings

- Benefits of linking statistics to location
 - Most governments and NSOs recognised the benefits of linking socio-economic information to location
 - “the geographic dimension enriched statistical data to generate better information that was essential to support Government decisions”



Review Findings

- Common Themes
 - Most countries used formal geographic boundaries to link statistics to
 - Most were existing **administrative** boundaries – local government areas etc. Not population based boundaries
 - Many NSOs undergoing infrastructure transformations providing an opportunity to add the geospatial dimension to statistics business activities.



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Most Significant Findings

- Overwhelming agreement of the need to link socio-economic information to location
- NSOs expressed concern at the lack of standards for linking statistical information to location
- NSOs recognised the need for the development of relevant standards and the significant benefits that would result from such a standard



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Proposed Future Directions

- Greater collaboration between geospatial and statistical communities at national and international levels through:
 - Outreach – relevant conferences
 - Best practice guidelines
 - Partnerships between statistical and geospatial agencies



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Proposed Future Directions

- Adopt a common approach to linking statistics to location
- Establish an international statistical geospatial framework
 - Establish an expert group
 - review current practises especially the ABS developed Statistical Spatial Framework.
 - Hold a conference focussed on the linkage of statistics to location.

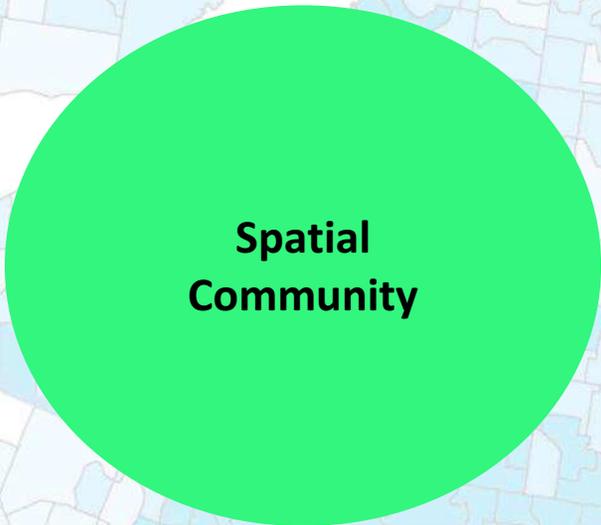


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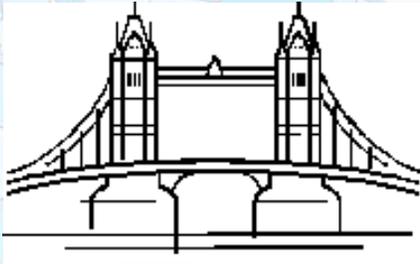


What is Required?

A bridge linking the spatial and statistical communities



**Spatial
Community**



**Statistics
Community**



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An International Framework

- What might this look like?
- What elements might be required?
- ABS Statistical Spatial Framework as an example.



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ABS Statistical Spatial Framework

Aims to:

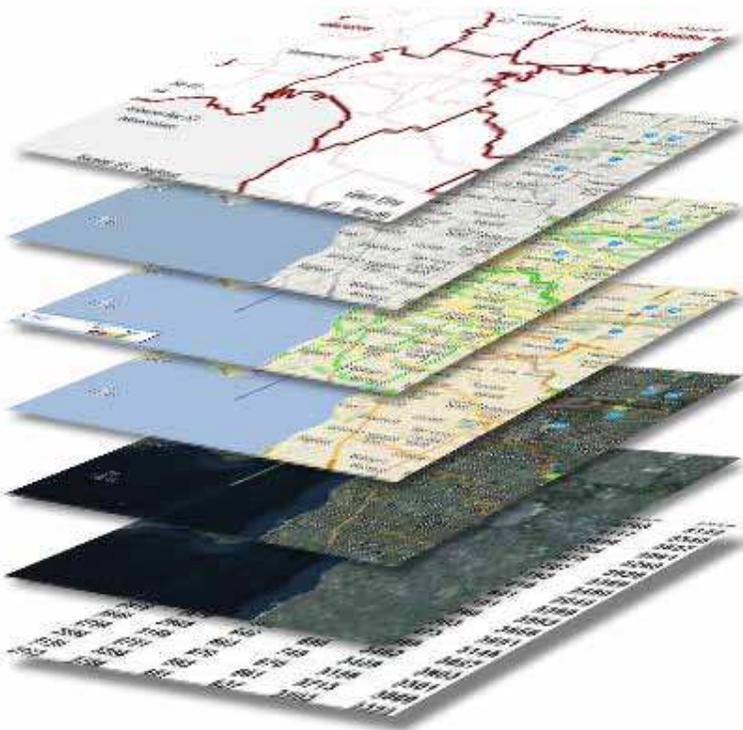
- Provide the statistical context ***equivalent*** of topography, roads, rivers and boundaries
- Provide a ***consistent approach*** to '***people-centric*** decision making and service delivery focussed activities
- Add value to administrative data by providing a ***common location based methodology***



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ABS Statistical Spatial Framework



A Spatial Statistical Framework will establish a series of layers of socio-economic information on top of the traditional spatial data layers



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Best Practice

Metadata

Common geographic boundaries

**Data management:
geo-referenced unit record data**

Agreed and authoritative geocoding



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Issues

- Establishing internationally agreed approach to building a population-centric set of national geographic boundaries.
- Developing capability to geocode addresses.
- Integrating spatial and statistical metadata.



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Benefits of a Common Approach

- Provide the ability to make comparisons on geographic areas with similar population numbers at national and international levels.
- Improve information for decision making for government, commercial and research communities.



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Benefits of a Common Approach

- Provide a consistent statistical geospatial integration approach, enabling shared capability development.
- Simplify the integration of socio-economic information using a consistent geospatial methodology.



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Conclusion

- The need to link statistics to location is overwhelming.
- The lack of a common approach needs to be resolved.
- The use of the ABS developed SSF could provide a simple, and useful approach supporting both developed and developing countries