

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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Land Administration Integration for Affordable Housing: The Roles of Spatial Data Infrastructures

Prof. Abbas
Rajabifard
The University of
Melbourne

April 25, 2019

Dr Muyiwa Elijah Agunbiade,
University of Lagos, Nigeria
Dr Abiodun Oluyomi,
Baylor College of Medicine,
Houston, Texas, USA



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Introduction

Essential findings from our analysis:

- Better understanding of the linked processes.
- Platform for data infrastructure development for housing analysis.
- The formulation of evidence-informed policies.
- Key decision makers identified to be integrated in the vertical and horizontal organisational structure.
- Adopt appropriate technology for data integration; ontology-based approach.

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Research Problems

- Housing policies are not sufficiently based on integrated data.
- Due to limited link between agencies, policies formulated do not stimulate integrated processes among land and housing agencies.
- The processes do not sufficiently drive harmonisation of data for housing analysis.
- Result comparison and interpretation, between jurisdictions, with the present approaches, are obscured.

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Research Objectives

Improve analysis and delivery of land for housing production

- Examine how ontology-based approach of data harmonisation can facilitate better inter-agency integration.
- Evaluate existing theory and knowledge-base on collaboration, SDI development, and land management.
- Clarify the heterogeneous nature of jurisdictions, particularly with regards to issues critical to the organisation of housing development.

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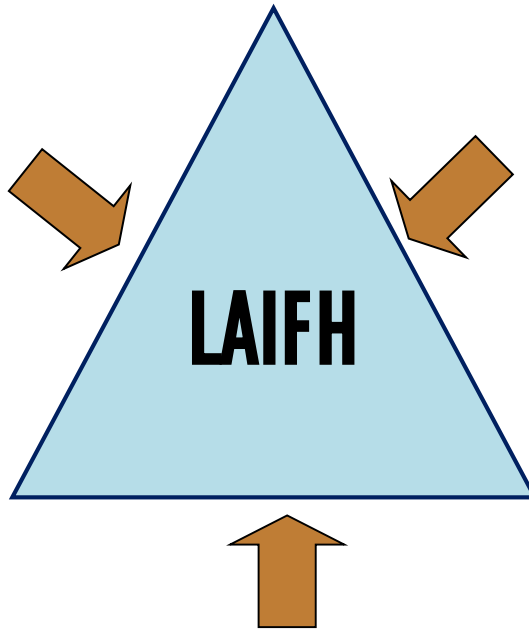
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Methods

Development and Evaluation of inter-agency integration



Land administration and the organisation of housing production

LAIFH = Land Administration Infrastructure for Housing.

Existing Knowledge on Inter-agency collaboration, SDI development and policy formulation

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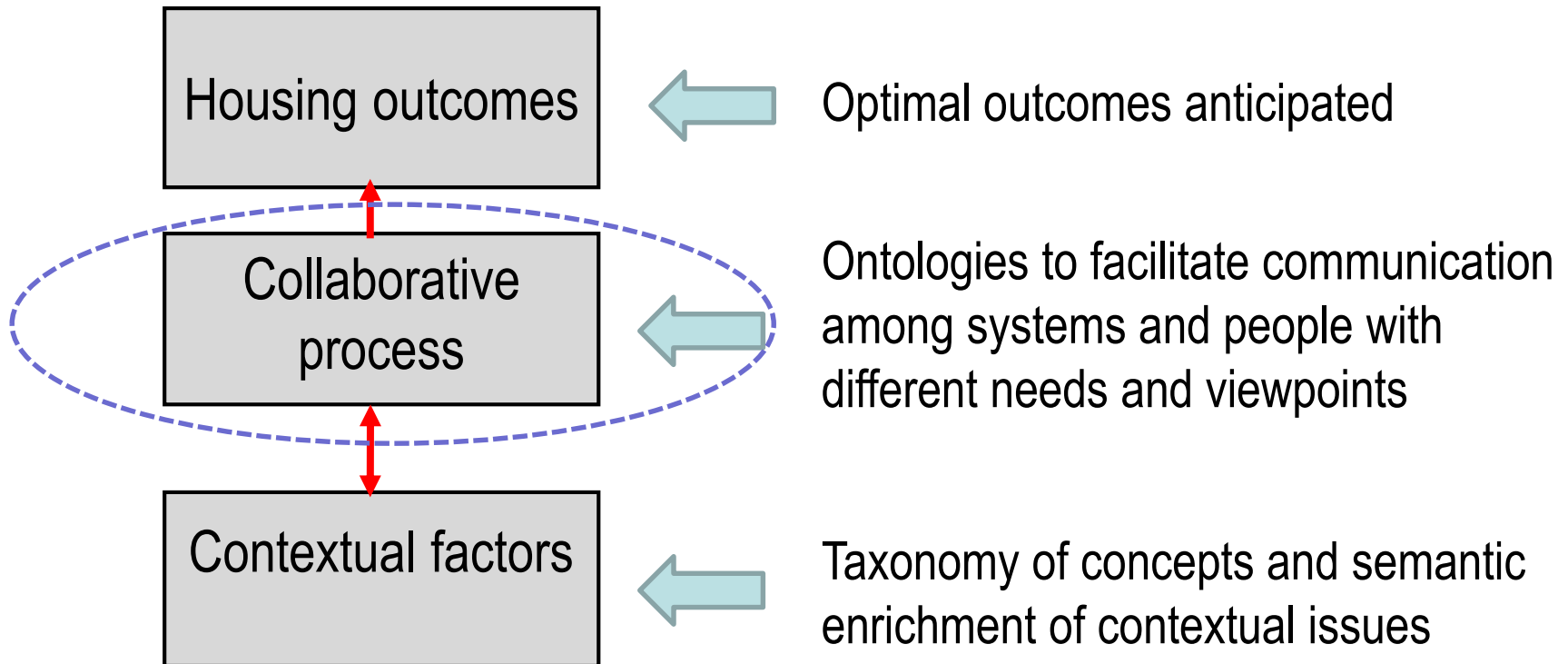
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LAI FH: main components



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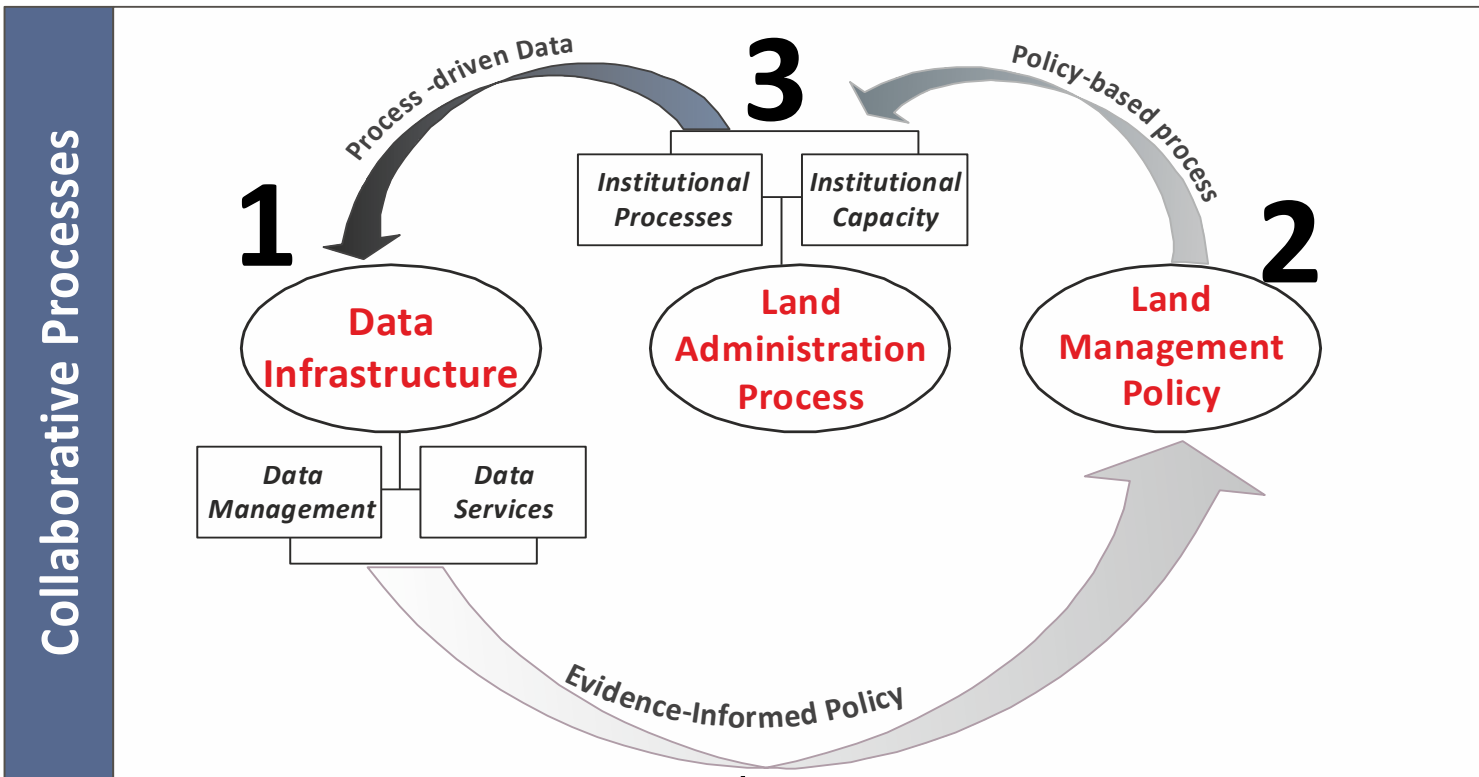
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LAI FH: main components



1. Evidence-informed policy
2. Policy-based process
3. Process-driven data

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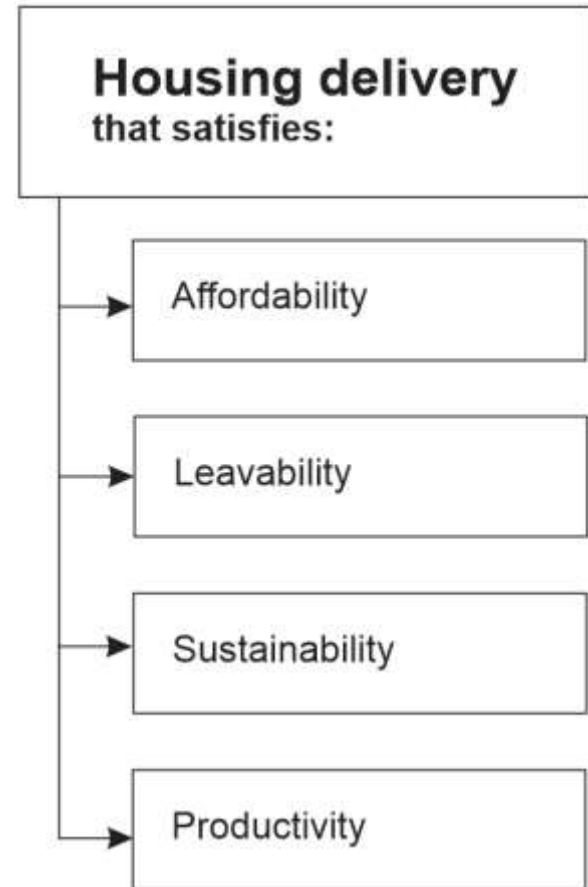
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LAIFH: outcomes

The collaborative process concerns how the interactions between the agencies and the use of integrated data impact land delivery and consequently housing outcomes.



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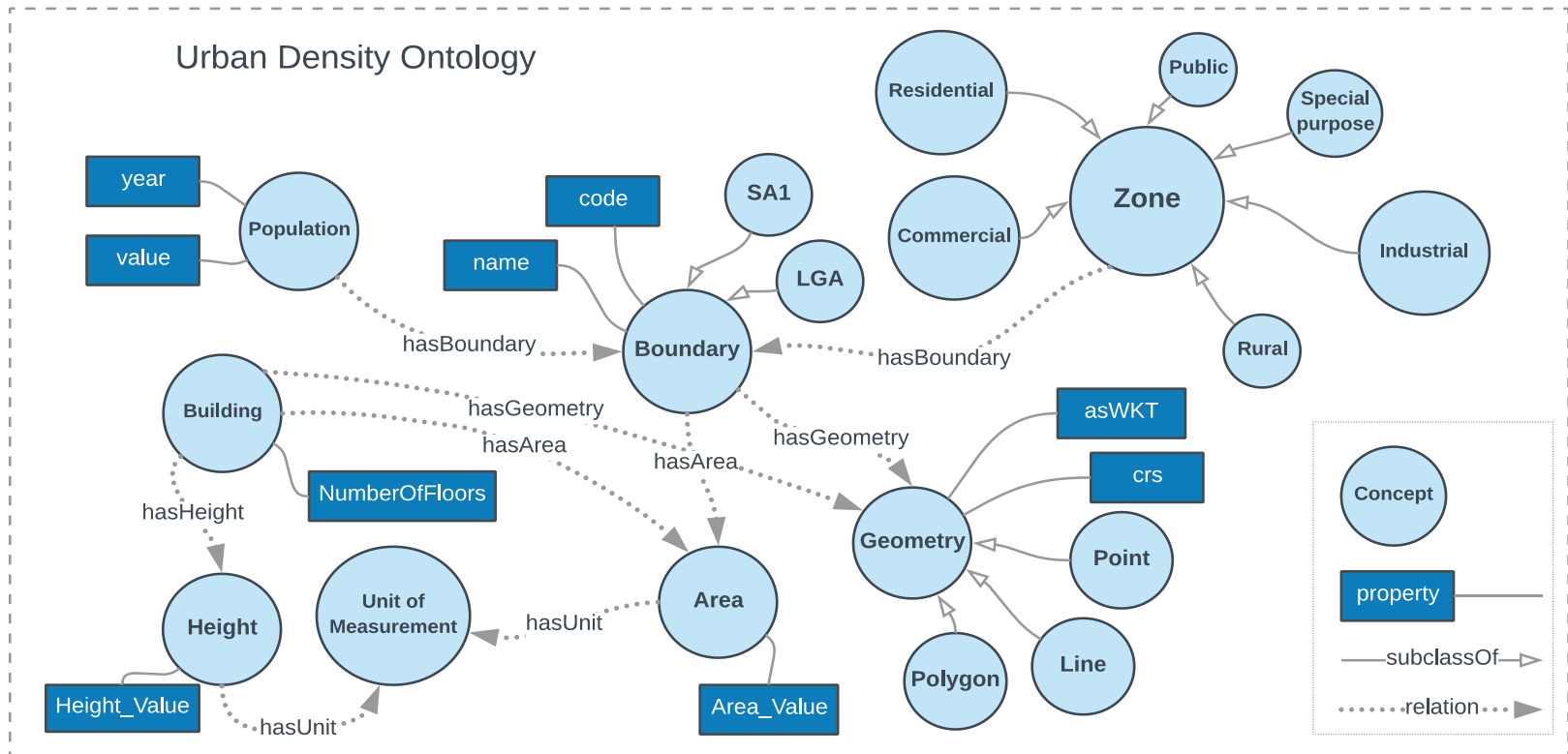
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LAIFH: Key concepts, relations and properties



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Conclusion Highlights

- **Evidence-based policy** relies on good, extendable, interoperable data at all levels (between systems and people).
- **Ontologies support housing analysis:** It eliminates heterogeneous structure of data layers through ontology mappings.
- Developing a broad and complete ontology for any domain (housing in this case) is essential but a demanding task.

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THANK YOU

Abbas Rajabifard: abbas.r@unimelb.edu.au

Muyiwa Elijah Agunbiade: muyiwaea@unimelb.edu.au

Centre for SDIs and Land Administration, The University of Melbourne-CSDILA:

www.csdila.unimelb.edu.au



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