



FIG Working Week 2024

19-24 May

Accra, Ghana

Your World, Our World:
Resilient Environment
and Sustainable
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for All

Presented at the FIG Working Week 2024,
19-24 May 2024 in Accra, Ghana

Land tenure (in)formality and disease prevalence in cities: an exploratory spatial analysis of urban neighborhoods in Accra.

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Outline

Co-existence of land tenure informality, land tenure insecurity, and poor health

Research objective

Quadripartite health characteristics of land tenure

The tenure security and health nexus

Methods

Land tenure informality and disease prevalence

Conclusions





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Co-existence of land tenure informality, land tenure insecurity and poor health

Cities are vulnerable to poor health and diseases that are associated with urban living conditions including land tenure conditions

Informal settlements, tenure insecurity, and poor health are coexisting phenomena in many of our cities

Literature have made implicit the complex role of land tenure and tenure security in understanding urban environments and health.

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Research objective

To explore spatial association between land tenure (in)formality and health outcomes in Accra, Ghana, using slum locations as proxies of informal land tenure.

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Quadripartite health characteristics of land tenure

Psychological variable comprising both the states of thinking and feeling

A distributive right of justice

Access to life-enabling resources

A social relation with people and land, which provides stress-buffering health benefits

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The tenure security and health nexus

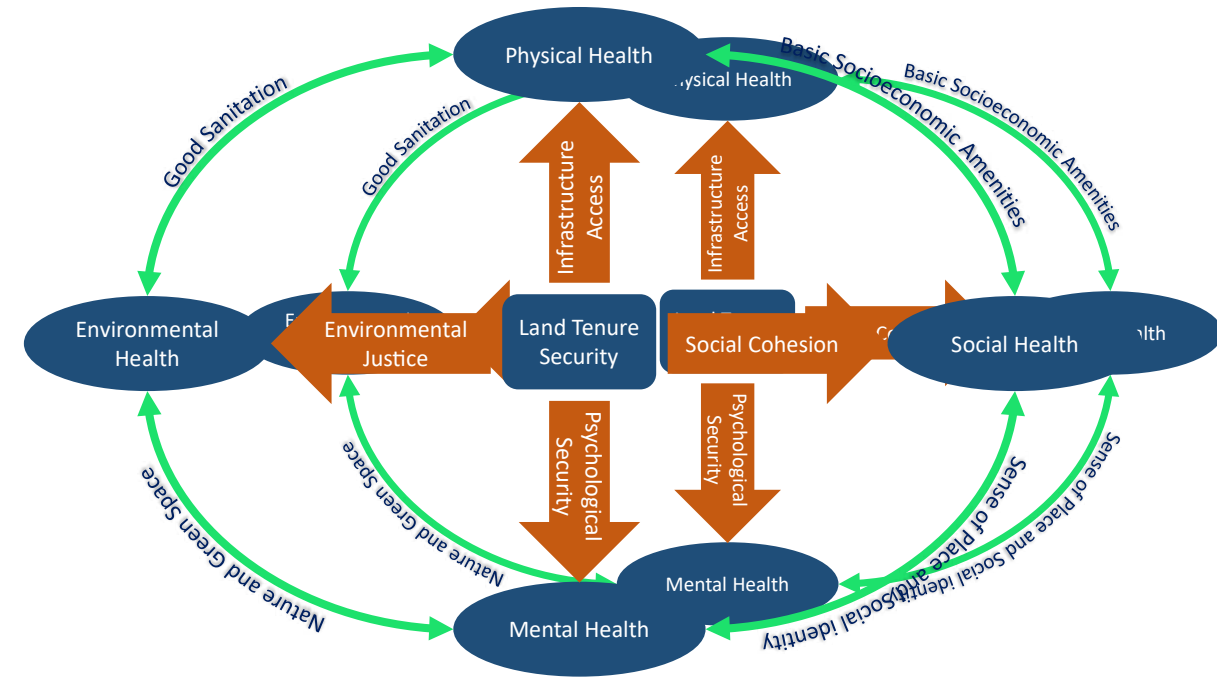




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Methods

Informal settlements data (slums) of Accra were acquired from Owusu et al (2021)

Health data from the Ghana Health Service, including cases of Cholera, Diarrhea, Malaria, and Intestinal infections from 2017 to 2021 at the Sub-district level.

Cluster and outlier analysis using ArcGIS Pro





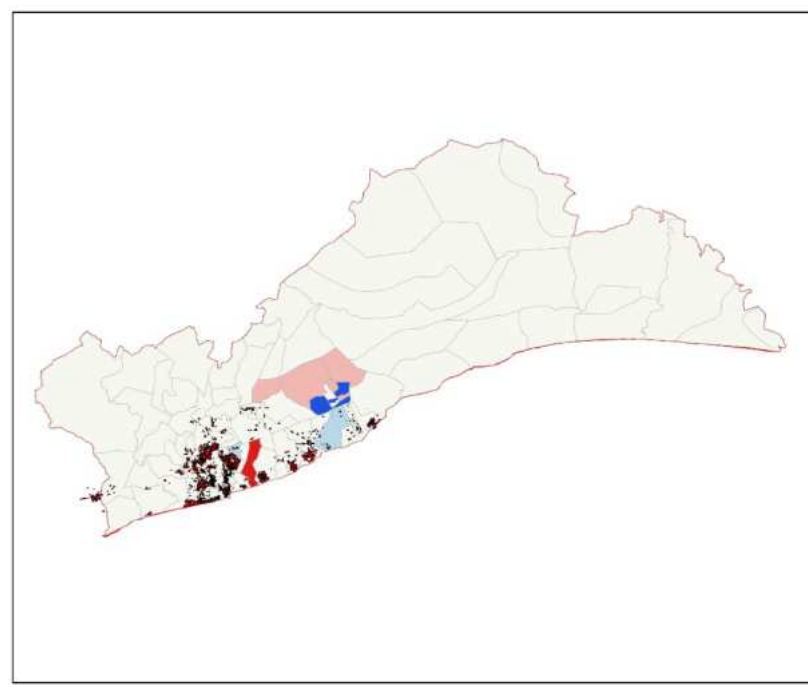
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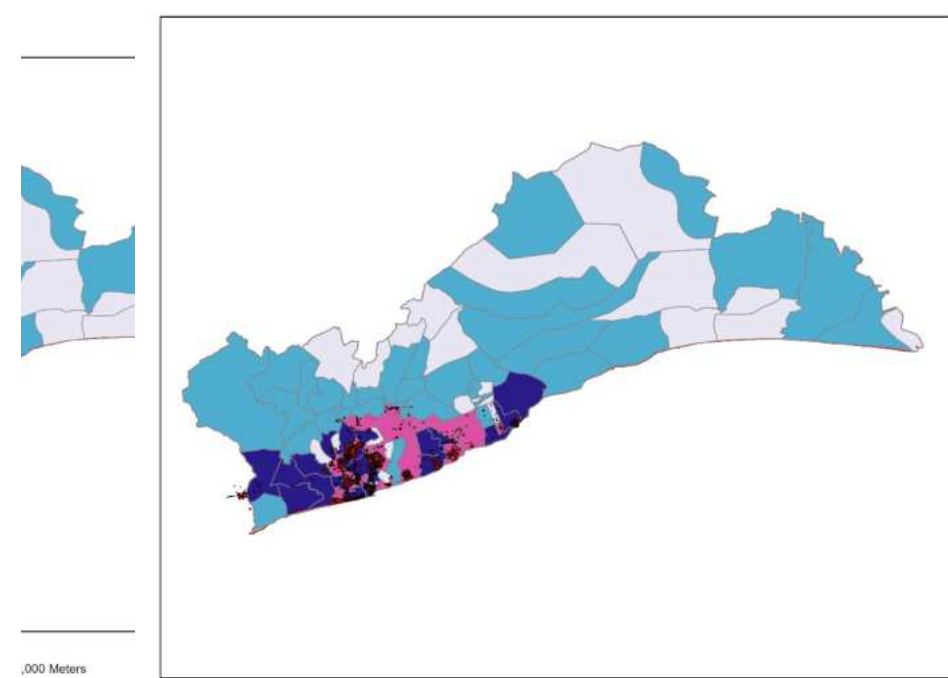
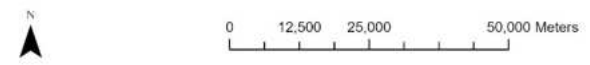
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Land tenure informality and disease prevalence



- Legend**
- Accra_Slums
 - ClusterMap_All_Diseases**
 - High-High cluster
 - High-Low outlier
 - Low-High outlier
 - Low-Low cluster
 - Not significant
 - Map_of_Accra_in_Ghana



- Legend**
- Accra_Slums
 - Disease_Slum_Spatial Join**
 - Slum_Area
 - All_Diseases
 - High
 - Low
 - Map_of_Accra_in_Ghana





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Conclusions

Observed patterns of low disease prevalence with high tenure informality and high disease prevalence with low tenure informality show an inconclusive existence of spatial association between disease prevalence tenure (in)formality.

Possible difference between the location of the phenomenon and the data

What is the best way to handle spatial and social data of varying scales?

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Commission 7&8

Cadastre and Land Management/Spatial Planning and Development

Serving Society for the Benefit of People and Planet



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→ Open until May 28



→ Sorting statements about digital transformation according to YOUR perception



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