Regional reorganization in Ghana: Implication on spatial extent and proximity to equitable access to critical public services

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Presentation Outline

1. Introduction
2. Our Approach
3. Findings
4. Conclusion and policy implication
Introduction

- **Territorial divisions** into smaller functional units are mostly for "effective and easy administration" and "equitable development."

- Theoretical underpinning – **The Growth Pole Theory**

- Spatial extent has an effect on resource allocation and Development
Context of the study area

- Ghana is located in West Africa
- Population – **30.8 million** (2021 Census)
- Decentralisation regime – **Four levels of authority**
  1. **National** - Central Government
  2. **Regional** – Regional Coordinating Councils
  3. **Metropolis/Municipality/Districts** (MMD) – MMD Assemblies
  4. **Sub-district structures** – Urban or zonal councils and Unit Committees
Regional Restructuring in Ghana – Main Drivers

Colonial epoch

- Cultural,
- Linguistic, and
- Kinship bonds

Post-colonial epoch

- Development
- Political dimension
Regional restructuring since Ghana’s independence

1957: 6 REGIONS
- Ashanti
- Brong-Ahafo
- Northern
- Eastern
- Western
- Volta

1960: +2 REGIONS
- Upper East
- Central

1964: +1 REGION
- Greater Accra

1983: +1 REGION
- Upper West

2018: +6 REGIONS
- Ahafo
- Bono East
- North East
- Oti
- Savannah
- Western North
• Commission of Inquiry set up

The 8 thematic areas identified

• Accessibility to critical services were linked to spatial extent.
• New regions birth new regional capitals – epicentres of development
• Main measurement indicator – Travel distance
The four regions restructured in 2018

Northern region (old)
1. Northern region*
2. North East region
3. Savannah region

Volta region (old)
1. Volta region*
2. Oti region

Brong-Ahafo region (old)
1. Ahafo region
2. Bono region*
3. Bono East region

Western region (old)
1. Western region *
2. Western North region

Forty-four (44) municipalities and districts affected
Siting regional capitals in Ghana – The Gaps

- No legal framework for regional capital selection
- A criteria exists for District capital – (based on centrality, population, accessibility, resource base, etc.)
- Criteria subject to manipulations and arbitrary decisions due to data paucity
- Limited use of scientific approaches (e.g. GIS applications)
Materials and Methods

Data collection
- Shapefiles (regional/district boundaries - official source) and towns/communities open source
- 2021 Population data (official source)

Spatial analysis in ArcGIS
- Euclidean distances (from towns to regional capitals)
- Population densities

Assess changes in community-regional capital distances (T-test)
- Regional level
- Municipal/District level
### Findings

#### Landmass and population density before and after the reorganisation

<table>
<thead>
<tr>
<th>Old region</th>
<th>Land size (km²)</th>
<th>Population density (cap/km²)</th>
<th>Newly created region</th>
<th>Land size (km²)</th>
<th>Population density (cap/km²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern</td>
<td>70,384</td>
<td>51.5</td>
<td>Northern</td>
<td>26,524</td>
<td>87.1</td>
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<td></td>
<td></td>
<td></td>
<td>North East</td>
<td>9,070</td>
<td>72.7</td>
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<td></td>
<td></td>
<td></td>
<td>Savannah</td>
<td>34,790</td>
<td>18.8</td>
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<tr>
<td>Brong-Ahafo</td>
<td>39,557</td>
<td>75.3</td>
<td>Bono</td>
<td>11,113</td>
<td>108.8</td>
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<td></td>
<td></td>
<td></td>
<td>Bono East</td>
<td>23,248</td>
<td>51.8</td>
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<td>Ahafo</td>
<td>5,196</td>
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<td>Western</td>
<td>24,457</td>
<td>123.0</td>
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<td>13,842</td>
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<td>Western North</td>
<td>10,079</td>
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<td>Volta</td>
<td>20,990</td>
<td>117.0</td>
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<td>9,504</td>
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<td></td>
<td></td>
<td></td>
<td>Oti</td>
<td>11,066</td>
<td>67.5</td>
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<tr>
<td>Greater Accra</td>
<td>3,721</td>
<td>1,681.3</td>
<td>-</td>
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<tr>
<td>Ashanti</td>
<td>24,542</td>
<td>223.1</td>
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<td>Eastern</td>
<td>19,087</td>
<td>151.4</td>
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<tr>
<td>Central</td>
<td>9,726</td>
<td>217.3</td>
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<tr>
<td>Upper East</td>
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<td>118.9</td>
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<tr>
<td>Upper West</td>
<td>18,913</td>
<td>36.4</td>
<td>-</td>
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</tr>
</tbody>
</table>

- Greater Accra region remains the **smallest** and most **densely populated** region.
- Savannah region currently the **largest** and most **sparsely populated** region.
Findings

Before

After
Findings

Reductions in the median linear distances:

- **Regional level** from 92.1 km to 48.1 km
- **Municipality/district levels** from 122.0 km to 46.4 km
**Findings**

**REGIONAL LEVEL**
- Reductions = 8.1% to 75.3%
- Statistically significant ($T = 3.340, p = 0.02$)
• The reduction in linear distance was highest in the Western North region (75.3%), followed by the Oti (72.9%),
• North East (62.1%), Ahafo (51.3%), Bono East (31.6%), and lastly the Savannah region (8.1%)
• A paired $T$-test indicated that the decrease in linear distance after the restructuring was statistically significant ($t = 3.340, p = 0.02$).
Findings

MUNICIPALITY/DISTRICT LEVEL

- General reductions
  0.6% to 90.8%
- 7 out of 44 adversely affected
  5.3% to 148.5% increment
Conclusion and policy implications

- The general reduction in travel distance could improve accessibility to critical public services.
- Potential decrease in Ghana’s transportation sector carbon footprint.
- Seven districts/municipalities were adversely affected and would require interventions that would help mitigate the time loss to business
- GIS tools can aid future decision-making regarding the alteration of regional boundaries and the selection of capital towns and new Districts
- Use many more indicators beyond linearity of Distance
THANK YOU