

INFRASTRUCTURE DEVELOPMENT AND ITS IMPACT ON REGIONAL ECONOMIC GROWTH IN GHANA: AN ANALYTICAL ASSESSMENT

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ABSTRACT

Infrastructure development plays a pivotal role in shaping economic growth and regional development, particularly in developing economies such as Ghana. Over the years, Ghana has invested substantially in transport, energy, telecommunications, and social infrastructure as part of its national development strategy. Despite these efforts, significant disparities persist in regional economic performance across the country. This study examines the impact of infrastructure development on regional economic growth in Ghana using a conceptual and analytical approach based on secondary data and existing empirical literature. The findings reveal that infrastructure investment contributes positively to productivity, employment generation, market integration, and private sector development. However, uneven spatial distribution, maintenance challenges, and institutional inefficiencies limit its full potential. The study concludes that targeted, regionally balanced infrastructure policies are essential for achieving inclusive and sustainable economic growth in Ghana.

RESEARCH ARTICLE

KEYWORDS: Infrastructure Development, Regional Growth, Economic Development, Ghana, Spatial Inequality

INTRODUCTION

Infrastructure development is widely regarded as a fundamental driver of economic growth and structural transformation. In developing countries, inadequate infrastructure remains one of the most significant constraints to productivity, competitiveness, and regional integration. Ghana, like many Sub-Saharan African countries, has placed infrastructure development at the center of its national development agenda, recognizing its importance in promoting economic diversification and poverty reduction.

Since the early 2000s, Ghana has recorded notable economic growth, driven by improvements in macroeconomic management, natural resource exploitation, and public sector reforms. Nevertheless, growth outcomes have not been evenly distributed across regions. While southern regions—particularly Greater Accra and Ashanti—continue to

dominate industrial and service sector activities, northern regions lag behind in terms of infrastructure availability and economic opportunities.

This article examines the relationship between infrastructure development and regional economic growth in Ghana. It analyzes how investments in transport, energy, telecommunications, and social infrastructure influence regional productivity and development outcomes. The study also highlights challenges associated with infrastructure provision and offers policy recommendations aimed at promoting inclusive regional growth.

Conceptual and Theoretical Framework

Concept of Infrastructure Development

Infrastructure refers to the physical systems and institutional facilities that support economic and social activities. According to the World Bank (2019), infrastructure includes transport networks, electricity, water and sanitation systems, telecommunications, and social amenities such as schools and hospitals. These assets enable the efficient functioning of markets and enhance the quality of life.

Infrastructure can be categorized into:

Economic infrastructure, which directly supports production and trade.

Social infrastructure, which enhances human capital development.

Both forms are essential for sustained regional economic growth.

Theoretical Link Between Infrastructure and Growth

The relationship between infrastructure and economic growth is supported by several economic theories:

Keynesian theory emphasizes infrastructure spending as a tool for stimulating demand and employment.

Neoclassical growth theory argues that infrastructure increases the productivity of private capital.

Endogenous growth theory highlights the role of infrastructure in fostering innovation and human capital accumulation.

New economic geography explains how infrastructure reduces spatial costs and encourages regional specialization.

These theories collectively suggest that infrastructure investment is critical for both short-term economic stimulation and long-term development.

Overview of Infrastructure Development in Ghana

Transport Infrastructure

Transport infrastructure remains the most dominant component of Ghana's infrastructure system. Road transport accounts for over 90% of passenger and freight movement (Ministry of Roads and Highways, 2022). Major investments have focused on highway expansion, feeder road rehabilitation, port modernization, and airport development.

The modernization of Tema and Takoradi ports has enhanced Ghana's trade capacity and regional connectivity, while road improvements have facilitated rural–urban market integration.

Energy Infrastructure

Energy availability is central to industrial development. Ghana's energy mix consists of hydroelectric, thermal, and renewable energy sources. Although access to electricity has improved significantly, supply reliability remains uneven across regions, with rural and northern areas experiencing greater challenges (Energy Commission, 2021).

Telecommunications and Digital Infrastructure

The telecommunications sector has expanded rapidly, driven by mobile telephony and internet penetration. Digital infrastructure has supported mobile banking, e-commerce, and e-government services, contributing to productivity gains and financial inclusion (National Communications Authority, 2023).

Social Infrastructure

Investment in education, healthcare, and water systems has improved human development indicators. However, disparities in access to quality social infrastructure persist between urban and rural regions.

Analytical Assessment of Infrastructure and Regional Economic Growth

Transpo

Transport infrastructure facilitates the movement of goods, labour, and capital, thereby promoting regional integration.

Analysis:

Regions with improved road networks experience higher levels of commercial activity due to reduced transportation costs and improved access to markets. In contrast, inadequate feeder roads in rural and northern regions constrain agricultural commercialization and income growth.

Energy Infrastructure and Industrial Performance

Electricity supply is a key determinant of industrial productivity.

Analysis:

Manufacturing and service firms in regions with stable power supply demonstrate higher output levels and investment attraction. Energy deficits increase production costs and discourage private sector expansion in less-developed regions.

Telecommunications Infrastructure and Economic Inclusion

Digital connectivity has transformed business operations and service delivery.

Analysis:

Telecommunications infrastructure reduces information asymmetry and expands access to financial services. However, limited broadband access and digital skills gaps continue to exclude some regions from the digital economy.

Social Infrastructure and Human Capital

Human capital development is essential for sustained economic growth.

Analysis:

Regions with better access to educational and health infrastructure attract skilled labour and investment, while regions with weak social infrastructure remain trapped in low-productivity activities.

Regional Disparities and Development Challenges

Despite increased infrastructure spending, Ghana continues to experience spatial inequality. Southern regions benefit from concentrated infrastructure investment, while northern regions face deficits that hinder economic diversification. These imbalances fuel internal migration, urban congestion, and regional income inequality.

Constraints to Infrastructure-Led Growth

Key challenges include:

Insufficient funding and high debt exposure

Poor maintenance culture

Weak institutional coordination

Political interference in project allocation

Environmental sustainability concerns

These constraints reduce the long-term effectiveness of infrastructure investments.

Policy Implications and Recommendations

To strengthen the impact of infrastructure on regional growth, the study recommends:

1. Balanced Regional Infrastructure Allocation
2. Improved Infrastructure Maintenance Systems
3. Expansion of Renewable and Decentralized Energy
4. Bridging the Digital Divide
5. Strengthening Decentralized Infrastructure Planning

Conclusion

Infrastructure development remains a cornerstone of regional economic growth in Ghana. While significant progress has been achieved, persistent regional disparities highlight the need for inclusive and strategic infrastructure planning. A coordinated, well-maintained, and regionally balanced infrastructure framework is essential for achieving sustainable economic transformation.

References

- Aschauer, D. A. (1989). Is public expenditure productive? *Journal of Monetary Economics*, 23(2), 177–200.
- Energy Commission of Ghana. (2021). *National Energy Statistics*. Accra.
- Ghana Statistical Service. (2022). *Ghana Living Standards Survey (GLSS 8)*. Accra.
- Ministry of Roads and Highways. (2022). *Annual Infrastructure Development Report*. Accra.
- National Communications Authority. (2023). *Telecom Market Statistics*. Accra.
- World Bank. (2019). *Infrastructure for Development*. Washington, DC.
- World Bank. (2021). *Ghana Economic Update*. Washingto