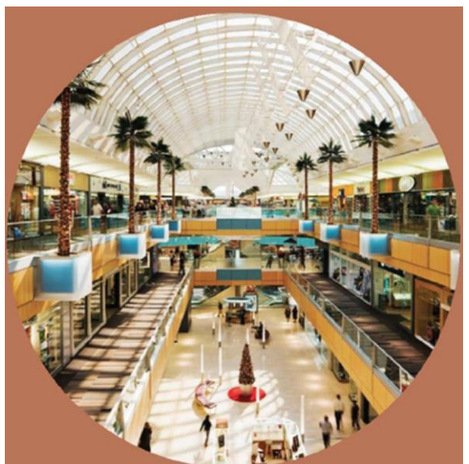

REPUBLIC OF GHANA

SOCIAL, CIVIC AND COMMERCIAL INFRASTRUCTURE FRAMEWORK 2018-2047

Republic of Ghana

National Development Planning Commission

SOCIAL, CIVIC AND COMMERCIAL INFRASTRUCTURE FRAMEWORK

of the

GHANA INFRASTRUCTURE PLAN

2018-2047

The Ghana Infrastructure Plan is a companion
document of the
40-Year National Development Plan (2018-2057)

It draws substantially from the National Spatial Development Framework (2015-2035) as a critical complement to infrastructure delivery through the efficient use of land and the planning of human settlements, including public transport

ACKNOWLEDGEMENTS

As a long-term document, the Ghana Infrastructure Plan (GIP) is a framework, or a master plan, for the preparation of medium-term and annual infrastructure plans by successive governments up to 2047, 10 years before the completion of its “mother” document, the *40-Year National Development Plan.* It was prepared with the support of many individuals and institutions. The vision and commitment of both the previous and current leadership of the Commission, particularly chairmen P.V. Obeng, Prof. Kwesi Botchwey, Prof. Stephen Adei, Prof. George Gyan-Baffour, and Dr. Nii Moi Thompson, proved highly valuable from the start to the completion of the GIP.

We wish to express our profound gratitude to the members of the Commission, especially the Energy as well as Infrastructure, Spatial Planning and Human Settlements thematic committees, who rigorously reviewed the plan and provided insightful comments for its preparation and finalisation.

We also acknowledge the team of specialists made up of government experts and consultants, led by Ing. Charles K. Boakye, who brought their vast experience to the preparation of the plan. Special appreciation goes to the Ministries, Departments and Agencies (MDAs) for providing the necessary data for the Plan and participating at every stage in its preparation and completion.

Last but not least, the staff of the Commission deserve special commendation for burning the proverbial midnight oil to ensure that the contents of the plan conformed to the development aspirations of Ghanaians as outlined in the 40-Year National Development Plan, officially known as “Ghana Rising: Long-term National Development Plan of Ghana (2018-2057).

Dr. Audrey Smock Amoah
Ag. Director-General
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Accra

October 2025

The GIP has been translated into the following frameworks:

1. Energy Infrastructure Framework
2. Transport Infrastructure Framework
3. Water Infrastructure Framework
4. Human Settlements and Housing Infrastructure Framework
5. Social, Civic and Commercial Infrastructure Framework
6. ICT Infrastructure Framework
7. Institutional Development Framework
8. Results Framework
9. Financing Framework

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AfDB	African Development Bank
BECE	Basic Education Certificate Examination
CBD	Central Business District
CHAG	Christian Health Association of Ghana
CHO	Community Health Officer
CHPS	Community Based Health Planning Services
GAMA	Greater Accra Metropolitan Area
GIIF	Ghana Infrastructure Investment Fund
KNUST	Kwame Nkrumah University of Science and Technology
MOH	Ministry of Health
NER	Net Enrolment Rate
NSDF	National Spatial Development Framework
PHC	Population and Housing Census
SDF	Spatial Development Framework
SHS	Senior High School
STEM	Science Technology, Engineering and Mathematics
TVET	Technical and Vocational Training

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HIGHLIGHTS

SOCIAL, CIVIC AND COMMERCIAL INFRASTRUCTURE

- Social, civic and commercial infrastructure constitutes a critical component for growth and development. Unfortunately, Ghana is confronted with a significant deficit in the provision of these services.
- There are currently four teaching hospitals, located in Accra, Kumasi, Tamale and Cape Coast. The construction of teaching hospitals for Legon, KNUST and UHAS at Ho are underway. Nineteen Regional Health Facilities and additional 130 district health facilities will be added to the existing infrastructure by 2047.
- New police stations, courts and other civic infrastructure will be constructed, and existing ones modernised.
- Of the 43 correctional facilities in the country,

18 of them were not previously designed to serve such a purpose. There is therefore the need to redesign these facilities to meet their intended goals. Additionally, new correctional facilities will be built at various locations across the country.

- As areas around CBDs are being gentrified, there is the need to incorporate residential functions into urban centres. This will reduce sprawling and having mono-residential areas at the peripheries.
- Office spaces will be designed and developed with technology driven environments and flexibility. These must be incorporated in the development of the CBD as part of promoting mixed uses in the area, and also to facilitate business.

- Ghana is far from attaining the threshold of a stock of 9,000 volumes to a literate population of 3,000 for public libraries. It is proposed that each district gets at least one public library.
- The number of functional open and green spaces in the country is inadequate. More green areas are needed to enhance the urban landscape and also for the well being of the citizenry.
- Sports infrastructure in the country will be upgraded to conform to international standards as the country anticipates bidding and hosting international sports events, particularly the FIFA World Cup and the Olympic games.
- Each community will be encouraged to have adequate sports infrastructure to promote the physical and mental well being of local inhabitants, as well as to help identify and train local talents.
- Educational institutions at the first and second cycles as well as the tertiary level will be encouraged to have some basic sports infrastructure in place. Institutions that are land constrained can collaborate to build and share facilities.

- Under the Plan, the 1,313 km distance secured under Tour du Ghana, will be further developed and enhanced to reflect international standards, to create a world-class race course that will contribute to the sport industry; encourage healthy living, good nutrition, clean environment; and identify and develop talented youth to win international awards and boost tourism.
- Transforming Ghana's cities into tourist attractions will be a priority. Landmarks and iconic buildings will be developed, not only for aesthetic purposes, but also to promote tourism and enhance good environmental practices.
- Given Ghana's ambitious vision for the tourism industry, the hotel and hospitality industry as a whole will be given adequate attention. To attract the much-needed tourists into the country, Ghana will aim to achieve the standards of 1 hotel room per 100 persons of the country's population.

- By 2047 when the country's population would have reached about 52 million, there should be about 520,000 hotel rooms in the country. Currently, there are only 44,746 rooms from 2,723 hotels; made up of 3No. 5-Star hotels, 11No. 4-Star hotels, 42No. 3-Star hotels, 210No. 2-Star hotels, and 2,317No. one star, guest house and budget hotels. The occupancy rate of more than 70% for high-end hotels means that there's room for expansion.
- Cemeteries are places for contemplation and connection with departed relatives. Others contain fine sculpture and distinctive architecture that portray the community's culture. These will therefore be well planned to serve as valuable green spaces and more private sector participation will be called upon to support in the delivery.

Chapter 1 Social, Civic and Commercial Infrastructure

1.1 Introduction

Determining the social, civic and commercial infrastructure needs of the country is necessary towards establishing Ghana's infrastructure portfolio, required to deliver the envisaged goals of the long-term development plan. In this report, the qualitative and quantitative gaps in the supply of infrastructure in the country are established, and then extrapolated to determine the future needs in the context of the envisaged growth rate of the economy.

1.1.1 Vision and Goal

The vision for the social, civic and commercial infrastructure sector is "to have efficient and equitably distributed infrastructure to support Ghana's socio-economic transformation". The goal, however, is "to build dynamic, robust social infrastructure facilities that will create the enabling environment for Ghana's accelerated and planned transition from a middle-income status to high- income status".

In order to attain these, therefore, the proposed infrastructure must have the following features:

i. Be adaptable to changing circumstances.
ii. Cater for the physically challenged, the vulnerable, the aged, and socially disadvantaged persons.
iii. Keep pace with technological developments such as ICT and/Telemedicine.
iv. Be culturally sensitive.
v. Have built-in sustainable maintenance features.
vi. Integrate green building concepts for all facilities with climate resilient features.
vii. Align with various sector visions for the next 40 years such as the National Spatial Development Framework (2015 to 2035).

1.2 Overview of Social, Civic and Commercial Infrastructure in Ghana

Social, civic and commercial infrastructure encompass all physical structures that have been constructed purposely to serve the community at large. These include hospitals, schools, markets, offices, libraries, security and law enforcement facilities, museums, public parks and open spaces, etc.

Ghana is confronted with a significant deficit in the provision of such infrastructure. This is manifested by the differences in the prevailing access to social, civic and commercial infrastructure facilities as set in the New Zoning Guidelines and Planning Standards[1].

Box 1: Zoning Guidelines and Planning Standards

The Zoning Guidelines and Planning Standards document was compiled under the Land Use Planning and Management Project of the Town and Country Planning Department, and adopted as the binding document to guide spatial planning processes in the country (as of November, 2011), having moved from using the Town and Country Planning Ordinance (Cap 84 of 1945) and other Technical Memoranda to guide these processes due to marked inadequacies.
The document provides clarity on the permissible uses of land in areas demarcated for specific purposes, and the space requirements that must be considered by any entity seeking a development permit. It also presents a legal basis for reviewing development proposals of different entities proposing to develop a particular piece of land as per the dictates of the law. Local Planning Authorities are to provide approval for any development within the area of their jurisdiction based on the dictates of the Zoning Guidelines and Planning Standards in order to ensure the harmonious development and management of human settlements.

Though the document does not prescribe specific design solutions, it defines the principles that are acceptable in design processes by providing a checklist to be followed in preparing and assessing development proposals, and also serves as a yardstick for beneficiaries to appraise the quality of the development effort. It is therefore binding on Local Planning Authorities (as well as developers) to consult the guidelines provided in the document carefully, before embarking on any physical development agenda.

The document is divided into two parts. Part one contains the zoning guidelines, while part two covers the planning standards that should guide development planning in the country. These are summarised in Box 2 and Box 3

While rural areas have green spaces[2] and parks, which are used for communal activities, for example, the urban areas have very few planned open spaces.

As the population grows, the pressure on existing infrastructure increases and with time the infrastructure ages, bringing in its wake inefficiencies in operations and higher operating costs. With most cities, there is significant under– investment in social infrastructure as there are competing demands for limited government budgets. This results in an irreversible breakdown of the existing infrastructure, thus entrenching the situation by increasing demands for new infrastructure.

The major challenge to most communities is the retrofitting of aging infrastructure, establishing the scope of the gap (both qualitatively and quantitatively) and then ensuring that the planned new infrastructure will respond more efficiently to city building. As steps are taken to attain the standards of developed countries there is the need to have a balance between a city's social, economic and environmental needs[3]. To be sustainable, the infrastructure must meet the needs of the present generation without compromising the ability of future generations to meet their own needs[4].

The zoning guidelines and planning standards also provide the contexts for the development and siting of infrastructure, however, towards the vision of attaining high income country status these guidelines and standards need to be revised to reflect high income country standards and the aspirations of the country.

1 This document was produced by the MESTI in collaboration with the TCPD in 2011, to provide an acceptable criteria for the use or development of a piece of land or an area as well as to determine the scale, location and site requirement of various land uses and facilities.

2 Based on the loose definition of green spaces as land that is partly covered with trees, shrubs, grass or other vegetation, green spaces in this report will include cemeteries, community gardens and parks.
3 Toppeta 2012 Sohely at Al (2005)
4 UN (1987) Brutland Report

Box 2: Summary of The Zoning Guidelines

Definition: Zoning is a planning mechanism used to prescribe the acceptable use of land and to control development. It is a tool used to categorise and prescribe a range of activities or developments that are either allowable or not on a particular parcel of land.

Development Zones: To ensure that land uses are compatible and sited in areas best suited for their functions, all land within a planning scheme area shall be zoned. The plans for an area are subject to approval by the District Assembly, and it becomes a binding document once it is approved.

Permissible Use of Land in Specified Development Zones: While there are particular intentions for earmarking specific zones, development activities, which are compatible with that particular zone, are permitted within that zone.

Description of Development Zones: The characteristics of the different zones, and a list of the "permitted" or "prohibited" uses for each of these have been outlined in the Zoning Guidelines. The permitted use refers to all types of development activities that may be approved in the particular zoned area. The prohibited use on the other hand refers to development activities that would never be accepted under any circumstance in that particular zone, unless the area is re-zoned to accommodate these.

The following Table defines the different zones as prescribed in the document, and describes briefly the characteristics of each zone. Detailed information about these zones and the list of permitted and prohibited land uses within these zones are contained in Part One of the Zoning Guidelines and Planning Standards document.

Characteristics of the Different Zones

Rural Zones: Rural areas may be zoned as Rural A or Rural B. Rural A, typically, is an area retained for low intensity agricultural use, while Rural B is intended for intensive cultivation, plantation and animal rearing.
Residential Zones: Land earmarked as residential zones have been divided into five categories (Re A, B, C, D, E). **Zone A** is an area intended for low-density residential development and housing density of 10-15 dwellings per hectare. **Zone B** is meant to provide a variety of residential uses with densities ranging between 16-30 dwellings per hectare. **Zone C** is reserved for densities in excess of 30 dwellings per hectare. **Zone D** is for intensive multi-storey residential accommodation. **Zone E** is for community dwelling such as hostels, barracks, institutional housing and other facilities that contain more than 6 rooms at a time.
Redevelopment/Renewal/Upgrading Zones: This Zone is typically residential in character. It is usually located in the core of settlement, this zone is portraying such characteristics as high population density, difficult access, inadequate provision of infrastructure and community facilities as well as poor housing.
Education Zones: Educational Zones have been categorised into four divisions. **Zone EZ** is intended for research and specialised training. **Zone Ed P** is for the establishment of basic schools (Nursery, Primary and JHS). **Zone Ed S** is earmarked for second cycle education (SHS, Vocational and Technical) and **Zone Ed T** is for Tertiary institutions.
Places of Worship: Places of Worship are areas that are earmarked for the activities of religious bodies. These are reserved in order to avoid such bodies encroaching on land reserved for other purposes.
Health Zones: Land in the health zone is usually intended for the construction of health facilities to provide health services. Health zones are sub-categorised into six (6). **Zone A** is for clinics, **Zone B** is for health posts, **Zone C** is for health centres, **Zone D** is for Urban Health Centres or Poly Clinics, **Zone E** is for District General Hospitals and **Zone F** is for Teaching or Regional Hospitals.
Business Zones: The **Central Business District** is a preferred location for international and national civic and cultural organisations, business and commercial centres. **Sub-Regional Business Centres** function as the centre for diverse economic activities, employment generation ventures and traffic movement in the city metropolitan area and so on. **Mixed Business Zone** is intended for lower intensity commercial business development and retail display on the fringe of the CBD and along major arterial roads. **Informal Business Zone** is usually intended for local community business activities incorporating small shops, sub offices and agencies. **Government Business Zone** is intended for government related business, i.e. for the executive, legislature or the judiciary as well as other organs of government operating at the national and sub-national levels.
Recreation and Sports Zones: These accommodate facilities associated with sports and other leisure activities and can either be publicly or privately owned.
Public Open Space Zones: This zone is usually demarcated for such land uses as parks and gardens, children's play areas, industrial buffer zones and so on.
Protected Coastal/Water Front Zones: Protected Coastal/Water Front Zones refer to those lands within the immediate vicinity of a water body that is subject to special protected status. These could include beaches, lake or lagoon sides, river banks, etc.
Conservation Zones: These zones are usually located in rural areas, and are reserved in their natural vegetative state or modified for conservation purposes.
Transportation and Warehousing Zone: This is for the provision of facilities for air, rail, road and water transportation.
Industrial Zones: These can be categorised into five different zones. The **Light Industrial Zone** is for light industrial activities like electronic, IT, medical, light metal (jewellery) etc. The **Service Industry Zone** is intended to accommodate small-scale industrial activities involving repair and maintenance, servicing and processing, usually supporting commercial and residential zone activities. The **General Industrial Zone** accommodates manufacturing, food processing, machine assembly and heavy equipment industries. The **Noxious, Offensive, Hazardous Industrial Zone** is for the development of industries that emit elements of noxious, offensive and hazardous nature (these include smithing, galvanising, cement manufacturing, manufacturing of poisonous chemical substances etc.). The **Extractive Industry Zone** is for the winning of rock, gravel, sand, clay, mineral ores and precious stones.
Tourist Zone: This zone is intended for the development of specific and well-planned accommodation and entertainment facilities for tourists and visitors.
Special Use: Zones demarcated for Special Use can be categorised into two main divisions. In the first category, the land is zoned for Community, Emergency or Utility Services. The **Community Service Zone** is meant to accommodate such public services as educational, cultural or religious facilities and any government use, which is not included in a Government Business Zone. The **Emergency Zone** is set apart for the provision of emergency services facilities like hospitals, while the **Utility Zone** is for the provision of such public services as water and sewerage, gas, electric power, waste disposal sites and cemeteries etc. In the second category, the land is zoned for protective services and special development. The land earmarked for **Protective Services** is usually used for the provision of facilities for the Police Service, Fire Service, Prisons Service and the Military. The **Special Development Zones** are lands within the city with special social, cultural or historical value. Developments within these areas are for the enhancement of the area without changing the actual identity.

Box 3: Summary of The Planning Standards

Educational Facilities: This section deals with siting of school and educational facilities, namely; Nursery, Primary School, Junior Secondary School, Senior Secondary School, Special/Vocational Training Schools. The basic facilities needed for each educational level, School area, Enrolment per Class, Floor area per student, Room Size dimensions, etc. are also addressed.

Health Facilities: The general requirements for the siting of the different classes of health facilities have been defined. This section describes the sphere of influence, general location, land requirements and site characteristics for Regional/Teaching and Specialised Hospitals, District Hospitals, Urban Health Centres/Poly Clinics, Health Centres, Health Posts and Clinics. The population thresholds, and the basic services and ancillary facilities that should be provided on site have also been detailed.

Housing: The recommended residential densities and maximum occupancy rates have been described under this section. The basic facilities that should be in a designated residential neighbourhood have been clearly defined as well.

Markets and Shops: Markets and shops have been categorised into four levels namely Local Markets, Main Settlement Commercial Centres, Neighbourhood Commercial Centres and Local Shops. The size and location as well as the basic ancillary facilities, being the mandatory minimum standards have been outlined in this section.

LPG and Petroleum Products Filling Outlets: The location and minimum plot requirements for siting these facilities have been clearly outlined in this section. The other ancillary infrastructure requirements have also been defined. The dimensions of storage tanks and the distance from dwelling places, the lifespan of an underground storage tank as well as the colour codes for identifying the different petroleum products have all been well defined.

Industrial Estates: The land requirements, and densities for the establishment of industrial estates have been documented under this section. Other ancillary facilities that are considered basic and should be found on site have also been clearly defined.

Roads: This section provides the minimum mandatory requirements for the construction of roads. First of all, a summary of road reservation standards has been provided. Further ancillary requirements have been defined for the corner truncations and setbacks, the street intersection separation distances, right of way for public drains, access to private land and private road as well as easements for public utilities.

Parking Requirements: This section defines the parking space boundaries for public, commercial, industrial and residential areas. The requirements for Traffic Impact Assessment and parking exemptions as well as terminal space for cargo vehicles can also be found under this section.

Recreation and Open Spaces: This defines the minimum standards for setting up a facility, whether for active or passive recreation. Active recreational facilities include games areas and sports fields (indoor and outdoor); while passive recreational facilities include children's play grounds, parks or durbar grounds. The recommended site, basic ancillary facilities and services have been described under this section.

Public Sanitary Sites: The details of the requirements for siting public toilets; neighbourhood refuse collection points and refuse depots have been provided in this section. The standards for site selection and the distance from one facility to another as well as that between a facility and the nearest dwelling area have been defined.

Places of Worship: This section describes the catchment area, population size, the general (recommended) location for siting places of worship.

Cemeteries, Crematoria and Funeral Parlours: The catchment area, site requirement, location and size as well as the population requirements for setting up cemeteries, crematoria and funeral parlours are provided.

Security/Emergency Services: Security/emergency services defined under this section are the Police Service and the Fire Service. In the case of the Police Service, the space requirement for facilities at the district level, divisional level, regional level and national level have been defined. For the fire service however, the site location and size as well as the catchment areas and basic requirements for siting fire hydrants at the local/community level and the district level have been detailed. The basic facilities needed for the proper running of the stations have also been listed.

Post and Telecommunications: This section provides details of the types of postal and telecommunication services; location criteria and safety standards for the construction of telecommunication exchanges and communication masts, and location requirements of communication towers.

Office Accommodation: Office space requirements, parking requirements, and location of public offices such as Ministries, District and Regional Offices are addressed in this section.

Electricity Supply: The section addresses standards for electricity supply - head clearance of streetlights and major electricity cables including high tension cables.

Water Supply: The domestic unit demand and institutional demand have been detailed under this section. The space and location requirements for the construction of public standpipes and the sinking of boreholes have also been provided.

Riparian Buffer Zones: The desired minimum buffer zone requirements to protect and sustain the life of a water body from negative impact (whether from climate change effects or from human influence) have been provided.

Recommended Site Development Standards: The standards for the subdivision of land into individual plots in specific development zones (as per the zoning guidelines) have been outlined here. Also, the site coverage, height limits and building lines within the defined zones have been detailed.

Miscellaneous Requirements for Site Planning: In this section, the requirements for landscaping, construction of fences and walls, the creation of a waste disposal area as well as the establishing of private open spaces within the contexts of the different zones (as per the zoning guidelines) are described. Other requirements that have been covered are for the siting of an outhouse, the construction of swimming pools and sub surface structures, safety and fire fighting, the placement of advertisement, signboards and billboards as well as the siting of external toilets (all these within the contexts of their defined zones as per the zoning guidelines).

1.3 Social, Civic and Commercial Infrastructure: Current Gaps and Needs Assessment in Human Settlement Contexts

There exist several deficits in the provision of social, civic and commercial infrastructure. While sectors like health and education are well structured so that the gap between supply and demand can be somewhat determined, the civic and commercial sectors are not similarly structured and so the exact extent of shortfalls cannot be adequately identified. This constrains effective planning for the future.

Social infrastructure is mainly provided on the basis of the hierarchical structure of settlements. The regional, district or community levels are the units of analysis in determining where infrastructure will be provided, although in some cases, the provision of certain infrastructure go

beyond the three levels previously mentioned.

1.3.1 Health Infrastructure Needs Assessment

Health Care Delivery Facilities in Ghana

Starting from the lowest unit, health facilities in Ghana include the Community Based Health Planning and Services (CHPS) Compounds, Clinics, Health Posts, Urban Health Centres, District Hospitals, Regional Hospitals and Teaching Hospitals.

Currently, the vision of the Ministry of Health (MoH) is to "ensure a healthy and productive population that reproduces itself safely"[5]. The objectives under this above-mentioned goal include the following:

i. To ensure that people live long, healthy and productive lives and reproduce without an increased risk of injury or death.
ii. To reduce excessive risk and burden of morbidity, mortality and disability especially in the poor and the marginalised groups.
iii. To reduce inequalities in access to health, populations, nutrition services and health outcomes.

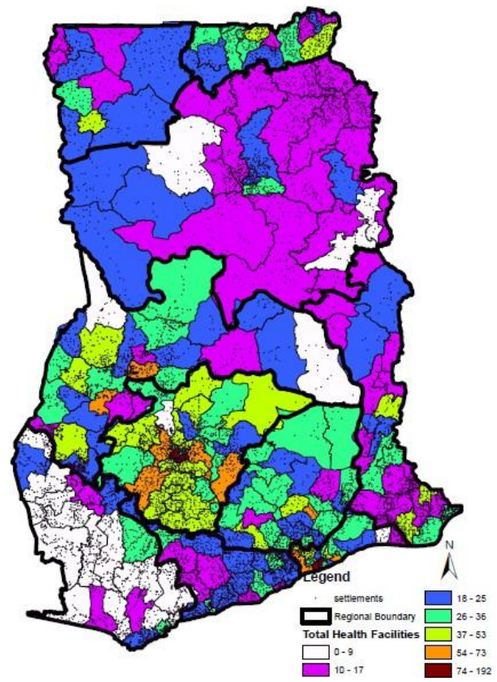
Towards the year 2047, the proposed vision is to have "total access to quality health care for all." This vision is attainable through a combination of innovative use of emerging technology based on smart phones and education of the populace on preventive medicine. This should be supported by an equitable spatial distribution of district hospitals in line with the standard of 1 district hospital serving a maximum of 200,000 persons[6] and remote monitoring of patients.

5 Health Sector Medium Term Development Plan 2014-2017
6 Zoning Guidelines and Planning Standards MEST/TCPD Nov. 2011

Existing Stock of Health Facilities in Ghana

As at April 2016, a total of 5,549 health facilities existed nationwide. These were distributed across the ten regions. The facilities were owned and operated by the Government, faith based institutions (CHAG etc.), and private and commercial organisations.

Figure 1.1: Distribution of Health Facilities at MMDA Level



Source: TCPD (2016)

With about 30 percent of all CHP compounds (which comprises 60 percent of all health facilities in the country), Ashanti Region records the highest share of health facilities in the country. The Western Region on the other hand, has the least number of health facilities in the country.

Hierarchy and Classification of Health Facilities in Ghana

Teaching Hospitals

Teaching Hospitals are the most specialised hospitals with almost all the required medical departments, and are mostly involved in handling emergency and specialised cases. Teaching hospitals in Ghana provide medical services to a large number of people within the country, as well as the West African sub-region. They also serve as grounds for medical teaching and research.

Currently, there are four teaching hospitals in Ghana, namely the Korle Bu, Komfo Anokye, Tamale and Cape Coast Teaching Hospitals, which are located in the Greater Accra, Ashanti, Northern and Central Regions respectively. Given the specialised nature of services provided, the scopes of influence of these hospitals span the West African sub-region.

The completion of construction of the Legon Teaching Hospital will increase the number of teaching hospitals in Ghana to five.

Table 1.1: Projected Regional Health Infrastructure Needs by 2047

Region	2015 Population (million)	2047 Population (million)	Deficit/ Surplus Pop. To be served (million)	Total Population Served (Assumed 100% Financial Access and Physical Access) (million)	Number of Extra Facilities needed by 2047
Upper West	0.8	1.7	0.1	1.8	1 Regional Hospital
Volta	2.4	4	1.2	2.8	1 Regional Hospital
Eastern	2.9	4.5	0.9	3.6	1 Regional Hospital
Brong Ahafo	2.6	4.7	0.9	3.8	1 Regional Hospital
Upper East	1.1	2.8	0.9	1.9	1 Regional Hospital
Greater Accra	4.7	6	0.9	5.1	1 Regional Hospital
Central	2.6	5.6	2.7	2.9	3 Regional Hospitals
Ashanti	5.5	10.3	2.6	7.7	3 Regional Hospitals
Northern	2.9	7	2.8	4.2	3 Regional Hospitals
Western	2.6	4.8	3.9	0.9	4 Regional Hospitals

Source: TCPD, 2016 based on Data from GHS, (2016)

District Hospitals

These serve as the main source of health care delivery facilities at the district level. With a capacity of 100–150 beds, the district hospital is expected to serve a population of 80,000 to 200,000. If well- equipped and resourced, a district hospital can handle the majority of health cases and will only make referrals to the regional and teaching hospital for cases that are beyond its competence and capacity. The adherence to the ratio of one district hospital to 200,000 persons will result in a near 100 percent access to health care. As per current definition by the Ministry of Health[7], the district hospital provides the full range of primary health care (PHC) needs of the populace within its catchment area.

7 GHS Standard Hospitals Estate Management Department Ghana Health Service, 2016

Construction of teaching hospitals for the Kwame Nkrumah University of Science and Technology (KNUST) and the University of Health and Allied Sciences at Ho, respectively, are underway.

Regional Hospitals

Apart from the Upper West Region, each Region in Ghana has a Regional Hospital. With a bed capacity ranging from 150–300, regional hospitals are meant to serve a minimum of 600,000 and a maximum of 1,000,000 people. This hierarchy of health facilities offers specialist as well as general medical services, although the extent of their current state of logistics remains unknown. The Greater Accra Regional Hospital (Ridge) has been redeveloped to meet the increasing number of patients it is receiving over the years. It must be noted, however, that regional hospitals are equipped to carry out the functions of the teaching hospitals.

The present minimum staffing requirement of at least two general practitioners will be raised to include specialists[8] such that the district hospital becomes the main centre for the delivery of health to all. The provision of accommodation for key staff within the precincts of the hospital is essential for the efficient functioning of the facility and retention of staff.

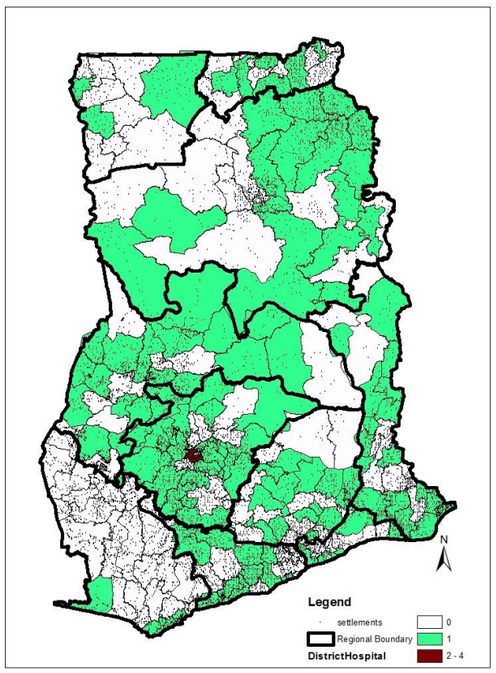
Health Centre/Polyclinics

Polyclinics/health centres serve a range of population between 30,000 and 50,000. They provide a full range of basic primary health care, including clinical, public health and maternity services, and are expected to have at least 10 observation beds. Depending on the complications presented, cases from the polyclinics are referred to the district or regional hospitals.

CHPS Compounds

The CHPS Compound is the smallest health care unit of the primary health care system. It is meant to bring health services within reach of every one such that basic primary health care objectives are achieved. They are community based and manned by a residential Community Health Officer (CHO), and are generally sited in rural areas to serve a population of 5,000 persons. The CHPS Compounds cover clinical care for minor ailments as well as preventive services through house-to-house visits and emergency service delivery at CHP residence[9]. Towards attaining the vision of becoming a high income country, CHPs compound facilities will be gradually phased out of the system, where facilities in good condition will be upgraded to the status of Polyclinics, and equipped with the requisite infrastructure to provide an upgraded set of services to a wider population scope.

Figure 1.2 Distribution of District Hospitals in Ghana



Source: TCPD, 2016[10]

There is therefore the need to accelerate the provision of health infrastructure to ensure equal geographical access to health care across the country.

Number of Health Facilities Required by 2047

The district hospital has been used as the basic unit in assessing the number of health facilities needed by the year 2047. This is justified by the fact that district hospitals are well-equipped and resourced with adequately trained skilled staff, who are able to respond satisfactorily to the vast majority of health needs.

Going forward therefore, the emphasis should be on the construction and equipping of district hospitals, and using the ratio of one district hospital to 200,000 persons and a projected population of about 51 million by 2047 then there should be a minimum of 250 district hospitals in the country. As at April 2016, 120 district hospitals existed nation wide. In the period leading up to the year 2047 there must be a progressive construction and equipping of 130 new district hospitals.

The regional (and district) hospitals will be distributed spatially, in a manner to ensure ease of geographical access to such facilities. Additionally, existing district hospitals, with enough available land, will be identified and developed into regional hospitals. Alternatively, new lands will be secured for new developmental projects as far as the provision of healthcare facilities are concerned.

The Western and Northern Regions need special attention within the plan period, to improve access, with the ultimate goal of having a hospital in each district being recognised as the main provider of primary health care services.

Figure 1.3: Model Healthcare System

Source: Google Images

1.3.2 Educational Infrastructure Needs Assessment

Education in Ghana is typically broken down into three cycles: Primary (6 years), Secondary (6 years– comprising of two 3 year stages for junior and senior high respectively), and Tertiary (4 years, typically for undergraduate studies).

Currently, there exist more than 12,000 primary schools, 5,500 junior secondary schools, 700 senior secondary schools, 18 technical institutions, 21 nursing training colleges, 3 theological colleges, 20 university colleges, 6 tutorial colleges, 10 public universities, 10 quasi-public/ professional institutions, 8 technical universities, 2 polytechnics[11], 3 colleges of agriculture, 65 private universities and university colleges, 42 colleges of education.

Given the vision of attaining high-income status within the next forty years, and to be competitive on the global market, any drive towards improving education in Ghana cannot be over emphasised.

First Cycle Education

First cycle educational institutions lay the foundation for the ensuing cycles and therefore need a lot of attention. They comprise nursery[12], primary and JHS cycles of education in Ghana.

The net enrolment rate (NER) for primary education increased from 78 percent in 2010/11 to 92 percent in 2015/16[13], which is an indication that more 6-11 year olds are enrolled, although this does not meet the international standard of 100 percent.

Again, even though the JHS NER rose from 46 percent in 2010/11 to 50 percent in 2015/16, this raises a major cause for concern, as it indicates that the dropout rate in the transition from primary to JHS is very high. This also implies that there is a large number of young people whose minimal educational attainment will not permit them to earn a reasonable income, which will drive them towards other sources of income which may not be socially acceptable.

Strategies to ensure high retention must be developed and implemented to ensure that the youth are well equipped to contribute positively and participate adequately in building their societies, and to help attain 100 percent literacy rate in the country.

8 Specialists: ENT, Eye, Dental, Pediatrician, Gynecologist, Dietician

9 National Community-Based Health Planning and Services (CHPS) Policy Ministry of Health March 2016

10 Based on DHIS Data, 2016

11 The polytechnics are in the process of being converted into Technical Universities

12 2 years of Kindergarten is increasingly recognised as part of formal education

13 Ghana Education Sector Performance Report, 2016

First cycle institutions must be equipped with the requisite infrastructure befitting their position in a country of high-income status.

For first cycle educational facilities, the following principles should be considered:

1. *Location*: Distance from home in order to increase access and attendance as well as to ensure safety. For schools that cater for younger children, an appropriate boundary or enclosure will be required. To regulate the level of noise so as not to interfere with learning, schools must not be located near high traffic or industrial areas.

2. *Physical Structure*: This should be a sturdy structure built with locally manufactured building materials, environmentally friendly and climate resilient. Roofing should be durable to provide shelter from weather conditions. Classrooms should be adequately ventilated, with raised ceilings to regulate temperature and not be overcrowded. The structure should be fitted with adequate and appropriate furniture, should be well lit and must include ample writing board (and an LCD unit and screen). Schools must have a maintenance plan. The design of the building together with the surrounding environment must generally support teaching and learning.

3. *Health and Sanitation*: Access to potable water, hygienic washroom facilities that are accessible to PWDs and segregated by gender with water closets and sinks with adequate ventilation.

Additional basic but necessary infrastructural facilities that should be included are:

- Administrative Offices / Staff room
- Libraries
- Kitchen/Cafeteria

Boarding facilities should have:

- Safe, adequately furnished and well ventilated dormitories that are gender segregated
- Dining halls
- Multipurpose/Assembly halls
- Adequate bathrooms
- Sports Facilities
- Teachers' accommodation, etc.

All facilities must be gender sensitive and must be inclusive of PWDs. First cycle institutions must also be encouraged to have sports facilities that support track and field events.

The drive to improve literacy rates and education in Ghana must also include an early introduction of pre-school children to ICT and therefore each school must also have a computer laboratory.

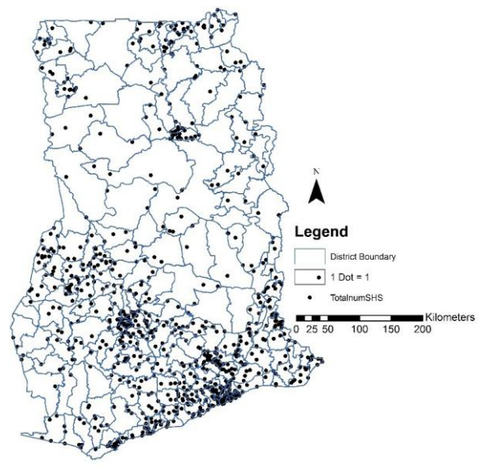
Second Cycle Education

Second cycle institutions in Ghana comprise Senior High Schools (SHS) and Technical and Vocational Education and Training (TVET) institutions. Per the requirements of the current planning standards, a second cycle institution must be sited between 2–4 neighbourhoods, with a total population of 20,000, and a commuting distance of a maximum of 4 km. A look at the spatial distribution of second cycle institutions shows that some districts lack an institution of such status. These include Bia East, Wassa Amenfi Central, Sekyere Afram Plains, Upper Denkyira West, North Gonja, Mion, Wa West and Kwahu Afram Plains North. It is further noted that there is a disparity in the spatial distribution of these institutions between the southern and the northern parts of the country.

Senior High School (SHS)

From Figure 1.4, the spatial distribution of SHSs shows a stronger concentration in the southern half of the country where the population is relatively denser. The concentration is very pronounced between Kumasi, Accra and Sekondi- Takoradi . In the northern half of the country, the regional capitals where population concentration is relatively high, have larger concentrations of second cycle institutions.

Figure 1.4: Spatial distribution of SHS in Ghana



Source: TCPD, (2016)

The increasing involvement of the private sector in providing senior high school facilities helps to meet demand levels, thereby relieving the pressure on government. Currently, 34 percent (284 out of the 834) of second cycle institutions in the country belong to the private sector. The main challenge with the private senior high schools, however, is that they hardly meet the planning standards regarding space requirements and other ancillary facilities like sports infrastructure among others, that are essential to provide a well rounded educational service for their students.

Table 1.2: Regional Distribution of SHS in Ghana

REGION	NUMBER OF SHS	% SHARE OF SHS
Ashanti	131	16
Eastern	113	14
Brong Ahafo	104	12
Greater Accra	101	12
Volta	93	11
Central	89	11
Northern	70	8
Western	63	8
Upper East	43	5
Upper West	27	3
Total	**834**	**100**

Source: Author's Construct based on data from GES

It is worth noting that while a community may host a large number of schools, this does not necessarily result in the ease of access for the community members. For example, many schools in Cape Coast run the boarding school system that allows the majority of students to come from outside the community. Again, there is the qualitative imbalance, where a number of schools located in the urban centres are highly solicited by brilliant students, thus making entry very competitive, sometimes leading to congestion in such schools.

The implementation of the Community Day Senior High Schools Project (which seeks to construct and equip 200 schools)[14] will increase access to SHS education, especially in underserved rural communities, and help to decongest existing schools across the country.

The Gender Parity Index, indicates that the percentage of female enrolment has not reached 50 percent, even though it has increased from 0.87 in 2010/11 to 0.94 in 2015/16. In the Central, Volta and Western Regions, however, gender parity has been achieved. If Ghana intends to attain the set objectives, however, specific strategies need to be outlined to address these.

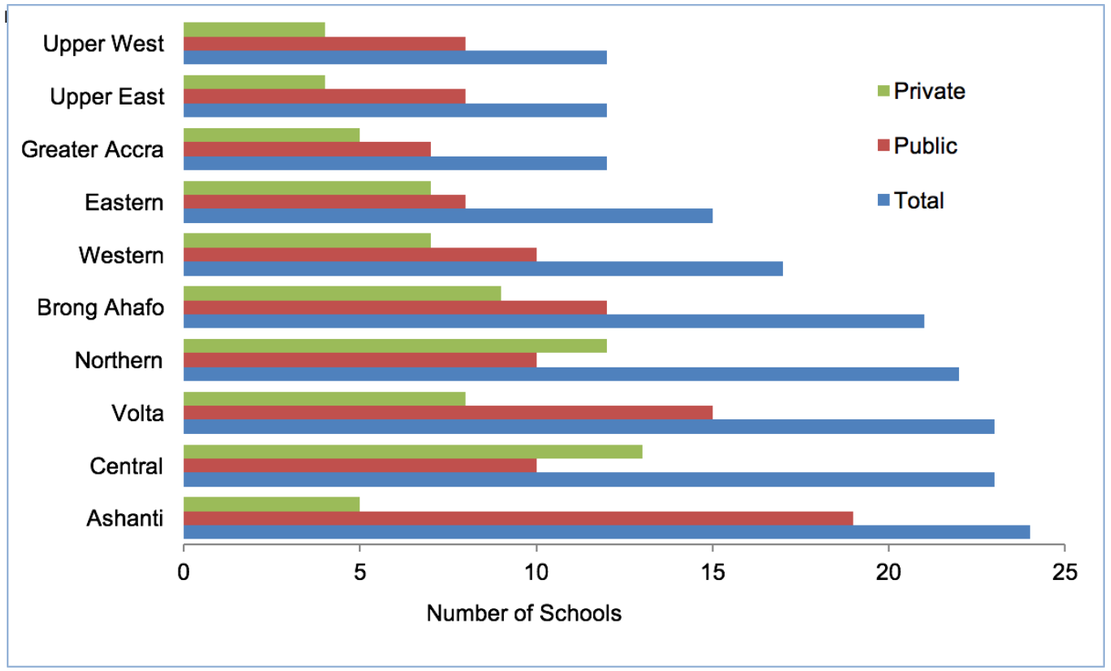
Technical and Vocational Education and Training (TVET)

Technical and vocational education and training is an important component of second cycle education, which prepares students with technical skills for industry. TVET however appears to be stigmatised as it has hitherto been patronised mainly by students with low grades at the Basic Education Certificate Examination (BECE). Further to this, trades like carpentry, masonry, auto mechanics, hairdressing, dressmaking etc., are considered to be the preserve of students who do not have strong intellectual ability to pursue tertiary education in the university. The passing of the law for converting polytechnics into technical universities may reverse this trend.

The Development of Skills for Industry Products (DSIP) is an intervention by the Ministry of Education, which is designed to reinforce the government's efforts in implementing the TVET reforms. This programme is jointly funded by the AfDB (USD 124 million) and the GoG (USD 11 million)[15].

14 At the time of this report, less than 50 schools were completed

15 Educational Sector Performance Report 2016



Source: NSDF Study, based on MoE data (2014)

Towards the attainment of high-income status, per the dictates of the planning standards, second cycle institutions must be evenly distributed across the country for increased geographical access. In the development of such institutions, the following principles may be considered as far as the infrastructural requirements are concerned.

1. *Location*: The planning standards require that an SHS be sited between 2 to 4 neighbourhoods with a total population of 20,000 and a maximum commuting distance of 4 km. To regulate the level of noise so as not to interfere with learning, second cycle institutions must not be located near high traffic or industrial areas. The location must also be safe and serene and must support learning.
2. *Physical Structure*: The built structure must be sturdy, and preferably built with locally manufactured building materials. It must also be climate resilient. Roofing should be durable to provide shelter from weather conditions. Classrooms should be adequately ventilated, with raised ceilings to regulate temperature and not be overcrowded. The structure should be fitted with adequate and appropriate furniture. Classrooms should be well lit and must include ample writing board (and an LCD unit and screen). In the case of boarding schools, dormitories should be spacious, well lighted and ventilated, furnished with adequate beds and students' lockers.
3. *Health and Sanitation*: Access to potable water, hygienic washroom facilities that are accessible to PWDs and segregated by gender with water closets and sinks with adequate ventilation. In case of boarding facilities, adequate bathrooms segregated by gender and PWD accessible.

Additional basic but necessary infrastructural facilities that should be included are:

- Administrative offices
- Assembly halls/Place of worship
- Staff room
- Libraries
- Kitchen/Cafeteria/Dining halls
- Teachers' accommodation
- Multi purpose halls/ departmental workshops
- Science laboratories
- Computer laboratories
- Sports facilities that support track, field and court events (athletics, football, basketball, etc).

16 Data on enrolment levels and other statistics are yet to be received from the Ghana Education Service.

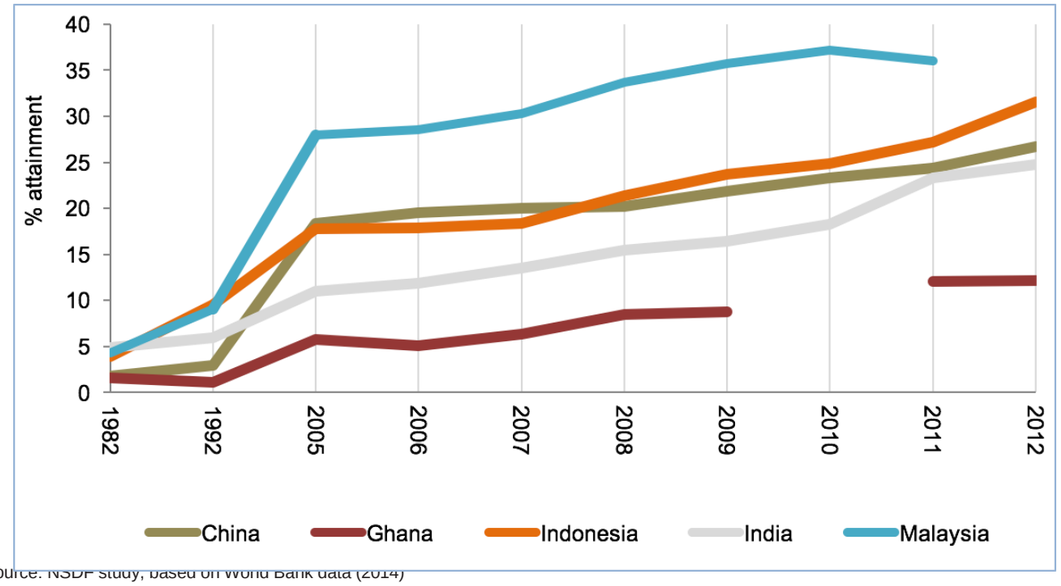
Tertiary Education

Ghana currently has 169 public and private tertiary institutions, recognised by the National Accreditation Board (NAB).

The policy focus guiding tertiary education in Ghana is to enhance science and technology education. Currently, both private and public tertiary institutions are churning out larger numbers of graduates in the humanities and social sciences, rather than adhering to the policy focus. A comparison of Ghana to Indonesia, India, and Malaysia shows that the relatively high tertiary education attainment levels in those countries have largely contributed to their economic transformation, and they have stronger and competitive manufacturing sectors and are approaching the high-knowledge service economies that Ghana aspires to achieve in the next 40 years.

Though tertiary enrolment levels in Ghana has increased substantially over the years, the growth rate still remains lower than in most middle income countries as portrayed in Figure 1.6. In 1982 for example, Ghana, just like China, Indonesia, India, and Malaysia had tertiary attainment rates of less than 5 per cent. By the end of 2012, these rates rose above 25 per cent in all of these countries. The rate in Ghana is still less than 10 percent.

Figure 1.6: Tertiary Education Enrolment Level in Selected Middle-Income Countries



Source: NSDF study, based on World Bank data (2014)

Aside the 9 public universities currently in existence, there is a proposal to develop the University of Environment and Sustainable Development in the Eastern Region. With 8 of the 10 polytechnics having been converted into Technical Universities (and the other 2 awaiting to be converted), there will be a total of 20 public universities in the country, which will be adequate in terms of numbers.

However, the inadequacy of infrastructure for teaching, learning, as well as other ancillary facilities (e.g. for sports) presently poses a challenge. Existing facilities therefore need upgrading and expansion to cater for the current as well as future needs.

There are 3 chartered private universities and 62 private university colleges in Ghana. More than 70 percent of these private university colleges are located in the Greater Accra Region followed by the Ashanti Region and Eastern Regions. The private university colleges however focus mainly on business programmes and the humanities (68 percent), with science and technology programmes constituting only 32 percent[17] of the programmes offered.

17 TEI Annual Statistical report for 2014-2015- NAB 2016

It is therefore necessary for government to focus on developing the science and technology programmes in the public universities and also provide incentives and other measures to ensure that private universities shift their focus to the science-oriented programmes.

Sports Facilities in Tertiary Institutions

It must be mandatory for every tertiary institution to have sports facilities, particularly for track and field events and court events like tennis, basket ball and volley ball. Tertiary institutions, which are land constrained and are in close proximity to each other can collaborate to build and share facilities.

Creation of Education Clusters

To develop the strong industrial and high-end knowledge service economy would require the development of education clusters strongly linked with industry to generate innovative solutions through research. One of such strategies is the development of knowledge or educational hubs. This will require scanning the location of tertiary educational institutions and conciously developing such educational clusters. For instance, there are five tertairy institutions within a five kilometre radius of the University of Ghana. In addition, there is vast land just opposite the university which provides an opportunity to develop a great educational hub for research, innovation and also develop the service economy of the country. This could be replicated in the Ashanti and Central regions using the KNUST/New Campus for the Kumasi Technical University and the Cape Coast University/ Cape Coast Technical University as hubs.

1.3.3 Judiciary, Security Service and Law Enforcement Needs Assessment

The court system in Ghana comprises 5 levels of courts: circuit courts, district courts, high courts, court of appeal, and the supreme court. The district and circuit courts are classified as the lower courts whilst the other 3 fall in the category of superior

courts. The Fast Track Court, Commercial Court, Labour Court, Human Rights Court, Land Court, Economic and Financial Crimes Court, Family Court, Probate and Administration are divisions of the High Court. In response to global trends in the protection of vulnerable persons and gender- based issues, the Domestic Violence Court was set up 2009 to handle criminal cases including defilement, incest, indecent assault, cases under

the Domestic Violence Act and cases involving issues related to children.

There were 214 judges in 2015 and 175 magistrates[18] in 2016 making a total of 389 persons dispensing justice. The District Court statistically handles the largest number of cases and by law it is required that each district should have at least one court.[19] This metric will be revised to the ratio of population to a district court. A target of 50 judges to 100,000 persons is proposed[20].

Correctional Facilities (Prisons) in Ghana

There are 43 correctional facilities in the country with a total design capacity for 9,778 inmates distributed between them. While 25 of these facilities were designed purposely as correctional facilities, the remaining 18 were previously designed as forts, military camps, warehouses or clinics, and were later converted to correctional facilities, and thus not fit for the latter purpose. There is therefore the need to redesign these facilities to meet their intended goal of correcting deviant behaviour and to prepare inmates for reintegration into society.

Figure 1.7: An Overcrowded Prison Cell

Source: Effiase Project Report, 2015

Again, of the 43 existing facilities, 23 currently exceed their design capacities in terms of the number of inmates being held there. This could also be partly blamed on the holding of persons on remand in these facilities. Fast tracking the pronouncement of judgments could reduce the number of persons unduly being held on remand, However, over the long term, facilities that have exceeded their design capacities must be redeveloped or expanded to address this issue.

18 2015/2016 Judicial Service Annual Report
19 2015/2016 Judicial Service Annual Report
20 Compare this to Liechtenstein chichtesteervice eichestiended such that ration of population to district courtw it is required that each district should have a and Germany at 183.7 and 24.6 respectively in 2013: Source Actualix 2017

Table 1.3: Design Capacity of Correctional Facilities and Numbers of Inmates

Type of Prison	Original Capacity	Current No. of Inmates	Variance	Purpose of Facility
Nsawam Medium (M)	851	3349	-2498	Built as Prison Facility
Kumasi Central (M)	416	1681	-1265	Built as Prison Facility
Sunyani Central (M)	430	897	-467	Built as Prison Facility
Koforidua Central (M)	300	645	-345	Built as Prison Facility
Sekondi Central (M)	412	719	-307	Built as Prison Facility
Ho Central (M)	170	465	-295	Built as Prison Facility
Wa Central (M)	50	225	-175	Built as Prison Facility
Winneba Local	59	232	-173	Not originally a prison facility
Obuasi Local	100	270	-170	Not originally a prison facility
Tamale Central (M)	78	237	-159	Built as Prison Facility
Tarkwa Local	100	251	-151	Not originally a prison facility
Akuse Local	60	208	-148	Not originally a prison facility
Nsawam (F)	71	200	-129	Built as Prison Facility
Kpando Local (M)	150	265	-115	Built as Prison Facility
Kumasi Manhyia Local	120	229	-109	Not originally a prison facility
Navrongo Central	108	199	-91	Built as Prison Facility
Bawku Local	40	84	-44	Not originally a prison facility
Kumasi (F)	30	43	-13	Built as Prison Facility
Amanfrom Settle Camp	140	152	-12	Built as Prison Facility
Salaga Local	30	40	-10	Not originally a prison facility
Tamale (F)	6	15	-9	Built as Prison Facility
Kenyasi Settlement Camp	108	116	-8	Built as Prison Facility
Hiawa Camp	75	81	-6	Not originally a prison facility
Osamkrom Camp	70	70	0	Built as Prison Facility
Ho (F)	18	17	1	Built as Prison Facility
Yendi Local	120	116	4	Built as Prison Facility
Akuse (F)	12	8	4	Not originally a prison facility
Sekondi (F)	30	26	6	Built as Prison Facility
Kete-Krachi Local	250	241	9	Built as Prison Facility
Gambaga Local	46	20	26	Not originally a prison facility
Ahinsan Camp	112	80	32	Built as Prison Facility
Ekuasi Camp	144	108	36	Not originally a prison facility
Sunyani (F)	60	10	50	Built as Prison Facility
Duayaw Nkwanta Camp	150	98	52	Built as Prison Facility
Ankaful CDP	100	27	73	Not originally a prison facility
Ankaful Annex Local	500	363	137	Not originally a prison facility
Awutu Camp	250	107	143	Built as Prison Facility
Senior Correctional Centre	340	155	155	Not originally a prison facility
Yeji Camp	250	81	169	Not originally a prison facility
Ankaful Main Camp	562	314	248	Not originally a prison facility
Forifori Camp	300	40	260	Not originally a prison facility
James Camp	560	270	290	Not originally a prison facility
Maximum Prisons Ankaful	2000	830	1170	Built as Prison Facility

Source: Ghana Prisons Service, 2016

Correctional facilities in Ghana, as in most developing countries, largely operate based on the principle of enforcing reprimand through custodial restrictions for infractions of the law. As such, the physical facilities are skewed towards incarceration and the denial of liberty and hardly deal with the requirements for reformation and preparation for a return to society. The main idea behind this philosophy of punishment is the construction of even more facilities to support custodial sentences.

There is the need to shift emphasis to reformation and rehabilitation. This could be done by an increase in non-custodial sentencing, i.e. an increased focus on creation of rehabilitation centres where inmates can learn new trades and further their education.

Figure 1.8: Correctional facilities from around the world

Source: Google Images

Other Security Services and Law Enforcement Infrastructure

Other facilities like police stations and barracks (housing for the police, prisons and army officers) exist. These are however insufficient largely due to the fact that they have exceeded their design capacities. The barracks are mostly in a dilapidated state, and are not enough to accommodate all law enforcement agents.

The Ghana Prisons Service report on the Effiase Project (2015), for example, states that two- thirds of prisons staff are forced to stay in private residences, while the remaining third are cramped into small rooms and are forced to leave some of their belongings on the corridors and verandas.

Accommodation for security and law enforcement officers should be incorporated in the upgrading and expansion processes for correctional facilities over the period.

1.3.4 Commercial Infrastructure

Retail Space

Commercial and trading activities take place in a wide variety of places and facilities spanning street hawking and vending along the roads, through the small neighbourhood shops all the way to the upmarket shopping malls. At the lower end of the scale, trading activities are unregulated whilst the large shopping malls at the top end of the scale depict a well-managed structure.

As the population increases and demands more services, the demand for commercial facilities also grows. It is important that in the design and provision of these facilities, the location or ease of reach, nearness to other facilities and services, physical access to the structures, as well as access to public transport are considered. Even now, there is an increasing demand for land for commercial purposes within the city cores of major urban areas. Residential developments are therefore, increasingly giving way for mono- functional commercial developments. This is particularly true for Accra, Kumasi, Sekondi- Takoradi and Tamale.

As areas within the central business districts (CBDs) of key districts within GAMA are being gentrified, there is the need to reintroduce residential functions into urban centres. This will reduce the rate of urban sprawl, with mono- residential areas at the urban peripheries, coupled with its attendant infrastructure provision and city management challenges. Since no empirical data exists on the extent of conversion of residential buildings/areas to commercial buildings/areas, this necessitates further research.

Office Accommodation

Many buildings in the major cities and regional capitals, which have been specifically designed and constructed for administrative purposes, date back from the pre-independence period to the immediate post-independence era. Majority of spaces currently being used as offices were originally residential buildings, which were purposely so designed, but have been rehabilitated and remodelled to serve administrative purposes. The challenge this poses is the pressure it puts on existing infrastructure which was conceived for residential use, for example, on-street parking.

Going forward, future office spaces must be designed and developed with technology driven environments and flexibility in mind. A recent unique entrant into the provision of purpose built office development in Ghana is the Octagon in Accra. This is a mixed facility, which comprises offices, retail areas, hotel suites and parking. Its uniqueness in Accra is derived from the sale of independent office space in modules in the same way as apartments are sold off. In places like the Osu Oxford street, where streets are very narrow, new buildings are considering the possibility of incorporating underground parking in their structures. This model can be adopted and replicated, especially in areas with narrow streets that do not favour on street parking, in order to ease congestion.

1.3.5 Public Recreation, Technology and Social Amenities

Libraries

The traditional role of the library is to serve as a storehouse of books/knowledge and place for archiving manuscripts, art and important documents. It has been the centre of information given that it houses the foundational building blocks of information.

The library is gradually being transformed into a place, which will reflect the ever-dynamic changes in technology with an increasing reliance on social media, streaming content, and open-source data. In addition to being places of acquiring knowledge and learning about the past and the present they will become places to create the future.

Currently, Ghana is nowhere near the UNESCO recommendation[21] for a threshold of a stock of 9,000 volumes to a literate population of 3,000 for public libraries. The central role of the library as a repository of facts and information is going through rapid transformation. It is proposed that each district has at least one public library with an area of not less than 300 m^2.

Figure 1.9: Futuristic Technology-Based Bookless Library

Source: Google Images

Green Spaces and Public Open Spaces

The SDG target 11.7 states: “By 2030, provide universal access to safe, inclusive and accessible green and public spaces, particularly for women and children, older persons and PWDs.”

In the past, green spaces and parks were created for the aesthetic value of beautification. Today the perception of public parks has shifted as their functional importance in the mitigation of the effects of global warming and natural disasters become increasingly clear. Parks help to absorb water run off thereby reducing the effects of flooding, reduce erosion and contribute immensely to the absorption of carbon dioxide thus improving air quality. The sustenance of social cohesion and inclusion, and civic identity of the urban areas should also be noted.

The number of functional green spaces in the country is inadequate[22].

21 UNESCO Study: Standards for Library Service – An International Survey F.N. Withers, 1974

22 This is primarily intended for informal or casual recreation pursuits. Public open spaces could be passive or active and include parks and gardens, palava grounds or durbar ground and small play areas for children.

This situation is compounded by the closure of the Department of Parks and Gardens. District and neighbourhood parks are generally not available in the country. The Greater Accra Region with an area of 152,000 hectares has only one functioning public park, i.e. the Efua Sutherland Children's Park. There is also the Achimota Forest and an arboretum, which is the Legon Botanical Gardens; however, these are not adequate. Kumasi now has the Rattray Park at Nhyiaeso as part of the "Greening Kumasi Project". It is a 0.42 hectare park with several features.

Figure 1.10: Rattray Park, Kumasi

Source: GraphicOnline.com (2016)

Given the built-up nature and private ownership of property in the primary cities in Ghana, it is proposed that the various sub-metros demarcate land for use as green open spaces through mutually beneficial arrangements with the owners of run down properties. The options for acquisition of the land range from outright transfer of ownership to the sub-metros through to joint ownership of the space where the owner would receive some income periodically.

In the granting of development permits it is stated that at least three trees be planted in the frontage of the property. There is the need to review this upwards and ensure that this is adhered to.

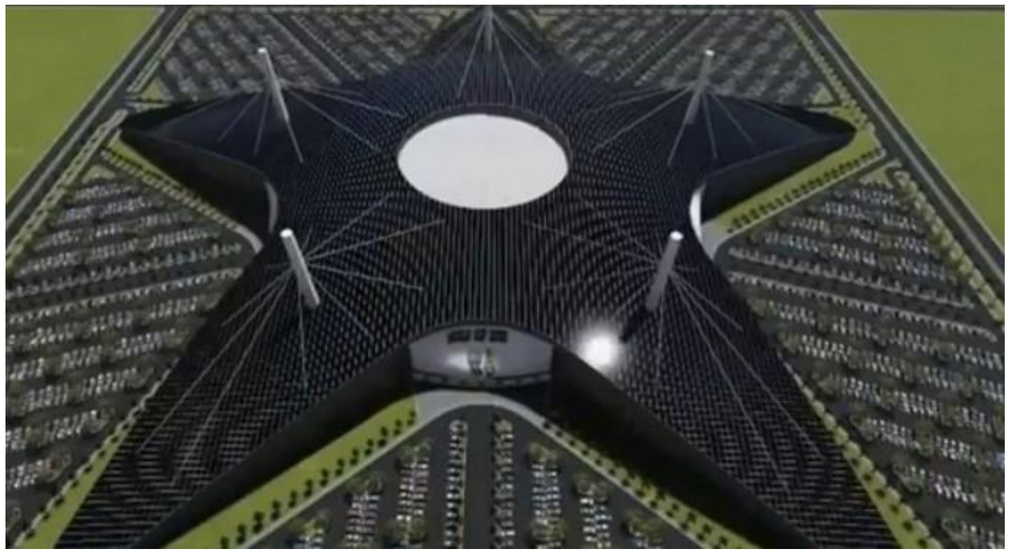
Sports Facilities

The development of sports infrastructure promotes economic development both at the national and local levels. Many countries, which have taken advantage of sporting activities, have received substantial economic impacts. For countries that have hosted international events, for example, have had their economies receive a boost through ticketing, job creation, tax revenues, etc. The development of sports infrastructure is also considered a major step towards promoting public health and improving the life expectancy of the citizenry. These facilities do not only provide recreation, but also provide avenues for keeping fit as well. During the planning period, sports infrastructure in the country will be given a lot of attention, not only for the diverse benefits to the local and national economy, but as a way of ensuring the general well being of the citizenry and also to improve the urban landscape.

Bidding and Hosting International Events

It is anticipated that Ghana will bid to host the African Cup of Nations and the All African Games; the Commonwealth Games; the FIFA World Cup and the Olympic games in the 2030s through the 2040s. As part of preparations towards meeting this aspiration, a number of high capacity stadia would be constructed, for example, the black star stadium (fig. 1.11), to host the event.
The iconic stadium, which is designed as a five point star facility, is a futuristic facility that will have its entire roof made up of solar panels to provide electricity for the stadium, together with the recycling of solid and liquid waste from the stadium to provide additional energy. Again, this facility will have a 4000 car capacity underground parking space, equivalent to a 4-storey building, and will have other recreational facilities, shops, restaurants, a museum and a world-class sports medicine facility among others.

Figure 1.11: Proposed Black Star Stadium



Source: GraphicOnline.com (2017)

Box 4: Benefits of Hosting International Sporting Events

FIFA, as an international sports body, is committed to ensuring that member association receive and maximize the benefits of bidding for and hosting a World Cup event, both for continued global development of the game of football, and the achievement of wider social goals among others. The benefits, which are often referred to as the "legacy" are defined as "The sustainable benefits generated for the host member association and country well, before, during and long after the event."

Some of the benefits accrued to host countries of FIFA events include:

- New and improved facilities to support the development of the game at all levels;
- Increased number of and higher quality football development programmes up to the grassroots;
- Increased cooperation and goodwill between the stakeholders – member association, host cities, commercial partners, media, etc.
- Increased civic pride and community empowerment;
- Enhanced partnerships and greater commercial activity and investment from new sponsors, media, broadcasters and large corporations;
- Breaking down of social barriers to participation and high performance by both women and young people;
- Using successful players as role models to encourage young and emerging players and to promote health and other social benefits.

According to an article by "clipper-round the world" hosting a sporting event is described as tourism's best friend. The article further explains that different countries that have ever bid aggressively to host a sporting event, may have had their reasons, however, the financial benefits are most likely to be at the top of the list, due to the enormous economic impacts hosting sporting events brings. Additionally, the location's global profile is also given a boost to trade and investments.

BARCELONA

The city of Barcelona was totally transformed after hosting the 1992 Olympic games, which left a long term sporting legacy for the city. The Olympic games provided an avenue to restructure the urban landscape. New roads, sewerage systems, green areas and beaches were created, all in a bid to put the city in a good shape to host the event. City authorities admit that, based on the impact of the event on Barcelona, the investment was worth it. The city experienced strong economic regeneration, with a significant amount of jobs created for the local people. The global exposure gained from staging the event also opened the city up to several investments both in the sports industry and non-sports industry. The city of Barcelona is thus touted as the "inspiration for any city holding an Olympic Games after its success in 1992."

BEIJING

Beijing was declared as the hosts for the 2008 Olympic games. Over the period leading up to the event, China constructed and refurbished 37 stadia and venues to host the event. New transportation infrastructure was developed, and about $200million was spent to demolish dilapidated buildings and refurbish historic areas and landmarks. Massive investments were made in improving technology as well. After the event, Beijing continues to experience a boost in tourism, and challenges with air quality has been greatly improved with China launching and pursuing about 20 projects, including the establishing of green belts, to improve the city's air quality. The inflows of investments from sponsors, suppliers etc., have had an important ripple effect on the economic growth of the areas surrounding the city.

LONDON

When London won the bid for the 2012 Olympics, many believed that the city would experience budget deficit and increased taxation. However, according to a Government report, while the cost of hosting the Games was estimated at £8.9bn, the UK economy saw a £9.9bn growth in trade and investment from hosting the event.

AUSTRALIA

For Australia, hosting two major international events was a big win for the economy. In 2014, the country hosted the AFC Asian Cup and in 2015, the International Cricket Council World Cup. These added an estimated £172m to the economy.

SOUTH AFRICA

The economy of South Africa was transformed significantly after hosting the 2010 FIFA World Cup. The citizens enjoyed new roads, transport links and telecommunications infrastructure, which greatly enhanced the commercial life in the country. About 6,000 construction jobs were created as part of investments in the stadia, and the profile of South Africa was enhanced such that five years after hosting the World Cup, South Africa won the bid to host the 2022 Commonwealth games. Global assistance was put in place to reduce the crime rate. In fact, the Finance Minister was reported to have said after the world cup that, "the social and economic benefits created by hosting the world cup would continue to benefit South Africa long after the final whistle was blown."

THE UNITED KINGDOM

The UK expected to receive more international visitors for the Rugby World Cup (2015) than any tournament they had ever hosted. It was anticipated that with ticket purchases, travel costs, accommodation and match day entertainment costs etc, would contribute almost £900 million in direct expenditure. About £85 million was invested in infrastructure in host cities like Cardiff, Milton Keynes and Birmingham. In total, the Rugby World Cup 2015 delivered about £2.2 billion in output to the host economy, and showcased the eleven host cities to a global market, attracting future business investment and tourism. Cities like Newcastle already reported huge financial success following the tournament. Research following the RWC 2015 has proved the tournament to be hugely positive for trade and business.

References: 1. http://www.fifa.com/governance/competition-organisation/benefits-of-bidding.html
2. https://www.clipperroundtheworld.com/partnerships/insight/sporting-hosts
3. https://www.chinabusinessreview.com/the-2008-olympics-impact-on-china/

In preparing towards this venture, there is the need to ensure that the country's energy, water, transportation and housing systems, as well as the hospitality industries are strongly in place to support and sustain the event processes and the influx of people from the international community into the country.

Sports for Recreation

People participate in sporting activities during leisure times, as a form of recreation. The benefits of recreational sports include:

1. Social cohesion,
2. Community empowerment,
3. Balance from work and good mental health,
4. Environmental protection, through the preservation of green spaces and natural areas,
5. Positive alternatives to youth antisocial behaviour,
6. Improves health and general wellbeing,
7. Opportunities for networking, etc.

Each town, village or community will be encouraged to have adequate sports infrastructure to promote the physical and mental well being of the local inhabitants.

Figure 1.12: Lizzy Sports Complex in Ghana

Source: Google Earth Satellite Image

Figure 1.13: Community Sports Complex (Doncaster, England)

Source: Google Images

Again, in the planning of cities, principles that encourage walking and cycling will be incorporated in the city and transport designs.

Figure 1.14: Incorporating cycling and walking in city planning designs

Source: Google Images

The establishing of green infrastructure network and the creation of green belts will not only check unrestricted sprawl of large built up areas and prevent neighbouring towns from merging, but will also afford such benefits as walking, hiking, camping and biking. This will thus be strongly pursued and implemented.

Again, as a form of improving the well being of the youth and ensuring that children are active rather than being on the internet or watching television for long hours, schools must be encouraged to have adequate sporting infrastructure, which will not only help kids to exercise, but also help identify talents that can be tapped into for the future.

Figure 1.15: Carondelet High School Sports Complex (USA)

Source: Google Images

Scaling up Tour du Ghana (National Cycling Tour) Under the Ghana Infrastructure Plan, the Tour du Ghana will be further developed and enhanced to international standards. The Tour du Ghana was born out of the desire of the Ghana Cycling Federation in 2014 to have a world-class race to contribute to the sports sector. It was also meant to encourage healthy living through sports, nutrition and clean environment; as well as to identify and develop young talents to participate in and to win international awards and also to boost local and international tourism.

Currently, the tour du Ghana route passes through major cities and natural landmarks including the Weija Lake, Kintampo waterfalls, Black Volta River, White Volta River, Elmina Castle, Cape Coast Castle, Ghana's largest and oldest market in Techiman, and the oldest pottery Centre, etc. Riders compete over a total of 11 stages in 13 days making a total distance of 1,313 km.

The quality of every aspect of the programme would be enhanced to conform to the Tour de France, which is an annual multiple stage bicycle race, primary held in France, and occasionally making passes through nearby countries. It consists of 21 stages over a little more than 3 weeks and covers around 3,500 kilometres. It is the largest annual sporting event on the planet.

A remarkable logistical operation, thousands of people move almost every day from one town to the next like a mini city on wheels. In addition to the competing riders, there is a massive support staff as well as journalists, police officers, mechanics, chefs, and many more people who literally help put the 'show on the road'.

The Tour involves shuttling, accommodating and feeding over 4,500 people each and every day

for the full 23 days (21 days of racing plus two rest days) A total of 2,400 vehicles follow the race, including the race director with support team vehicles, medical and general support. Then there is the matter of the huge, dedicated, fanatical crowds that line the routes for three weeks. The race brings in representatives from
75 radio stations in 25 countries and over 450 newspapers, photographers and media from 26 countries in total.

The entire budget for the 'Le Tour' is estimated at several hundreds of million euros of which, approximately 50% is derived from the broadcast television rights, 40% from title and presenting sponsors and the remainder from participant fees paid by each of the over 30 towns where the stages start and finish.

Figure 1.16: Le Tour de France

Source: Google Images

Developing landmarks and iconic buildings in Ghana's cities

The development of landmarks and iconic buildings are important because they project a city's identity and preserves their history and values. Landmarks also constitute a major boost to the tourism industry by providing tourists with reasons to visit specific cities in order to experience particular landmarks for themselves. Today's city planning choices help cities to convey messages of sustainability, green choices and living responsibly. From aerodynamically designed glass towers to updating old landmarks with green solutions to designing state-of-the-art transportation halls and tunnels, city development can display all the advances in technology and thinking in landmarks.

Among the many reasons that make a city great is the number of tourists visiting there. Therefore, turning Ghana's cities into new tourist attractions will be a priority of the infrastructure plan. Landmarks and iconic buildings will be developed and built as development agents, for aesthetic purposes and also as tourist's attractions. Generally, historical heritage and monuments were the basis of cultural and architectural tourism. However today, excellent Modern architecture has the same power of attraction.

Figure 1.17: Iconic Landmarks from around the world

Source: Google Images

The Hospitality Industry and Hotel Accommodation

The hospitality industry cannot function without hotel facilities to accommodate tourists and visitors. Given Ghana's anticipation to host international sporting events in the near future, it is imperative that the hospitality industry, and particularly the hotel industry receives attention and be raised to the desired international level.

It is undeniable that the industry provides massive support for tourism, and given the necessary improvement, it can be capitalised upon to boost the economy.

Box 5: The Economic Impacts of Hotel Development

In certain cities and municipalities around the world, incentives like tax breaks, favourable land leases, assistance with financing etc., have been offered to stimulate hotel development. Hotels are an important economic component for any community.

Direct Impact

This constitutes all projected revenues that will be generated from consumers. This includes revenue from room occupation, food and beverages, restaurants and banqueting, as well as other potential revenue sources such as spa or parking. Direct impact also includes total amount paid out to employees hired at the hotel as well as money paid out to construction workers who constructed or maintain the hotel.

Fiscal Impact

This refers to all taxes that will be collected from the development and operations of the facility. This includes sales taxes collected in association with the hotel-generated revenues, as well as all payroll related taxes collected from full-time hotel employees and temporary construction workers. Local governments will also collect new property taxes from the operation of the hotel. Many local governments also collect revenues through lodging taxes.

Indirect Impact

Indirect impact includes all jobs and income generated by businesses that supply goods and services to the hotel. Examples of businesses that will indirectly benefit from the development of a hotel include suppliers of rooms related goods (housekeeping supplies, room amenities, etc.), telecommunication vendors (internet, cable, etc.), utility companies, food and beverage suppliers, and other hotel related vendors.

Induced Impact

Induced impact refers to economic effects generated when employees (full-time and temporary) and suppliers re-spend their wages on local consumer purchases. For example, an employee may purchase gas for their car on their way home from work.

Source: The Economic Impact of Hotel Development by Alan Suzuki, https://pinnacle-advisory.com/press-room/the-economic-impact-of-hotel-development/

Number of hotel rooms per 100 population

The World Economic Forum's Global Competitiveness Report 2014–2015 has prepared the database of hotel rooms for all countries, figure 1.18. It shows that Malta has the highest number of hotel rooms per 100-persons in the world, which is 4. This implies that for every 100 persons in Malta, there are about 4 hotel rooms available. Or for every 1,000 persons in Malta, there are 40 hotel rooms. Ghana, which placed 106 out of 140 countries surveyed, has 0.1 hotel rooms per 100 persons. In other words, for every 1,000 persons in Ghana, there is only one hotel room available.

For Ghana to accomplish its target of making the country a tourism destination, it must achieve a target of 1 hotel room per 100 persons, or 10 hotel rooms per 1,000 persons. This is equivalent to achieving current targets for Jamaica, Czech Republic, Slovenia, Finland, United Kingdom, etc. which have 1 hotel room per 100 persons. This means that with Ghana's (2015) population of
27 million, it must have 270,000 hotel rooms. However, it had only 44,746, as shown in Table 1.4.

Figure 1.18: Number of rooms per 100 population

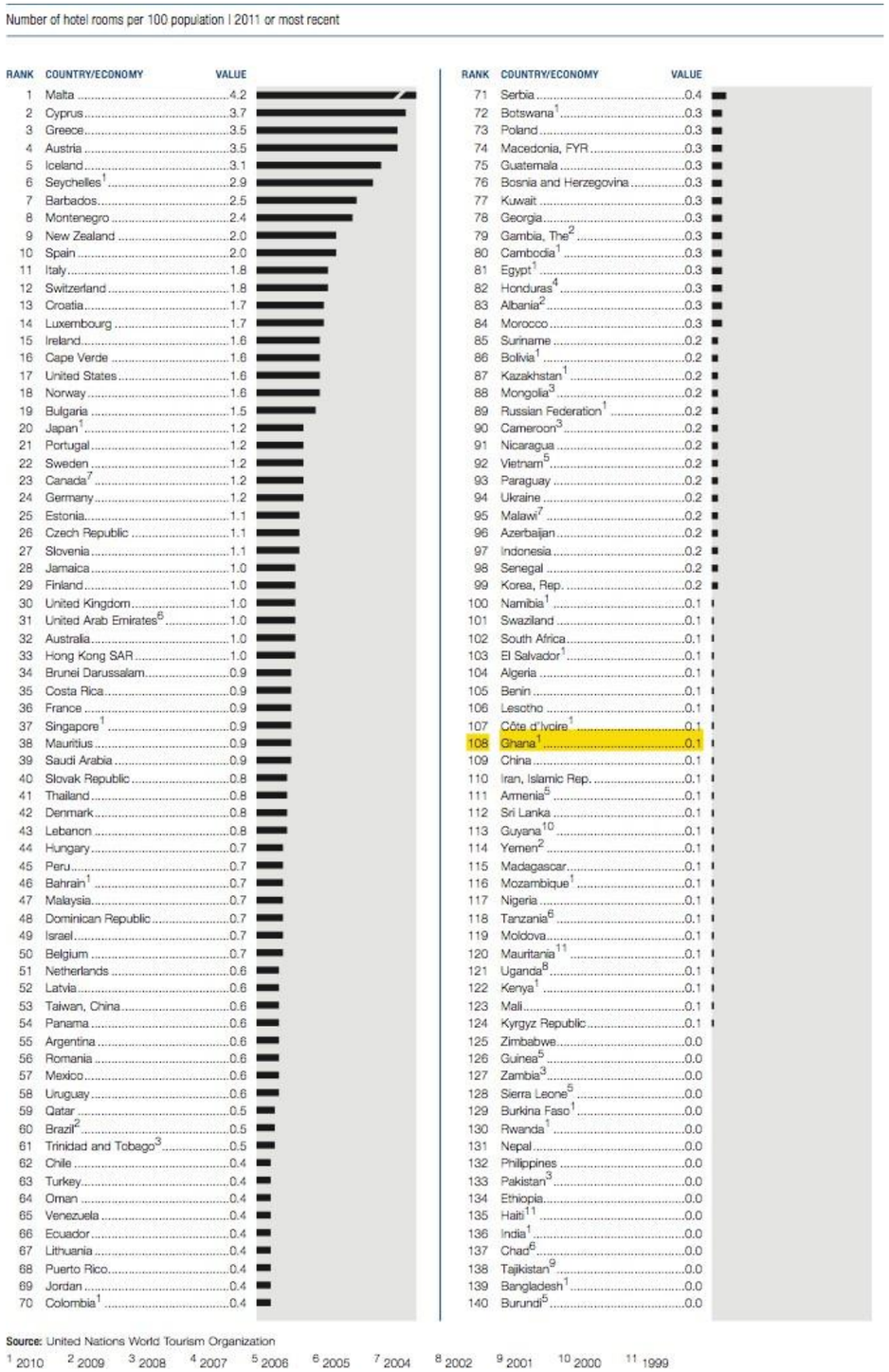


Table 1.4: Number of hotel Rooms and Beds[23]

Year	Hotels		
	Number	Rooms	Beds
2010	1,207	28.058	34,288
2011	2,136	34,423	39,934
2012	2,136	34,423	39,934
2013	2,228	36,749	49,176
2014	2,570	41,331	45,507
2015	2,723	44,746	49,208

Source: Ghana Tourism Authority

Table 1.4 presents the number of licensed hotel facilities in the country. Between 2014 and 2015, the number of hotels added to the existing number was 183, which translated into an additional 3,415 rooms. Currently, the total number of hotel rooms stand at 44,746. This number, however, is irrespective of the star rating of the facility. Table 1.5, therefore, gives the breakdown of licensed hotels in Ghana and their star rating.

Table 1.5: Breakdown of licensed hotels in Ghana and their star rates by Region

REGIONS	5-STAR	4-STAR	3-STAR	2-STAR	1-STAR	GUEST HOUSE	BUDGET	TOTAL
ASHANTI		1	10	42	64	16	323	**455**
BRONG AHAFO			1	8	12	4	100	**185**
CENTRAL			5	15	28	27	178	**251**
EASTERN		1	6	23	45	16	193	**284**
GREATER ACRRA	3	7	9	66	101	60	457	**703**
NORTHERN				9	10	8	75	**102**
TEMA			1	15	32	22	164	**234**
UPPER EAST				3	2	5	78	**86**
UPPER WEST				1	5	1	31	**38**
VOLTA			2	7	20	7	100	**136**
WESTERN		2	8	21	63	19	136	**249**
TOTAL	**3**	**11**	**42**	**210**	**302**	**184**	**1,891**	**2,723**

Source: Ghana Tourism Authority

There are only three (3) hotels in Ghana with 5-star rating, and they are all located in the country's capital, Accra. Of the 11 hotels with 4-star rating, 7 are found in Accra as well, although all 11 fall within the southern Zone of the country. This implies that visitors travelling beyond the southern belt of the country only have access to hotel facilities with lower star rating. A look at the data presented in Table 1.6, however indicates that patrons have the preference for the higher star rated facilities, and will most likely patronise these rather than the lower star rated ones.

Table 1.6: Hotel Occupancy Rates Room Occupancy (%)

CATEGORY	2010	2011	2012	2013	2014[1]
5-Star	66.03	69.93	69.93	68.73	62.73
4-Star	80.88	69.66	69.66	72.42	60.75
3-Star	52.23	53.53	53.53	72.10	62.84
2-Star	42.58	48.42	48.42	57.24	49.08

Source: Ghana Tourism Authority

23 Provisional Figures

There is no doubt that the hospitality industry contributes massively to the country's economic growth by raising the profile of the country and driving foreign investment. As the country aims to attain a high-income country status, coupled with the ambition to host international events, the hotel industry needs a major boost. In 2047, when the population is 52 million, Ghana should have 520,000 hotel rooms. There is therefore the need to engage the private sector adequately to develop hotels throughout the country as part of the Ghana Infrastructure plan.

The role of the government will be to:

1. Ensure that an enabling environment is created for hotel development. This will include ensuring that good transport network, electricity, water and sewerage services are adequately provided.

2. Ensure that small businesses that feed into the sector thrive by creating an enabling environment for them as well.

3. Create policies to improve the skills of the local people in order to improve the quantity and quality of jobs assigned to them in the hospitality industry.

4. Develop best practices and standards for the industry.

Cemeteries

Most cemeteries in Ghana were sited at locations that were once on the periphery of the settlements. With the growth of communities these cemeteries have now become islands surrounded on all sides by settlements with no options for horizontal physical expansion. Cemeteries are not to be regarded as places to be avoided, but as places for contemplation and regular visits in order to connect with departed relatives, thus becoming valuable open (green) space. Again, many cemeteries also contain fine sculpture, distinctive architecture, elaborate tombstones and intricate engravings, which offer insights into a community's cultural heritage.

The Gethsemane Cemetery in East Legon and the Little Acre Cemetery at Lashibi Funeral Home, both in Accra, are examples of the trend of well- managed final resting places. At Gethsemane, the burial place is leased for 15 years after which it is replaced with a headstone to regenerate the land for future use.

Figure 1.19: Gethsemane Cemetery, Accra

Source: Google Images

In 2013 there were 209,500 deaths in Ghana[24]. The current planning standards require that a minimum of 10 hectares be provided for every 100,000 persons. With a projected population of
52.2 million by 2047, a nationwide requirement of about 5,220 hectares is projected for use as cemeteries.

The possibility of elevating platforms above older cemeteries to permit other uses of the space would be considered. Alternatively, the cremation method of interment may be encouraged, as it is not only environmentally friendly, but would save space by reducing the size of land allocated as burial spaces. In the implementation of these proposals, however, attention must be given to the cultural beliefs of the communities involved.

1.4 Overview of Proposed Development Strategy

1.4.1 Key Development Goals and Objectives

Over the implementation period, the focus of the development goals will evolve from solving the supply shortages in the short term, to the development of cities that are sustainable in the long term. In the first five (5) years, the goal will be to aggressively resolve the social, civic and commercial infrastructure backlog, which involves increasing the pace of delivery of new infrastructure on one hand, and executing the required retrofitting necessary for existing infrastructure on the other hand.

The medium term, in line with the housing sector, will focus on re-engineering existing human settlements to meet sustainable city principles where necessary. Access to such social and civic infrastructural facilities as markets, public parks, health and educational facilities, etc., will be increased to match the intended growth.

By the end of the medium term, a substantial proportion of social and civic infrastructure gaps in human settlements will be addressed and existing settlements will emerge as modern sustainable cities. By the long term, the country would have reached a state where spatial management, infrastructure, social systems and housing have evolved to meet the vision of a high-income country. The following section presents the development goals and objectives that will be pursued over the period.

Table 1.7: Key Development Goals and Objective

GOALS	OBJECTIVES
1. Ensure a healthy and productive population that reproduces itself safely	1.1 Reduce inequalities in access to health, nutrition services and health outcomes
	1.2 Increase access to educational institutions
	1.3 Provide adequate open spaces and public parks
2. Develop robust social and civic infrastructure facilities that are responsive and support society's wellbeing and transition to a high-income country.	2.1 Provide new libraries for communities
	2.2 Improve access to judicial services
	2.3 Decongestion of prisons and other custodial facilities
3. Ensure that people live long, healthy and productive lives and reproduce without an increased risk of injury or death	3.1 Ensure universal access to quality health care, support systems and improve healthy behaviour
4. Regularise and modernise informal commercial facilities and spaces.	4.1 Improve access, functionality and quality of social and civic facilities in settlements
5. Improve environmental quality of urban life.	5.1 Promote spatial integration of urban city hierarchies.
	5.2 Enhance capacity of local governments to effectively manage spatial planning and development

Source: Authors' Construct (2017)

1.4.2 Implications of Development Strategy on Social Services, Civic and Commercial Infrastructure

The plan seeks to improve access to well- functioning social and civic services, regularise and improve the large informal commercial sector, among others.

The pursuance of the goals in this plan will both directly and indirectly result in improvements in access to quality social services. The complementary social, civic and commercial infrastructure necessary to make the neighbourhoods viable, are embedded in the slum upgrading programmes.

The plan will improve the number of such facilities available in communities. Recreational facilities, particularly community parks and green spaces will be given a major boost. At the end of the plan, vibrant and innovative communities with a sense of place would be developed. In tune with the Ghanaian personality and the aspirations of the country, major transformation in civic and cultural facilities are expected.

24 Country Statistics and global estimates by WHO and UN Partners January 2015

1.5 Programme Implementation Framework

Program Scoping

The programme scope covers the intermediate- term period of the plan spanning 2018 to 2027. Four broad flagship programmes are proposed to hasten supply of social infrastructure. Under the GIP, the strategy for social, civic and commercial infrastructure provision is premised on principles of sustainability, efficiency and people- centeredness.

1.5.1 Improving Access and Quality of Social Services

Under the "Cities without slums" and the National Urban Regeneration and Economic Renewal Programmes[25], schools, health centres/clinics will be retrofitted within the target areas, and backlogs in the supply of other social sector facilities will be addressed.

In the first phase, new facilities will be constructed to first close up the existing gaps in supply of social infrastructure. The second phase will see the progressive provision of infrastructure to meet set targets. Again the integration of social and civic spaces into the new developments will be carried out as a sub component of the "Cities without slums" programme as proposed in the Human Settlements report. Given that the this programme proposes to house slum dwellers in appropriate high-rises, the outcome will be the freeing up of large tracts of land thereby creating opportunities for the development of social infrastructure including community halls, child care centres, markets and common workplaces/ livelihoods centres. The sub-component implementation will take into account the best practice in the supply of social infrastructure as it seeks to improve the general environmental quality of life.

1.5.2 Improving Access and Quality of Health Care

This nationwide programme will aim at upgrading clinics and health centres to district hospitals for the provision of PHC. Completely new hospitals will be put up where the existing health facilities do not have space around them. The CHPS compounds will be progressively upgraded and equipped to serve a larger population and to provide higher level services to beneficiaries.

1.5.3 Improving Access and Quality of Schools

The strategy here is to close up all gaps with specific targets of eliminating first cycle schools under trees and ensuring that schools operating in run down buildings are structurally enhanced to the requisite safety levels. At the second cycle level the first step is to achieve a good spread as stated in the NSDF. The approach in the development of the educational clusters is to commence with the two primary cities and Cape Coast, then move on to the other areas that already have good concentration of educational institutions. Also, schools will be equipped with ICT equipment and more teachers will be trained in STEM.

1.5.4 Provision of Green Spaces and Parks

Each community will be provided with open spaces for recreation and for holding cultural events and activities. Spaces freed up as a result of densification will be converted for use as green open spaces, communal parks and environment conservation. In the rural areas and the suburbs, land will be carved out and reserved as areas for parks and green areas. This programme will cover libraries, museums, cultural and community centres, children's play areas, day care centres and cemeteries.

Initiative	Implementation as sub components of other programmes	Broad Description
Improving access and quality of Social Services	"Cities without Slums"	Schools and health centres/clinics will be retrofitted within the target areas. Shortfalls in the supply of other social sectors facilities will be addressed.
	National Urban Regeneration Programme	Develop market facilities, open spaces and parks, libraries and burial spaces.
Improving access and quality of Health Care		Phase out CHPs compounds, upgrade clinics and health centres to district hospitals for the provision of PHC.
Improving access and quality of Schools		Rehabilitate run down schools, build new schools to replace schools under trees. Equip schools with ICT equipment and train more teachers in STEM.
Provision of green spaces, parks and cultural open spaces		Provide each community with open spaces for recreation and holding of cultural activities.
Civic Facilities		Community meeting halls, libraries to be constructed under this programme. Regional capitals and district capitals to have a museum of at least 500 square metres and 250 square metres.
Commercial Spaces		Constructing of commercial facilities of 4,000 sq. m to serve a catchment population of 10,000 to 15,000.
Use of local materials in Social Infrastructure Facilities	Promotion of Local Building Materials for use in Social Infrastructure Facilities	Use of environmentally friendly building materials in schools, clinics, libraries, community centres.
Conversion of abandoned buildings for civic and cultural use	National Adaptive Re-use of Properties Programme	Inventories will be carried out and abandoned buildings will be converted for use as civic structures: libraries, community meeting spaces, hot spots for internet etc. Conversions will include structural enhancements to ensure safety.

Source: Author's Construct

1.6 Existing Policy and Institutional Arrangements

There are several policy frameworks and institutional arrangements that influence and regulate the activities in the social, civic and commercial infrastructure sector. The under-listed represent the principal policies and laws that are directly relevant to the sub-sector.

The National Spatial Development Framework (NSDF): This document guides the development of space in the country. The framework establishes a national direction for land use and spatial planning and management at the national level and in the preparation of lower hierarchy plans, such as regional, sub-regional and district spatial development frameworks, structure plans and local plans. It also identifies and maps vulnerable and marginal areas and their deficiencies in education and health amongst others. The Volume II of the NSDF describes the pillars of spatial strategy and recognises the need to strengthen the metropolitan cities of Accra and Kumasi whilst promoting growth in secondary cities and this brings in its trail the importance of planning for the required provision of civic and social infrastructure to match the anticipated growth.

National Urban Policy and Action Plan: The National Urban Policy and Action Plan (2015) focuses on the challenges of urbanisation and their effects on the country's urban settlements and systems; providing instruments in the form of initiatives and activities that aim to engender "sustainable, spatially integrated and orderly development of urban settlements". These issues emerge in the ineffective governance, inefficient economic development, poor delivery of services and environmental quality, and skewed population growth and spread, in the towns and cities. Action Area 3 of the Action Plan has the provision of space for small and medium scale enterprises at strategically selected places as one of its activities. One of the key activities in both Action Area 4 and Action Area 10 is the development and use open spaces and green belts for appropriate recreation and to enhance visual amenity. There is a Monitoring and Evaluation Framework accompanying the Policy to support its implementation.

25 Discussed in the chapters the Human Settlements Development and Shelter and Housing Systems

26 The Programmes, under which these initiatives are proposed, have been discussed in the chapters of the Human Settlement Development and the Shelter and Housing systems.

The Ghana Infrastructure Investment Fund (GIIF) Act, Act 887 (2014): The Fund has been set up with the principal aim of obtaining financial resources from the public sector and other non- state sources towards the infrastructure needs of the country that are identified and framed within a strategic plan. The Fund is expected to act independently of the government in its outlook with an appropriate assessment of the risks, making room for partnerships in the execution of its mandate. The Fund is an important tool for the implementation of the respective projects outlined in the GIP, including the housing and civic and social infrastructure subsector.

National Building Regulations, 1996: The LI 1630, guides the construction, alteration, extension of buildings and installation of fittings and other associated works. It provides specifications of materials, building methods, space requirements, elevations, siting of buildings among others, which proposed developments must meet before development permits are issued. The District Planning Authorities are solely responsible for reviewing and granting such permits in their respective areas of jurisdiction. The regulations are currently under review to address contemporary building issues including new materials, green modes of construction, green energy, and cultural heritage conservation among others.

National Climate Change Policy 2013 (NCCP): The NCCP seeks to provide strategic direction and coordinate issues of climate change. It brings to the fore the need to reinforce and integrate climate change issues into the national planning and budgeting processes. The vision of the NCCP is to "Ensure a climate resilient and climate compatible economy while achieving sustainable development through equitable low- carbon economic growth for Ghana"[27]. Given that one of the pillars of the planned development of social civic and commercial infrastructure is resilience to climate change, it is imperative to have structures that will mitigate the effects of climate change on vulnerable communities. The NCCP recognises that "infrastructure not built to handle the increasing ambient air temperatures will not perform as designed"[28]and in the Programme Areas for Focus Area 2 it states that the incorporation of climate-resilient codes into basic infrastructure will significantly reduce the vulnerability of communities to climate change risks.

27 MESTI: The Ghana National Climate Change Policy 2013
28 MESTI: The Ghana National Climate Change Policy 2013

Education Act 2008 (Act 778): Act 778 of 2008, which received presidential assent in January 2009, outlines Ghana's educational structure as three progressive stages comprising basic education in the first cycle, senior high school, technical, vocational, business and agricultural education or appropriate apprenticeship in the second cycle and tertiary cycle comprising education provided in a university, polytechnic or college of education established by an act of parliament or accredited by the National Accreditation Board.

Act 778 Section 2-2 states that education at the basic level must be free and compulsory, and as such all planned interventions will consider the population that must be catered for at this stage. Section 2(3) and Section 3 stress on the decentralisation and lay the responsibility for the provision of education infrastructural support squarely on the shoulders of the District Assemblies.

The Technical Universities Act 992: Parliament passed the Technical Universities Bill in August 2016 converting some of the polytechnics into technical universities. Act 992 aims at providing higher education in engineering science and technology based disciplines, vocational programs, applied arts and related disciplines. The law stipulates that higher education shall be accessible to all persons suitably qualified and capable of benefitting from education and training offered at a technical university. It also requires that technical universities develop strong linkages and collaboration with relevant industries, businesses, professional bodies and technical experts in the delivery of programmes. Another key stipulation of Act 992 is the provision of opportunities for skills development, applied research and publication of findings. In a nutshell, this law clearly establishes the nexus between STEM and industry.

Education Strategic Plan 2010 – 2020: Ghana's Education Strategic Plan (ESP) 2010 – 2020 covers policies, strategies, delivery and finance and groups its ten broad policy goals into four thematic areas of Quality to Education, Quality of Education, Education Management and Science Technology and Technical and Vocational Education and Training. This document, which builds upon four earlier plans including the visionary FCUBE[29] spells out the Ghana Government's strategies for the 2010 to 2020 decade. It identifies (a) increased access to basic education through public awareness and use of the capitation grant,
(b) complementary education and other non formal opportunities for out of school children and adults and (c) community school partnerships as strengths of the education sector. This strategic plan also touches on the delivery of education to young people with disabilities and special education needs. The ESP 2010-2020 aims at placing education closer to the daily lives of people by meeting their expectations of schooling and basic health, providing a generation with relevant skills to ensure their personal development and enabling them to make the best use of future study and career opportunities, thereby ensuring that they receive value for money. It is noteworthy that one of the guiding principles of ESP 2010-2020 is that education planning, provision, management and delivery should be devolved to local government and institutions as far as reasonable and effective. This will lead to education decision-making and implementation increasingly becoming the responsibility of local government (District Assemblies) and to some extent the institutions themselves, which will strengthen the roles of School Management Committees (SMC) in basic education and Boards of Governors (BoG) in the second cycle. This gives rise to opportunities of communities tailoring and fine-tuning their educational institutions to the unique and specific exigencies of their environment.

29 FCUBE: Free Compulsory Universal Basic Education

Health Sector Medium Term Development Plan (HSMTDP), 2014–2017: The HSMTDP of 2014 -2017 provides the foundation for planning within the health sector in Ghana and expresses the sector's contribution to the attainment of national medium term development goals and objectives. Lessons learnt from the Ghana Shared Growth and Development Agenda (GSGDA) have been incorporated in to the HSMTDP. The Plan runs through the health profile of the country, describes the health status, and analyses the overall implementation of key policies and programs. Chapter 5 contains the annual plans of action, which cover the sector priorities for the medium term. Going forward in setting targets, the Health Sector Medium Term Development Plan vision of having a healthy population for national development will be an underpinning guideline.

2015-2019 Capital Investment Plan (CIP IV): CIP IV (2015-2019) is developed under four main components comprising civil works (infrastructure), medical equipment, transport and information/communication technology. The policy framework of CIP IV includes the re- appraisal and re-prioritisation of on-going projects and proposed new projects, the promotion of primary level resource allocation to achieve sector objectives, the continuation of decentralised planning systems within the health sector and the promotion of alternative financing mechanisms for health sector projects through the use of PPP, Ghana Infrastructure Fund, trusts, etc.

Amongst the major projects to be implemented under CIP IV is the construction of 1,000 CHPS compounds nationwide, which will bring the delivery of health services closer to the people. It is worthy to note also the construction of a number of district hospitals and the provision of an integrated IT system for the Health Sector. This will impact positively on the emerging use of telemedicine in Ghana.

Ghana Prisons Service Act 1972 (NRCD 462): Section 1 and Section 41 of the Ghana Prisons Act respectively state that it shall be the duty of the prison service to undertake the reformation/ rehabilitation of prisoners and to establish courses of training designed to teach simple trades and crafts to them. The framers of this Act are clear on the need for reformation and preparation of prisoners for re-integration into society. Section 37, which refers to the cells used in confining prisoners, requires that the conditions in a cell be certified by a medical officer that size, lighting, ventilation, fittings and furniture are adequate for health.

Local Governance Act 936 of 2016: Section 196 of Act 936, which was passed in 2016, places the Department of Parks and Gardens and the Ghana Library Authority under the Regional Coordinating Councils, consequently all interventions are to be executed and monitored in concert with the councils. The Ghana Library Board was established by Act 329 of 1970.

The Judiciary: The judiciary in Ghana operates under the amendment of the Courts Act (Act 620) 2002. This Act, which repealed the earlier court acts 459 of 1993, defines the framework of the court hierarchy. It establishes the structure of the system as two levels: the superior courts and the lower courts.

1.6.1 Outline of Stakeholder Roles and Responsibilities

Several institutions already exist, whose operations are relevant to the Social and Civic Infrastructure Sector. Some of these have been outlined together with their roles and responsibilities.

Table 1.9: Major Stakeholders and Roles in Housing Development

No.	INSTITUTION/AGENCY/DEPARTMENT/ORGANISATION	ROLES AND RESPONSIBILITIES
1.	National Development Planning Commission	Policy formulation and advisory services, coordination, monitoring and evaluation.
2.	**Ministries** Ministry of Finance and Economic Planning Ministry of Health Ministry of Education Ministry of Justice Ministry of Interior Ministry of Local Government and Rural Development Ministry of Environment, Science and Technology	Policy, Monitoring and Evaluation
3.	District Planning Authorities Lands Commission Ghana Standards Authority Environmental Protection Agency Architects Registration Council Bank of Ghana	Regulation and supervision
4.	Traditional authorities and customary land secretariats	Facilitation of land delivery for planned spatial projects
5.	Local governments and relevant decentralised departments including TCPD, Department of Parks and Gardens, Ghana Library Board	Planning, design and supervision of project implementation, monitoring and evaluation, project financing
6.	Education and research institutions. E.g. BRRI, KNUST, ILGS, ISSER, NVTIs, CSIR	Research, education and training
7.	Public Service Providers - Ghana Water Company Ltd, Community Water and Sanitation Ltd, Electricity Company of Ghana etc.	Public infrastructure, advisory and servicing
8.	Fire Service, NADMO, Red Cross, Ghana Police Service and the Armed Forces	Disaster management and security

Source: Authors' Construct