

# LAND DEVELOPMENT PATTERN IN KABUL CITY, AFGHANISTAN

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## 1. INTRODUCTION

Kabul, the capital and largest city in Afghanistan located in the eastern section of the country. Kabul city is estimated to be the fifth fastest growing city in the world with a population which has increased from approximately 1.5 million in 2001 to around 4.9 million people by 2015. Rapid urbanisation is taking a heavy toll on a city which was originally designed for around 800,000 people during 1962-64. An estimated 70% of Kabul's residents live in informal or illegal settlements [1].

Considering the existing challenges in terms of informal settlement, squatter settlement, population expansion of the city, and sprawl direction of urbanization in Kabul city urban edge. This research focuses on the possible development direction for Kabul city. This paper studies the feasible future land development pattern of the Kabul city in the northern part called Shamali basin in which district 17 is the gateway for future development, which has much developable area including 8 districts of Kabul province, wide area of Parwan and Kapisa provinces. The northern area of the Kabul city has generally favourable conditions for further urbanization from the city. It has large and relative flat land area in the northern part of Kabul city, ample water resources available in the Panjshir basin as a base principle of development direction in the area.

## 2. KABUL GEOGRAPHICAL LOCATION

Kabul was originally established as an oasis along the east-west trade route and developed also to link the Central Asia in the north with the coastal areas in the south. With the establishment of national territories in the modern world therefore, Kabul is naturally linked through the national road network with the seven neighboring countries: Tajikistan, Uzbekistan, Kyrgyz, Turkmenistan, Pakistan, Iran and China [2].

Kabul is located between Latitude 34-31' North and Longitude 69-12' East at an altitude of 1800 m (6000 feet) above sea level, which makes it one of the world's highest capital cities. Kabul is strategically situated in a valley surrounded by high mountains at crossroads of north-south and east-west trade routes [3]. Figure 1, illustrates the terrain map of Kabul city area, which surrounded by huge mountains in the east and west side.

The development of the Kabul city over the millennia has been supported, among others, by two most important factors. One is the geographic position along the east-west and the north-south trade routes. The other is the water resources of the upper Kabul basin.



Figure 1: Kabul city area terrain map  
Source: google map

## 3. LAND SOURCES OF CONFLIT

The urban development in Afghanistan would have to deal among others with damaged and degrading urban infrastructure, rapid population increase due to the return of refugees and rural-to-urban migration, proliferation of informal and illegal settlements in hill side and steep slope as a result of the lack of effective master plans, and aggravating urban environment and sanitation. These problems are most serious in the capital city of Kabul. Development in Kabul would benefit from a new approach. Kabul's main problem is not housing, but access to land and provision of infrastructure. Only 0.5% of Kabul population is considered homeless, including 10,000 people living in tents and 5,000 living in the ruins of destroyed building. Therefore, the key issue for the government is not providing housing, but promoting the legal and regulatory framework for land development and its required infrastructure [4].

Based on a population estimation of Kabul city by (The study for the development of the master plan for Kabul metropolitan area in 2009), the city is estimated to have 4.9 million population by 2015. The key spatial and visual impact of this growth has been the informal development of land on the hill side and steep slopes. The majority of Kabul's new migrants are informally housed. The above mentioned inconsistency (rapid population increase, rural-to-urban migration, and informal settlement) in the city push toward possible development direction. The medium term possible development direction is eastern part of the city, but in the long term the only possible direction is the northern plateau of Kabul city.

Keywords: land development pattern, future development, informal settlement, and population expansion

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## 4. DEVELOPMENT DIRECTION FOR FUTURE EXPANSION AND INFORMAL SETTLEMENT

### 4.1. Population Expansion

Kabul has been growing at a fast pace. This is a result of increasing:

- Migration from rural areas,
- The return of afghan refugees (since 2002) from surrounding countries, and
- Migration of internally displaced persons (IDPs).

Since the late 1990s, Kabul has experienced massive population growth. Between 1999 and 2002 the city's population grew at 15% per year and was estimated at approximately 3 million in 2004. Growth was remain at about 5 % (about 3% natural growth plus 2% migration) for the next few years [4].

The study for the development of the master plan for Kabul metropolitan area in 2009 put the estimated population for Kabul city 4,007,131 by 2008. Thus the population in 2015 can be derived from Geometric equation [ $p_{tn} = p_t(1 + r)^n$ ] [5]. Considering  $r = 3\%$  annual growth rate, base year population  $p_t = 4,007,131$ , and time period  $n = 7$  years, the population of Kabul city is estimated 4,928,265 by 2015.

### 4.2. Informal Settlement

Informal settlements pose a major challenge for planned urban development of Kabul as they account for some 80% of Kabul's urban population and 70% of residential land area in the city. This situation is due directly to the lack of effective master plan, but in fact more deeply rooted. Illegal land occupation and informal land sub-division are still rampant in Kabul as there exists widespread poverty in the city.

Focusing on the status of the land, the informal settlement is classified into four categories in Kabul city.

1. Settlements on public lands,
2. Settlements where most houses were built on privately owned lands,
3. Settlements where most houses were built on lands grabbed directly or bought from land grabbers, and
4. Settlements where there is a murky legal situation [2].

Figure 2, depicts the informal settlement direction in hill side and steep slope in Kabul city.



Figure 2: Informal settlement in hill side & steep slope in Kabul city, October 4/2012. (Roberto Schmidt/AFP/Getty Images).

## 5. DIRECTIONS OF KABUL CITY DEVELOPMENT

The further urbanization of the Kabul city should better be guided to the north and the east of the city. The urbanization to the west is constrained by the mountainous topography and the need to protect the agricultural and resort areas. The urbanization to the south should not be encouraged as it constitutes the upper Kabul basin. Only limited urbanization may be pursued in the south on the condition that the local groundwater would be used, once the availability is proven [6]. In the medium term, there is still a large amount of underdeveloped land immediately to the east of the city that can accommodate an additional 1,000,000 people [7].

### 5.1. Northern Development

In the long term, the only real possibility to accommodate Kabul's growth is on a plateau to the north of the city, on the other side of the mountain range. However, given the large densification potential and the ease of filling up the existing built-up area, and immediate expansion of the city into this area would be premature.

North part of Kabul city is called Shamali which mainly comprises three provinces area: Kabul province area in the initial part, Parwan province area, and Kapisa province area. North area within Kabul province constitute: Dehzabz, Shakardara, Mirbachakot, Guldara, kalakan, Farza, Istalif, and Qarabagh districts. Chaharikar, Jabalussaraj and Bagram are small cities within Parwan province and finally Kohistan and Mahmud Raqi



Figure 3: Kabul New City (KNC) Within Dehsabz area. Source: Dehsabz City Development Authority

are in Kapisa province territory which they are surrounded in a basin by huge mountains from north, east and west. Thus, restricting the future development of the area.

Since 2006 Afghan government is planning a city in Dehsabz (north-east of Kabul existing city) area called (Kabul New City) with close assistance of Japan international cooperation agency (JICA) both technically and financially. Kabul New City is approximately 1.5 times larger than the existing Kabul city, it is mainly located in Kabul province and occupies a small area of Parwan province in the northern part. The site is surrounded by Khawaja Rawash, Safi and Marko mountains. The city has about 740 km<sup>2</sup> total area with 440 km<sup>2</sup> developable area which provides accommodation for about 3 million people within 30 years. In the previous page figure 3 indicates Kabul New City (KNC) territory within Dehsabz area. Now coming to the starting point of urbanisation direction or settlement direction to the north part [6].

## 5.2. Kabul city District 17 Gateway for future urbanization to the North

Kabul city comprises 22 districts in which district 17 is located in the north-western part of the city along the national highway leading to Mazari-sharif. Its territory is largely outside the upper Kabul basin but in the Shakar Dara district located in the upstream of the Panjshir basin. It is separated by hills from District 11 in the east and District 14 in the west. Only the national highway links the district with the rest of the city, but the suburbanization from the city toward the northwest is proceeding along the highway. Thus, the area is getting corridor development to the north. Figure 4 depicts district 17 territory in the Kabul city district map.

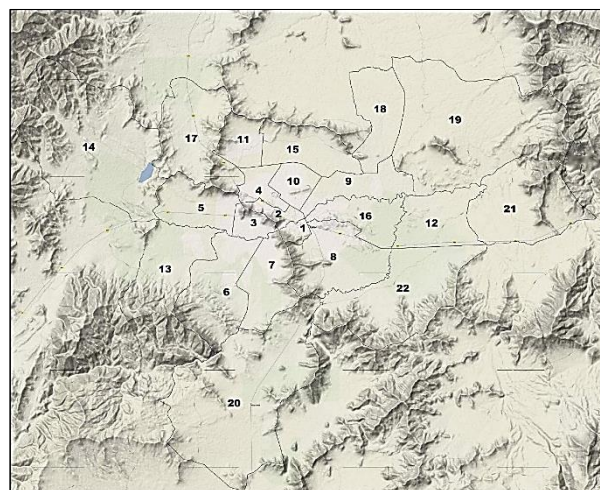


Figure 4: Kabul city district map  
Source: Dehsabz City Development Authority

### 5.2.1. Land use and settlement

The district has the large area of 56.0km<sup>2</sup>, a small planned residential area exists at the southern end of the district. In the north of the area, there are old informal houses developed 80-100 years ago. An unplanned residential area in the middle of the district is about 20 years old. Also in the middle of the district, another residential area is developed formally by ministry of urban development affairs MoUD. The Agricultural Institution of Ministry of Agriculture and Livestock is located at the southern end. Other public facilities such as graveyards and power sub-station are also located in the southern area. A farmers' town is developing in the north side of the district.

### 5.2.2. District Growth

District 17 contains fast growing areas along the national highway going to Mazari- Sharif. Many people have been recently relocated from the city together with some businesses and markets. The population is projected to increase significantly in area. The population increase in area along the national highway is inevitable, and a residential-commercial complex is developing to guide more orderly urbanization rather than allowing urban sprawl. Commercial areas have been developing rapidly along the national highway with many informal shops partly relocating from the city centre. The district population profile based on Afghanistan Central Statistic Organization (CSO) is shown in Table 1 and figure 5 [8].

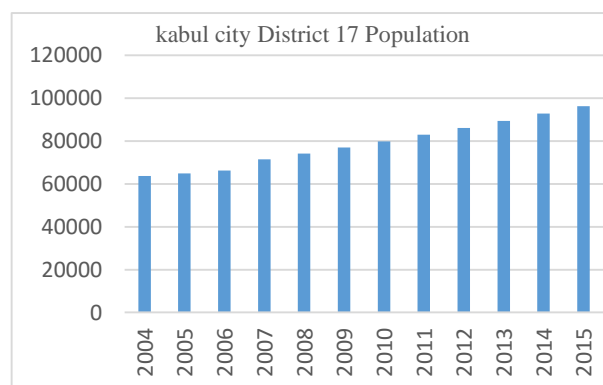


Figure 5. Kabul city district 17 population

Table 1. Kabul city district 17 population

| Year | Population Estimation | Population Growth Rate | Average growth rate |
|------|-----------------------|------------------------|---------------------|
| 2004 | 63700                 |                        | 3.8                 |
| 2005 | 64900                 | 1.9                    |                     |
| 2006 | 66300                 | 2.2                    |                     |
| 2007 | 71400                 | 7.7                    |                     |
| 2008 | 74100                 | 3.8                    |                     |
| 2009 | 77000                 | 3.9                    |                     |
| 2010 | 79900                 | 3.8                    |                     |
| 2011 | 83000                 | 3.9                    |                     |
| 2012 | 86100                 | 3.7                    |                     |
| 2013 | 89400                 | 3.8                    |                     |
| 2014 | 92800                 | 3.8                    |                     |
| 2015 | 96318                 | 3.8                    |                     |

The majority of people in the district are from Northern provinces. Many people have moved from the city centre recently, and more city people are interested in lands and houses in the district. The district has various population growth rate from 2005 to 2015 and has 3.8 average annual population growth rate based on the CSO population estimation.



## 6. FACTORS AFFECTING URBAN GROWTH AND DEVELOPMENT DIRECTION

Several factors can be responsible in response to urban growth and development direction. Many factors are adopted and denoted for urban growth, increase in population is said to be the most special factor. There is a correlation between population changes and urban growth pattern. Two major factors are further identified to be responsible for urban growth; these are natural increase and rural urban migration. Another factor given by Adindu and Ogbonna, (1998) for urban growth was rural unemployment, increased rural poverty, deteriorating living condition, declining soil fertility and unchecked rural urban migration. According to him, all these are responsible for people's movement out of rural land to urban centre [9]. Factors affecting development direction as a principle are noted to be land availability, water resources, access to regions and countries, and topographical situation.

## 7. POLICY RECOMMENDATION FOR LAND DEVELOPMENT

An area wide land policy plan is a spatially explicit statement of a community's land development and environmental protection policies. It maps those areas of the region, county, or city-and-vicinity where transition from rural to urban development should occur to best accommodate growth and where redevelopment or significant infill should occur to accommodate change, it also indicates where development should not occur [5]. The initial policy for land development would be formulating land policy classification for the policy district.

It is required to formulate a specific land policy classifications, the policy district in most plans today can be divided into three basic types: areas specified for urban growth, conservation areas and rural areas. In areas specified for urban growth, the urban settlement districts are where the plan directs most of the urban growth. They are often divided into already-developed areas and areas for transition from rural to urban uses [5].

North part of Kabul city can best accommodate as a rural-urban transition district in land policy classification. Considering a specific policy framework, it is required to arrange urbanization in new growth areas in the north part of Kabul city within such policy framework to best accommodate growth.

## 8. CONCLUSION

In developing countries the most fundamental challenges for the governments would be rapid population growth of the city, as a result the population is likely to expand in an unprecedented scale, inhabitant's settlement necessity would be much more, and they would struggle to find shelters where ever possible. On other hand the developing governments would likely not be able to provide shelter for all the residence. Thus this would lead the residence to illegal settlement in the new growth areas even in hazards or sensitive environmental areas. Such governments in future would invest huge budget for land readjusting and re-planning this area not being controlled at the certain time.

Afghanistan is the country which its capital Kabul city confronting same challenges at a moderate scale right now, but it could be further problematic for both people and government if involved planning organizations doesn't take serious steps toward Area wide land policy plan for the urban, transition and rural areas. As the city is spreading its territory especially to the North part, specific land policy plans should be considered in developing areas in order to control the sprawl direction of urbanization in urban edge areas and prevent from future huge compensation.

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