



## Factors Affecting the Real Estate Prices in Pakistan

### Abstract

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The current study examines the effect of factors influencing the prices of real estate in Quetta city. Hypothetically, this study is based upon five observed factors (urbanization, refugees' influx, monetary, lack of investment alternatives and inflow of foreign remittances) in relation to the prices of real estate. Questionnaire developed on the basis of above variables were administered to a heterogeneous sample of 50 property dealers and Quetta Development Authority. Descriptive statistics (percentage, percentile and frequency distribution) were used to identify the level of influence and the relation of above mentioned attributes towards the prices of real estate. The results revealed that the prices of real estate in the region have been on an increasing trend and strong influence of all variables especially of government's monetary and fiscal policies and urbanization was found significant on the prices of real estate in Quetta.

**Key words:** Real estate, prices, Quetta

### 1. Introduction

The study of real estate derives from an elementary fact of life: the existence of space on this planet. The human need for space has two aspects: the desire for the right quantity, such as acres of land and square footage of building area, and the desire for the quality of space, the most determinant of which is location. *Real estate* is the modern term for land and anything that is permanently affixed to it. Fixtures include buildings, fences, and things attached to buildings, such as plumbing, heating, and light fixtures.<sup>1</sup> The term *real* comes from the real actions of human beings to payment in money for rectifying injustices. The term *estate* means a collection of rights thus Real estate correctly refers to collection of rights associated with the real actions (Corgel, Ling and Smith, 2001).

It is evident that many types of commercial real estate exist as shopping centers, office buildings, industrial buildings and apartments. Within each category, substantial variation exists in quality, age, and size. For example large regional shopping malls are easily distinguished from local strip shopping centers. However, the general characteristics of each property type can help an investor's search efforts and increase the probability of finding an investment that is consistent with the investors goals and objectives. Investors Jaffe, J.

Austin (1995) entering the property selection process should understand that it is not possible to become an expert in all type of real estate. Indeed, most investors and advisors concentrate their efforts on a limited number of property types.

Real estate that provides the space which humans need and costs money physically to produce. It exists only because humans put their money and effort in transforming vacant land into useful space. The space i.e. land will remain the main focus of our study. Land value was also determined by classical economists, they based their theory of land rent on the fixity of land supply Ricardo (1815). They also assumed that land cannot be substituted in the production process Von Thunen (1826). Thus, the need for special treatment of land in economic analysis was clear. Later, both the fixity and substitution assumption have been relaxed, but land is still a very scarce production factor and inelastic in substitution. Even though the neo-classical theory considers land (as well as labor) as a similar production factor to other capital, the special role and properties of land is widely recognized.

Due to these special properties land is valued differently from many commodities. Land rent (price) determines the allocation of land resources among different uses, as

<sup>1</sup> Definition of real estate in legal encyclopedia.

well as determining the value of land as collateral for credit or to define taxes.

According to the estimates of Quetta Development Authority the total area required to accommodate an additional population of 1,402,393 of Quetta between the years 1989 to 2008 comes to 8,816 hectares (21,776 acres). Quetta being a hilly area with frequent natural streams, rock outcrops, areas subject to flooding, lands unsuitable for development, about 10% of the total required area may be added to reach a tentative figure of 9,700 hectares (23,960 acres) of additional land will be required to accommodate the development needs for the next 20 years. (For further information check Appendix (1))

Baloch, S. (1998) has mentioned that political and geographical positions vary with the political, social or other change in the region and people have used land for political and other purposes. Thus land in Balochistan has become a political issue.

Since there is no regulation over the prices of real estate in Pakistan, the possible effects on real estate prices call for special attention. These questions are especially interesting at present when the economy of Pakistan is going through a transitional period. More research is needed, especially when there is an ongoing speculation regarding the return of Afghan refugees to their country, monetary policies and internal conditions of the city. Keeping in view the above facts this study was conducted to find out relationship existing between real estate price and factors which influence its value over time and to study the factors causing the price rise in real estate price in Quetta city.

## 2. Relevant Literature

Fluctuations in the prices of real estate (land) have been widely studied and relevant literature is available in abundance. Falk (1991) studied two fundamental economic questions. How much of an asset price movement is caused by factors that determine the fundamental value of an asset (current and expected future returns). Do these factors account for asset price movement in a rational manner? He used both land prices and actually paid cash rents as land rent. The series were found to have similar time series properties. However graphic analysis suggested that price movements are more volatile than rent movements. The simplest version of his theory assumes that land buyers are risk neutral, discount the future at a constant discount rate, act competitively and value land for only its economic return. Falk and Lee (1998) in their study deepened the analysis in trying to decompose the land price movement into a component driven by land forces (return to asset) and a component driven by speculative force. They found that in the short term the two components are equally important in explaining the year to year movement in land prices. However in long term the non-fundamental shocks disappear and the main reason for the land price movement is the change in return on assets.

Roche and McQueen (2001) also investigated rational bubbles for a long time series (1911-1995) from Irish land prices. The unit root test showed that land price and land rent as well as farm output and output price series were non-stationary. By using a general regime-switching model they found that the partially collapsing bubbles model provides a reasonable description of the dynamic movements of Irish land prices over the research period. In 1960's the researchers tried to include variables such as government programmes and urban pressure in a supply and demand frame work. They worked quite well at that time but when re-estimated in 1970 they were not that much valid as they used to be. One reason was that the supply curve never existed. Burt (1986) pointed out that when the quantity is fixed the demand line fixes the price of the land. Actually he pointed out that when the quantity of land is fixed the demand equation entirely determines the land price. This is why recent studies have focused on the demand side. Alston (1986) studied the valuation of real estate. According to him the problem was that how much of real estate values are explained by capitalized gains and how much by capitalized rent. Inflation effect was also studied by him and he reported that inflation had a negative effect on the prices of real estate, but the actual effect was very small. Just and Miranowski (1993) also criticized the approaches that concentrate on one factor to evaluate the value of land at time. According to them

many factors (capital gains, credit market conditions, explosive expectations, risk changes, etc.) thought to affect land prices and their changes correlate with each other, which weakens the validity of the results obtained by using only one of the factors as an explanatory variable. They also studied the accumulation of wealth as the driving force. They used land price change as the dependent variable. Independent variables were land price expectations, return expectations, expectations, risk, capital gain taxes, the opportunity cost of savings and debt, land tax, the credit limit and the inflation rate. They noted that contrary to other findings the changes in returns were only one of three main factors affecting land price fluctuation. Land price expectations had the most important explanatory force. However, taking into account the naive expectations they are indirectly explained by other variables. Of the other variables, inflation and the opportunity cost of capital are roughly as important as returns.

Trump, D. (1987) has reported that location of property is the main factor determining property prices. He said that “perhaps the most misunderstood concept is that the key to success is location, location, location. Usually that’s said by people who don’t now what they are talking about.”

Magne and Rady (2002) explained the properties of real estate. They analyse that one property is that it never depreciates, so housing purchase is not like any other consumption commodity as it is tied to the purchase of land. This makes housing a desirable asset to hold in one’s port folio as hedge against the shocks to the local economy. They found that real estate market can be compared to bullion market, and it has a property just like gold. The value of real estate never decreases as its supply is fixed. So people like to keep them as savings, and it return high values over the period of time. Though high short term gains are most desirable, in order to make money in real estate is by adopting a long-term view. Long term gains result from knowing the fundamentals of the market, because the real estate markets are distorted over the time by governments’ interference and uninformed participants.

Featherstone and Baker (1987) tested an asset price bubble by simultaneously estimating interest rates, return on assets and the price of land by vector auto regression (VAR). They also suggest that the evidence of the considerable effect of speculative forces on land prices. They reported that the irrational behaviors of the people towards real-estate often rely on rumors and they behave in a naïve, while ignoring the economic fundamentals. Such irrational behavior of buyer underlies a phenomenon known as speculative bubbles.

Vukina and Wossink (2000) rejected the usual approaches (proximity to market and non-farm demand) in order to take into account location as a factor affecting land prices. They saw that both of these traditional approaches were irrelevant in a country like the Netherlands. There are two quotas: land-based and animal-based. They estimated an inverse land demand model by using panel data from years 1988-1996 and from nine provinces. The manure right policy changed during the research period from a very limiting policy to a policy that allowed freer trade of quotas. Connor (1989) twice studied the settlement behaviors of refugees and rural-to-urban migrants in Third World. And in first case he found that the settlement behaviors of refugees and rural-to-urban migrants were greatly influenced by: 1) geographic origins, 2) ethnicity, 3) education level, 4) employment background, 5) political involvement, 6) dates of departure from the homeland and 7) reasons for leaving. And secondly he evaluated the influence of these factors on residential choices of Afghan refugees self-settled in Peshawar, Pakistan; his study indicated that ethno geographic ties, political involvement, and lack of political activity had been most affective in motivating residential associations and disassociations. Roberts et al. (2003) published one of the few studies where the lease prices are used instead of sales prices or land values. The reason for this was that land values, more than rents, encapsulate intangible beliefs in the future that are difficult to measure and may show misleading statistical associations. The chosen approach also meant that the importance of non monetary factors was probably small.

Siddique, S., H. (2007) in an article in a local news paper reported that in past 7 years the overwhelming decrease in interest rates in the country has negatively affected the economy of Pakistan. He further reported that in 2002-03 the interest rate on national savings were 20.8% which declined to 16.4% in 2005-06. And due to this reason, big investors, stock brokers and bank officers created an artificial boom in stock market and in real estate market. Because of which the prices of real estate in the country increased many folds.

Ali, N. (2004) reported that Since September 11, 2001, property prices in Pakistan, particularly Lahore, have soared. The factors include higher remittances from expatriates, a high profit margin, better services attracting more investors, and the low return on savings offered by banks. He further reported that, property prices have gone up an average 25 percent around Pakistan over the last five years, while plots in some developing areas of Lahore have gone up by up to 300 percent. According to property dealers, the increase is in part due to a massive surge in investment in the property from overseas since September 11. According to him

Real estate is one of the favorite businesses for black-marketers to convert their black money into white. There is little checking and investors are not bound to pay any taxes while buying or selling property.

Naseem, S., M. (2006) reported in a news paper that in the last two years, land prices have suddenly jumped three to four-fold in major metropolitan cities, especially Karachi, Lahore and Islamabad. No regulatory framework exists to protect the unwary real estate investor who stakes his/her lifesavings to realize the cherished dream of owning a house. He said that this current boom in the real estate market is due to huge inflow of foreign remittances which has though decreased 16% in 2005 according to officials. According to him substantial chunk of private capital inflows over the last two years represents a 'reverse capital flight'. The liquidation and transfer of hard currency holdings by expatriate Pakistanis, for speculative or investment purposes. He further reported that Rs. 8.6 billion was availed for housing by consumers from banks and with the increase in the ceiling for the housing loans to Rs. 10 million, the bank credit to the housing sector is likely to increase and refuel the real estate boom.

### 3. Background of the study

The name Quetta<sup>2</sup> originates from the Pashtoo word Kwatta which means a fort. In the beginning, the town was situated within the walls of fort "A Miri" which is now used as an arsenal. The district is bounded on the north by district Pishin; on the east by Ziarat; on the south by Mastung and on the west by district Killa Abdullah.

The British Government occupied Quetta during the first Afghan war in 1839. Just after three years, in 1842, it came back into the hands of Khan of Kalat. Due to its strategic importance, it was reoccupied by Sir Robert Sandeman in 1876. On 26 May, 1876, a treaty was signed by Amir Yaqoob Khan of Afghanistan with the British Government at Gandamak. Thus the conflict which emerged as a result of the first and second Afghan war came to an end.

In 1883, Quetta was formed into a separate single administrative unit (Quetta - Pishin district). Due to its geo-strategic importance, the British built Quetta as a garrison town. They extended the roads and railway network to Afghanistan and Iran. This situation remained unchanged till the partition of the Sub-continent in 1947.

Under the one-unit system from 1955 to 1970, Quetta and Kalat were the administrative units in West Pakistan.

<sup>2</sup> Information taken from [http://www.balochistan.gov.pk/New%20Folder/Qta.htm.on march 20, 2007.](http://www.balochistan.gov.pk/New%20Folder/Qta.htm.on%20march%2020%202007)

After abolishing the unitary system, Quetta was declared as Capital of Baluchistan. Till 1975, Quetta and Pishin was a single administrative unit. In that year Pishin was declared a separate district.

Very little is known about the human settlement in the district. However, it is certain that the Afghans and Brahuis are recent immigrants. The Pashtoons appear to have entered the district from the north east, emigrating from their home round the Takht-i-Sulaman. Kasis (A branch of Afghan) are said to have migrated from their home around the Takht-i-Sulaman about eight centuries ago. They made their first settlement at Samli, a village near Quetta city. The Brahuis are an offshoot from the Kalat territory and their presence in the district dates back to the eighteenth century.

With the passage of time, Quetta began to expand and soon it turned into a beautiful small town. The British paid special attention to its cleanliness. However, 31 May, 1935 was a black day in the history of Quetta. An earthquake destroyed Quetta city completely. The Cantonment area survived to a great extent.

### 4. Area of Study

The study area of the research project was Quetta city. Different areas of Quetta were our target. Commercial, industrial property with the inclusion of land (space) is our study area. Data is gathered from both primary and secondary sources. The study can be easily described as a co-relational study, such that in real estate markets, while doing a transaction the parties consider the real estate prices in the different region of Quetta city. Thus we can say that a purchase is not independent of another purchase. But these correlations also exist between independent variables i.e. location, rent, foreign remittances etc. in this study. However variables other than rent in our study has a causal relationship with the dependent variable, the prices of real estate which can affect it any way.

To measure the influence/affect of the variables like urbanization, refugees influx, foreign remittances, monetary policy on real estate prices in Quetta, a liker scale questionnaire was developed.

As our study is a correlation, so the settings of this study will be a no contrived one. The main focus will be on field studies with a moderate interference. The time horizon of the study is a cross sectional study. ): Existing and Proposed Residential Densities in Quetta Urban Plan Total Area Required For Development in Quetta during various phases, Net Residential Area required During 1999-2003 with average household size

of 7.2 persons and 2004-2008 with average household size of 7.0 persons are given in the appendix.

## 5. Results and Discussion

This Section of the study is devoted to analysis of the urbanization factor, refugees' influx factor, analysis about lack of alternative investment factor, as well as foreign remittances and monetary policy and the last the analysis the internal factors of rent and location.

### 5.1 The urbanization factor

Urbanization is the increase over time in the population of cities in relation to the region's rural population. Urbanization has effects on the ecology of a region and on its economy. Urban sociology also observes that people's psychology and lifestyles change in an urban environment. The urbanization leads to high rents in Quetta reveals that most of the respondents agreed while none was of the view that this factor does not bring any increase in prices. The cause the urbanization are the health and education facilities that most the views that urbanization is not because of health and education facilities in city but Economic and Business activities are also causing urbanization and effect the prices of real estate in the area.

### 5.2 Refugees influx

The refugee influx is the another factor that affecting the price of real estate. From the Soviet invasion of Afghanistan in 1979 through the early 1990s, the Afghan War (1978-92) caused more than 6,000,000 refugees to flee to the neighboring countries of Pakistan and Iran, making Afghanistan the greatest refugee-producing country. The number of refugees fluctuated with the waves of the war, with thousands more fleeing after the Taliban takeover of 1996. The U.S. invasion of Afghanistan in 2001 and continued ethnic cleansing and reprisals also caused additional displacement. Though there has been some repatriation sponsored by the U.N. from Iran and Pakistan, a 2007 UNHCR census identified over two million Afghan refugees still living in Pakistan alone.

The movements of Afghan refugees from campus to Quetta city have increased real estate value. The Afghan refugees are making high investments in real estate which increase the land demand and cause the higher prices in the real estate market.

### 5.3 Lack of alternative investment factor

An asset or item that is purchased with the hope that it will generate income or appreciate in the future. In an economic sense, an investment is the purchase of goods that are not consumed today but are used in the future to create wealth. In finance, an investment is a monetary asset purchased with the idea that the asset will provide income in the future or appreciate and be sold at a higher price. The lack of alternative investment is reason for high investment in real estate that most of the respondents disagreed. The real estate is a safe investment opportunity" that most of the 33.3% respondents are strongly agree, 64.1% while 2.6% were of the fact that it is not a safe investment. The real estate investment is highly profitable and the un-risky then the other businesses because of this reasons people invest more in the sector.

### 5.4 Foreign Remittances Factor

Remittances are transfers of money by foreign workers to their home countries. The World Bank officially estimates that migrants from developing countries in developed countries sent home more than \$223 billion to their families in developing countries in 2005. Remittances are playing an increasingly larger role in the economies of many countries. Remittances contribute to economic growth and to the livelihoods of needy people (though generally not the poorest of the poor). As remittance receivers often have a higher propensity to own a bank account, remittances promote access to financial services for the sender and recipient, an essential aspect of leveraging remittances to promote economic development.

The global struggle against terror has also had an effect on the migrants sending remittances since these are sometimes sent through informal channels which often have histories far predating the modern banking system. Since 9-11 many governments have taken steps to address these informal money transfer businesses. In the US through the Patriot Act (Title III) and in the EU through a series of EU Money Laundering Directives. Though no serious terror risk should be associated with migrants sending money to their families, misuse of remittance channels remains a serious government concern. The effects of enforcement action have sometimes had counterproductive effects as in the case of Al-Barakaat, a Hawala network responsible for the largest remittance flows to Somalia. The response high percentages of foreign remittances are invested in real estate reveals that most of the respondents agreed 64.2% while few of the respondents didn't agree and 28.2% are disagreed. In this regard some people invest the

corrupted money that the black money is converted (money laundering) in to white money by investing in real estate.

### 5.5 Location and Rent Factor

Rent is a payment from a tenant to a building owner for use of the specified property. For example, an apartment dweller must pay monthly rent to a landlord for the right to inhabit the apartment. A commercial tenant in an office or store must pay monthly rent to the building owner for the use of the commercial space. The location

affects the prices of real estate and most of the respondents were strongly agreed with this fact that location affects the prices of real estate. The response of Households prefer location near economic center (markets, hospitals etc.)” reveals that most of the respondents agreed (26.3% strongly agreed, 46.1% agreed); while few respondents disagreed (31.6% disagreed).

The Households prefer location with low population and less pollution so location raises the rents and also the value of the land in the particular area.

**Table No.1**

#### Factors that affecting the prices of real estate

Source	Area Quetta	Effects on Prices
Urbanization	-	50%
Refuges influx	-	38%
Lack of alternative investment	-	64%
Foreign remittances	-	6%
Location and rent	-	20%

*Source: Area survey2007*

## 6. Conclusion

To study the effect of different attributes such as urbanization, refugees influx, lack of alternative investment, foreign remittances, monetary policy, rent and location. On real estate prices in Quetta, a study is conducted. The result clearly shows that there has been an increasing trend of the prices of real estate in Quetta city for the last 6-7 years. The population did rate all of the above attributes as factors affecting the prices of real estate in Quetta city. So people from different regions are attracted to start business and other economic activities in cities, those people brought liquidity (money) with them and that increased the property prices. Some Afghans with strong background and high profile

liquidity are creating an irrational bubble in the shape of illegal investments by purchasing key real estates. They are laundering their money generated from narcotics and smuggling by investing in Quetta city. From results the third factor lack of alternative investment also had a great influence over the prices of real estate. With the banking sector decreasing the interest rates as their monetary policy in early 2000, people found stock markets and real estate appeal able to invest in so they took their capital from banks and invested in these sectors and that brought an artificial boom in both stock market and property prices. Respondents were of the view that the return on real estate is much more than that of banks interest.

The factor foreign remittances were included due to post 9/11 impacts on Pakistan. Who directly invested it in stock market and real estate market? Results of the study show an increase in the real estate prices after the events of 9/11. The internal factors like rent and location had a great impact on the prices of real estate in the city. Respondents strongly agreed with the fact that location affects prices of real estate the most. And with the increasing demand for space from NGOs (non governmental organization) the rents for commercial property has increased. People shifting from villages to Quetta are demanding for large area and for that matter they are willing to pay any price.

It is therefore concluded that all independent variables like urbanization, refugees' influx, foreign remittances, lack of investment alternatives have strongly affected the rise in prices of real estate in Quetta. But these factors influence was for different temporary periods. The only factor that dominated the current boom in real estate market was losing monetary policy of the government. The increase in interest rates caused booms in different sectors of the economy.

## 7. Recommendations

For the first time research is conducted in order to identify the factors affecting the prices of real estate, we hope that more in depth researches will be conducted to explore this field.

1. Government must stop the illegal acquisition of property by refugees, and they also must refrain speculative elements in the business of real estate.
2. With high increase of prices in real estate market, the lower level of our population is

getting unable to purchase a shelter for themselves, so the government should start Housing schemes including low cost housing, site and services (Shelter for Shelter less).

## References

- Baloch, M.S. (1998) *Political economy of Balochistan*. Quetta: Sehar Publishers.
- Burch, K. (1998) *Property and the making of international system*. London.
- Corgel, J.B., (2001) Ling, D.C., & Smith H.C. *Real Estate Perspective*. 4<sup>th</sup> Ed. New York: McGraw-Hill Irwin.
- Faggen, Ivan, et al. (1990) *Federal Taxes Affecting Real Estate*. New York,
- Jaffe, Austin J., and C.F., (1995) *Sirmans. Fundamentals of Real Estate Investment*, 3rd Ed. Upper Saddle River, NJ: Prentice Hall.
- Alston, J.M. (1982) "An analysis of growth of U.S. farmland prices during", *American journal of agricultural economics*, LXXVI pp. 1-9
- Burt, O. (1986) "Econometric modeling of the capitalization formula for farm lands", *American Journal of agricultural economics*, LXVIII, pp.10-26.
- Falk, B. (1991) "Formally testing the present value of farm land prices", *American journal of Agricultural economics*, LXXIII, pp. 1-10.
- Falk, B. & Lee, B., (1998) "Fads and Fundamentals in Farmland Prices", *American Journal of Agricultural Economics*, LXXX, pp. 696-707.

Featherstone, A. M. & Baker, T. G. (1987) "An Examination of Farm Sector Real Asset Dynamics", *American Journal of Agricultural Economics*, LXIX, , pp. 532-546.

Hardie, I.W., Parks, P., Gottlieb, P. & Wear, D. (2000) "Responsiveness of rural and urban land Use to land price determinants in the U.S. south", *Land economics*, LXXVI, pp. 659-673.

Just, R.E. & Miranowski, J.A. (1993), "Understanding farm land price changes", *American Journal of agricultural economics*, LXXV pp. 156-168.

Kerry, M.Conner. (1989) "Factors in the residential choices of self-settled Afghan refugees in Peshawar, Pakistan", *International Migration review*, XXIII, , pp.904-932.

Pace, R.K., Barry, R. & Sirmans, C.F. (1998) "Spatial statistics and real estate", *Journal of Real Estate Finance and Economics*, XVII, pp. 5-13.

Plantinga, A.J. & Miller, D.J. (2001) "Agriculture land value and the value of rights to future land development", *Land economics*, LXXVII, pp. 56-67.

Rady, S. & Magne, F.O. (2002) "Home ownership: low household mobility, volatile housing prices, high income dispersion", *Journal of urban economics*, XXXIV, pp. 110-142.

Roberts, M. J., Kirwan, B. & Hopkins, J. (2003) "The Incidence of Government Program Payments on Agricultural Land Rents: The Challenges of Identification", *American Journal of Agricultural Economics*, LXXXV, pp.762-769.

Roche, M. J. & McQueen, K. (2001), "Speculation in agricultural land", *European Review of*

*Agricultural Economics*, XXVIII (Oxford: Oxford University Press. pp. 95-115.

Ricardo, D. An essay on the low price of corn on the profit of stock, as reprinted in Volume IV of Ricardo, 1951.

Vukina, T. & Wossink, A (2000). "Environmental Policies and Agricultural Land Values: Evidence from the Dutch Nutrient Quota System", *Land Economics*, LXXVI, pp. 413-429.

Naseem, S.M. "The Paradox of Asset Boom". *Dawn*, March 19, 2005.  
<http://www.dawn.com/2005/03/28/op.htm#1>>

Ali, N. "How Long Can Meteoric Rise of Property Prices Last?", *Daily Times*, October 4, 2004.

<[http://www.dailytimes.com.pk/default.asp?page=story\\_4-10-2004\\_pg7\\_23](http://www.dailytimes.com.pk/default.asp?page=story_4-10-2004_pg7_23)>

Siddiqui, S., H. "Ahay uus zood-e-Pashaimaan ka Pashaimaan Hona", *Roznama Jung*, March 17, 2007.

## Appendix

## APPENDIX-1(a): Net Residential Area Required During 1999-2003

(WITH AVERAGE HOUSEHOLD SIZE OF 7.2 PERSONS)

Plot category	No. of plots	Average plot size (in sq.m)	Area in Acres
A	2,837	540	278
B	2,837	400	280
C	9,931	300	736
D	9,931	200	491
E	15,605	150	578
F	15,605	100	387
Total:	56,746	—	2,850

Source: Quetta Development Authority Government of Balochistan

## Appendix 1(b): Net Residential Area Required During 2004-2008

(WITH AVERAGE HOUSEHOLD SIZE OF 7.0 PERSONS)

Plot category	No. of plots	Average plot size (in sq.m)	Area in Acres
A	4,064	500	502
B	4,064	375	376
C	14,225	250	879
D	14,225	175	615
E	22,353	120	663
F	22,353	80	442
Total:	81,284	—	3,477

Source: Quetta Development Authority Government of Balochistan

## Appendix 1(C): Total Area Required For Development in Quetta

## (DURING VARIOUS PHASES)

Phase	Residential Area (In acres)	Residential land use as %of total area	Total area required	
			In acres	in hectors
1989_1993	1,448	55	2,633	1,066
1994_1998	2,059	50	4,118	1,667
1999_2003	12,850	45	6,333	2,564
2004_2008	3,477	40	8,692	3,519
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Total:				
1989_2008	9,834	45(average)	21,776	8,816

Source: Quetta Development Authority Government of Balochistan

## Appendix 1(D): Existing and Proposed Residential Densities in Quetta Urban Plan

Phase	Population	Residential area (In acres)	Total area (In acres)	Residential density (Person per acre)	
				Net	Gross
Up to 1989	464,839	3,160	5,360	147	87
1989_1993	193,238	1,448	2,633	134	73
1994_1998	273,568	2,059	4,118	133	67
1999_2003	387,293	2,850	6,333	136	61
2004_2008	548,294	3,477	8,692	158	63
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Total up to Year 2008	1,867,232	12,994	27,136	144	69

Source: Quetta Development Authority Government of Balochistan.